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Priority Groundwater Management Areas and Groundwater Conservation Districts, Report to the 78th Texas Legislature

Jointly Prepared by the

Texas Commission on Environmental Quality
Texas Water Development Board

Technical Analysis Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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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 designation of priority groundwater management areas (PGMAs), the designation of groundwater management areas (GMAs), 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) and the Texas Cooperative Extension (TCE). The report fulfills the requirements of Section 35.018 of the Water Code. This legislative report is the third of a series. The first two reports were prepared for the 76th and 77th Legislatures.

Priority Groundwater Management Area (PGMA) Program. Seventeen PGMA studies have been completed to date. Four areas were designated as PGMAs by TCEQ rules under previous statutory provisions: Reagan, Upton, and Midland counties; Briscoe, Swisher, and Hale counties; Dallam County; and in the Hill Country. Two additional areas were designated as PGMAs by TCEQ order: the El Paso County area in 1998 and the Northern Bexar County area in 2001. The order designating the Northern Bexar County area added the area to the existing Hill Country PGMA, delineated new boundaries for the PGMA, and replaced the previous rule designating the PGMA.

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 groundwater conservation district. Three new districts were confirmed by election in the Hill Country PGMA during the 2001–2002 biennium, and two additional districts have been created but remain unconfirmed at present. District creation action 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 were unsuccessful. 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. The TCEQ and TWDB 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.

In 2001, the 77th Legislature passed Senate Bill 2 (SB 2) which amended several chapters of the Water Code. The changes in Chapter 35 streamlined PGMA designation and district creation processes by incorporating considerations for creation of groundwater districts in the PGMA designation hearing, and by requiring specific groundwater district creation recommendations in the TCEQ's PGMA designation order. In addition, the changes clarified time frames for landowners to establish a district, and authorized and provided time frames for the TCEQ to create a district without a subsequent hearing.

TCEQ rules implementing the changes were adopted in August 2002. The rules provide the processes and procedures for the study, evaluation, and designation of PGMAs and for the creation of groundwater conservation districts in PGMAs. Included are opportunities for public involvement. Other provisions establish a process for developing the necessary evidentiary record for district creation in the PGMAs that were designated before September 1, 2001.

SB 2 requires the TCEQ, with assistance and cooperation from the TWDB, to complete the initial designation of PGMAs across all major and minor aquifers of the state for all areas that meet the criteria for that designation before September 1, 2005. Executive management from both agencies met on December 17, 2002, to discuss and plan PGMA program implementation. Identified at the meeting were five PGMA update studies and one new PGMA study that are needed to complete coverage of the state based on available information and established criteria.

For fiscal year 2003, the agencies agreed to the following planned activities: complete PGMA reports for the East Texas and Trans-Pecos update study areas; initiate PGMA evaluation efforts for the Williamson and Adjacent Counties update study area; start TCEQ GCD creation action in the Reagan, Upton, and Midland County PGMA; and continue ongoing and related efforts regarding educational programming and GCD management plan certification and noncompliance review.

PGMA study and designation activities that are planned for fiscal year 2004 include completing the Williamson and Adjacent Counties update study report and designation efforts, if needed; starting and completing the PGMA report for the Central Texas (Waco) update study area and initiating designation, if needed; and starting and completing a new PGMA report for the Rio Grande Valley/South Texas area and initiating designation, if needed. Planned PGMA study and designation activities for fiscal year 2005 include completing PGMA designation efforts for the Central Texas (Waco) update study area and the new Rio Grande/South Texas study area, if needed; starting and completing the PGMA report for the North Texas (Metroplex) update study area and initiating designation, if needed; and evaluating the need for any additional new PGMA studies.

Groundwater Management Area (GMA) Designation. Effective September 1, 2001, SB 2 transferred the jurisdiction to designate GMAs from the TCEQ to the TWDB. Section 35.004 of the Water Code requires the TWDB, with assistance and cooperation from the TCEQ, to designate GMAs covering all of the major and minor aquifers in the state before September 1, 2003. This section also allows the TCEQ to designate a GMA after September 1, 2001, for a petition filed and accepted by the agency prior to that date.

In response to the only landowner petition filed before September 1, 2001, the TCEQ adopted new Sections 294.60–294.63 in Title 30 of the Texas Administrative Code (TAC). The rules were adopted on February 13, 2002, to

designate the East Texas GMA. The TWDB adopted new rules in 31 TAC, Chapter 356, on November 13, 2002. The new rules in Chapter 356, Subchapter B, designate 16 GMAs that cover all of the state's major and minor aquifers.

Groundwater Conservation District (GCD) Creation. During the 2001–2002 biennium, 35 districts were ratified or created by the 77th Legislature, and one new district was created by the TCEQ through the petition process. Also, two other previously created districts were confirmed by election. No new districts were created by the TCEQ through the PGMA district creation process. There were several efforts by landowners to join districts during the biennium; four were successful, and two unsuccessful. As a result of these actions, a total of 88 groundwater conservation districts have been created in the state. The total includes 79 established (confirmed) districts and 9 unconfirmed districts. The 79 established districts cover all or part of 117 of the state's 254 counties.

Confirmed by elections in January 2001 were the legislatively-created Bee Groundwater Conservation District and the TCEQ-created Blanco-Pedernales Groundwater Conservation District. To date, 27 of the 35 districts created by the 77th Legislature have been confirmed by election. Twelve districts were confirmed in November 2001, including Brewster County, Coastal Bend, Coastal Plains, Fayette County, Goliad County, Lone Star, McMullen, Neches and Trinity Valleys, Pecan Valley, Pineywoods, Refugio, and Texana. Four districts were confirmed at elections between January and May 2002: Kimble County, Kinney County, Lone Wolf, and Middle Trinity.

Eleven additional districts were confirmed in November 2002, including Bluebonnet, Brazos Valley, Clear Fork, Cow Creek, Lost Pines, Middle Pecos, Mid-East Texas, Post Oak Savannah, Red Sands, Trinity Glen Rose, and Wes-Tex. Although confirmed in other counties, creation of the Middle Trinity district failed in Bosque County, and the Bluebonnet district was not confirmed for Waller and Washington counties.

Confirmation elections have not been held in the legislatively-created Brazoria County, Hays Trinity, Lower Seymour, and Tri-County districts and in the TCEQ-created Lake Country district. Four of the 35 districts were defeated by the voters at November 6, 2001, elections. These include the Crossroads, Lavaca County, Post Oak, and Southeast Trinity districts. Each of the defeated districts is authorized to hold subsequent confirmation elections. The Post Oak district attempted and failed a second confirmation election on November 5, 2002, and the district's legislation will expire before another election is allowed.

During 2001 and 2002, landowners in four areas added territory to existing districts. Individual landowner tracts in the panhandle and northwestern parts of Tom Green County were added to the Irion County and Sterling County districts. Most of the rest of Tom Green County, Concho County, and Runnels County were added to the Lipan-Kickapoo district. A small area in Travis County was added to the Barton Springs/Edwards Aquifer district. Defeated in confirmation elections were efforts to add a small area in southern Bexar County to the Evergreen district and the addition of Swisher County to the High Plains district.

Educational Activities. Educational programming and assistance are vitally important in the effective management of the state's water resources and the voter's decisions on district creation. Primarily under the lead of the TCE, the agencies were actively involved in organizing and providing educational assistance to residents of areas interested in establishing new groundwater conservation districts or attempting to confirm existing districts.

During the 2001–2002 biennium, about 60 educational events were held by representatives of the various state agencies in over 40 counties. These meetings were scheduled at the request of local citizens and officials. Presented and discussed at these meetings was information on Texas water law, the PGMA process, methods of forming groundwater conservation districts, and other related issues. The TCE has developed educational brochures and fact sheets on groundwater management and methods of groundwater district creation and has created audio-visual material for use in educational programming.

Groundwater District Management Planning and Implementation. Chapter 36 of the Water Code requires each groundwater conservation district to develop and adopt a groundwater management plan. Each district develops its management plan in accordance with requirements in the Water Code and in the TWDB's management plan certification rules. The plan must be submitted to the TWDB for certification of administrative completeness.

The TWDB has facilitated training with the GCDs on certification rules and requirements. Between January 2001 and November 2002, the TWDB certified five district management plans. The Guadalupe County GCD's plan is presently being evaluated. Another 13 district management plans will become due for TWDB certification in 2003.

Under Chapter 36 of the Water Code, the State Auditor's Office (SAO) must audit district implementation of their certified management plan. During the biennium, the SAO audited plan implementation for 22 districts. In October 2001, the SAO determined that the following five districts were not operational and did not comply with three or more basic statutory requirements: Collingsworth County, Dallam County, Fox Crossing, Real-Edwards, and Saratoga. In July 2002, the SAO determined that the Permian Basin district was not operational.

Chapter 36 of the Water Code also requires the TCEQ to take action if a groundwater conservation district fails to submit a management plan, fails to receive certification of its plan from the TWDB, or is determined to be not operational by the SAO. During the biennium, the Live Oak UWCD came into compliance. The TCEQ is evaluating compliance agreement actions taken by the Hudspeth County UWCD No. 1.

Noncompliance review evaluations were finalized for the Collingsworth County, Dallam County, Fox Crossing, Real-Edwards, and Saratoga districts. Compliance

action remains pending for these districts. The noncompliance review evaluation for the Permian Basin UWCD is also pending.

Groundwater Management Issues. During the biennium, several issues regarding groundwater conservation district creation and implementation of special-law election provisions were brought to the Office of the Attorney General (OAG) as requests for opinions. By December 1, 2002, the OAG had responded to four of the five requests. In responding to two requests, the Attorney General determined that members of county commissioners courts and members of school boards may not serve simultaneously on the board of a groundwater conservation district. The OAG also made specific determinations relating to the confirmation elections for the Kinney County GCD and the Southeast Trinity GCD. An opinion request regarding the status of the Middle Trinity GCD remains pending.

Introduction

This report has been prepared for the 78th Legislature by the Texas Commission on Environmental Quality (hereinafter TCEQ or Commission) and the Texas Water Development Board (hereinafter TWDB) as required by §35.018 of the Texas Water Code (hereinafter the Water Code). The introduction describes the purpose and scope of the legislative report, describes the interagency roles and coordination by which the provisions of Chapters 35 and 36 of the Water Code are implemented, and presents a brief history of the evolution of groundwater district and groundwater management law.

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 (hereinafter 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 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 audits of district management plan implementation and TCEQ noncompliance review actions related to district management plan adoption or implementation.

The report presents information on educational programming that has been conducted in designated PGMAs and in other areas where local governments or landowners have requested groundwater conservation district creation education. Additionally, the report identifies and discusses relevant Attorney General opinions and other groundwater management issues identified during the biennium, and describes 2001 changes to state law affecting groundwater conservation districts and groundwater management.

This legislative report is the third of a series that has been prepared jointly by the TCEQ and TWDB. The first two reports were presented to the 77th Legislature in 2001 (TNRCC, 2001) and the 76th Legislature in 1999 (TNRCC, 1999). The Texas Parks and Wildlife Department (hereinafter TPWD) and the Texas Cooperative Extension (hereinafter TCE) also assisted in the preparation of these reports. 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 (hereinafter TNRCC) and the Texas Water Commission (hereinafter 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). The previous reports were prepared under Chapter 133 (General and Special Laws), Regular Session, 69th Legislature, 1985, which was repealed and replaced with §35.018, 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 PGMAs and creating groundwater conservation districts in response to landowner petitions or through the PGMA process. TCEQ is also responsible for enforcing the groundwater conservation district management plan requirements of Chapter 36, 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. 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 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 PGMAs 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 (hereinafter SAO) 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 with subsequent reviews on a five-year basis. The SAO reports its findings to the TCEQ and the Legislative Audit Committee.

The Texas Alliance of Groundwater Districts (hereinafter TAGD) is a non-profit organization formed to further the purposes of groundwater conservation and protection activities. TAGD's membership is restricted to groundwater conservation districts in Texas who 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 TCE and the state agencies through their participation in groundwater educational programming efforts.

A memorandum of agreement (MOA) was signed by the TCEQ, 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 state agency groundwater management program responsibilities 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 groundwater conservation district management plans by the TWDB, and TCEQ noncompliance review and enforcement actions if a district failed to submit or receive certification of its management plan.

Background

In Texas, groundwater law is based on the English common law doctrine of the "rule of capture." Since 1904, Texas courts have applied the "rule of capture" to determine liability for damages relating to the withdrawal and use of groundwater. This doctrine and its interpretation through case law essentially provides that groundwater, once it has been captured by a well and delivered to the surface, belongs to the landowner. As such, landowners may use or sell all of the water they can capture from below their property without liability to neighboring landowners for any harmful effects resulting from the withdrawal. State courts, including the Texas Supreme Court in 1999, have consistently ruled that landowners may pump as much water as they wish from beneath their land, regardless of the effects of such pumpage on adjacent landowners' wells. Over the years, the courts have placed only a few limitations on the rule of capture. These limitations include drilling a well on someone else's property ("trespass"), wasting the water, pumping water for the sole purpose of injuring an adjoining landowner ("malicious or wanton conduct"), and causing land subsidence on adjoining land from negligent over-pumping.

Texans amended the Texas Constitution in 1917 with the passage of the "Conservation Amendment." This action added Article 16, Section 59 to the Texas Constitution and established that conservation, preservation, and development of the state's natural resources are duties of the state and that the Legislature shall enact all laws appropriate for this purpose. After droughts in 1910 and 1917, the Conservation Amendment was intended to enable lawmakers to fight water depletion and to make clear that the responsibility for a sustainable water supply lay with the Legislature. In all subsequent groundwater decisions, the Texas Supreme Court has reiterated the Legislature's broad power to regulate

groundwater use, even within the common-law framework established by the rule of capture (House Research Organization, 2000).

In 1949, the Texas Legislature first exercised its constitutional authority to provide for the management of groundwater. The creation of groundwater conservation districts and the designation of underground reservoirs for the purpose of groundwater management were first made possible by the enactment of the Texas Groundwater Act (House Bill 162, 51st Legislature, 1949), codified as Article 7880-3c, Vernon's Civil Statutes. The Act provided a petition process for management area designation and authorized district creation. It also defined the powers, duties, and responsibilities for operating a district, outlined procedures for confirmation elections and defined the duties of the boards of directors of districts. The Act established procedures for adding territory, consolidation and dissolution of districts.

State law pertaining to the creation of groundwater conservation districts and the management of groundwater resources has been amended many times over the past 50 years. Amendments to the Texas Groundwater Act in 1955 authorized the Texas Board of Water Engineers (TCEQ predecessor agency) to designate groundwater management areas on its own motion or on landowner petition. In 1971, the law was incorporated into the Water Code as Chapter 52 (Underground Water Conservation Districts). Between 1985 and 1995, the law was amended to authorize the study and designation of critical areas (predecessor to priority groundwater management areas), to clarify the processes and procedures for the designation of groundwater management areas, and to recodify law relating to Groundwater Studies as Chapter 35 of the Water Code and law relating to Groundwater Conservation Districts as Chapter 36 of the Water Code.

With the passage of Senate Bill 1 in 1997, the Texas Legislature expressly recognized that groundwater conservation districts are the state's preferred method of groundwater management, clarified and strengthened district authorities, and streamlined the priority groundwater management area designation process. A brief summary of the evolution of groundwater district and groundwater management law up to 2001 is presented in Appendix 1, and a discussion of recent legislative changes made in 2001 is contained in the next chapter.

Acts of the 77th Legislature: Senate Bill 2 and Other Acts Affecting Groundwater Conservation Districts

Senate Bill 2 (SB 2; Chapter 966, 77th Legislature, Regular Session, 2001) made significant changes to the PGMA designation process and the creation and authority of GCDs. The Act, relating to the development and management of the water resources of the state, consists of 13 Articles. Of these, Article 2 addressed changes in groundwater management law relating to PGMAs, groundwater management areas, and groundwater conservation districts, and Article 3 ratified and created specific groundwater conservation districts. A summary of the SB 2 statutory changes is provided in this chapter. Forty-six other Acts were passed that created, ratified, or modified specific districts or amended state law relating to all districts.

Groundwater District Authority

SB 2, Article 2 clarified and strengthened groundwater conservation district law relating to the management of groundwater resources. Statutory language providing the purpose of GCDs (§36.001) and relating to the ownership of groundwater (§36.0015), and language relating to groundwater conservation district rulemaking power (§36.101), enforcement of rules (§36.102), permits for wells (§36.113), and regulation of spacing and production (§36.116) was amended to clearly delineate groundwater conservation district authority to manage groundwater resources in a fair and impartial manner. The time frame for temporary directors of a newly created GCD to order the confirmation election was extended and confirmation election ballot language was clarified (§36.017). Fees of office for GCD directors were increased (§36.060) and the authority to seek recovery of attorney fees, in suits brought against a GCD, was granted (§36.066). Exemptions, exceptions, and limitations to GCD well permitting requirements (§36.117) and GCD authority relating to permits for the transfer of groundwater out of a district (§36.121) were clarified. GCD fees were clarified and the use of production fees to finance operation and maintenance expenses was authorized for new districts (§§36.205 and 36.206). Cumulatively, these statutory changes more clearly define the bounds of GCD groundwater management authority and better enable GCDs to manage groundwater resources.

Groundwater District Ratification and Creation

Article 3 of SB 2 ratified the creation of 12 groundwater conservation districts that were created on an interim basis by legislation in 1999 (SB 1911; Chapter 1331, Acts of the 76th Legislature, Regular Session, 1999). Each of the GCDs ratified by SB 2 must be confirmed by voter election and are authorized to

manage groundwater resources within their boundaries. Article 3 also created, subject to confirmation elections, three new groundwater conservation districts.

In addition to SB 2, 11 other Acts of the 77th Legislature ratified the creation of the 13 interim-GCDs and provided powers and duties for the districts. An additional 20 Acts of the 77th Legislature created, subject to confirmation elections, 21 new GCDs and provided powers and duties for the districts. Detailed information on the ratified and newly created GCDs is provided in this report in the chapter entitled "District Creation and Activities."

SB 2 streamlined the TCEQ creation of GCDs in response to landowner petitions. The SB 2 changes amend the contents of a landowner GCD creation petition (§36.013) and provide for a public meeting on the issue rather than a contested case hearing (§36.014). The changes provide for TCEQ certification of an administratively complete petition, specify time lines for TCEQ consideration on the issue, and specify standards for TCEQ rejection of a petition (§36.015).

Priority Groundwater Management Areas

Provisions in SB 2, Article 2, streamline the PGMA designation process. The streamlined PGMA designation process incorporates considerations for creating GCDs in the PGMA designation hearing and requires specific GCD recommendations in the Commission's PGMA designation order. A detailed description of the PGMA process is provided under the section entitled "Priority Groundwater Management Area Process" and in Appendix 2. SB 2 made changes to the Water Code and to the PGMA process as follows.

- §35.007 requires the Executive Director's PGMA report to include specific GCD creation recommendations.
- §35.008 requires GCD creation to be considered in the PGMA designation evidentiary hearing, requires the Commission to make specific GCD creation recommendations in its PGMA designation order, and encourages new GCD boundaries to be based on designated groundwater management area or PGMA boundaries.
- §35.018 authorizes the Commission to make recommendations in its report to the legislature if GCD creation in a designated PGMA would not be appropriate for or capable of protection of groundwater resources.
- §35.012 and §35.013 provide for Commission and local actions that are required after a PGMA designation. These actions include the opportunity for landowners to establish a GCD in the designated PGMA through either creation or annexation processes and defines educational responsibilities in the PGMA.
- §35.012 and §36.0151 provide time frames and authority for Commission creation of GCDs in a designated PGMA, if local initiative is not taken to create such districts.

Section 35.007, as changed by SB 2, provides that the TCEQ, with assistance and cooperation from the TWDB, will complete the initial designation of

PGMAs across all major and minor aquifers of the state for all areas that meet the criteria for such designation before September 1, 2005.

Groundwater Management Areas

Provisions of SB 2 transferred the jurisdiction to designate groundwater management areas (GMAs) from the TCEQ to the TWDB. Section 35.004 provides that the TWDB, with assistance and cooperation from the TCEQ, shall designate GMAs covering all of the major and minor aquifers in the state before September 1, 2003. This section provides further that the TCEQ may designate a GMA after September 1, 2001, for a petition filed and accepted by the Commission prior to that date.

Groundwater Management Planning

SB 2 changed GCD management plan provisions in §36.1071 and required such plans to also address drought conditions and conservation. After January 5, 2002, district plans or amendments to the plans must be developed using the district's best available data and forwarded to the regional water planning group for consideration in their planning process. In developing the management plans, a GCD must use the groundwater availability modeling information provided by the Executive Administrator of the TWDB in conjunction with any available site-specific information provided by the district and acceptable to the Executive Administrator. The specific provisions relating to the Executive Administrator's review and certification of GCD management plans and SAO audits of GCD management plans were unchanged. However, SB 2 did amend §36.1072 by adding requirements for TWDB to resolve conflicts that exist between a GCD's management plan and the State Water Plan.

Joint planning by GCDs in a common groundwater management area was also changed by SB 2. Under §36.108, each GCD in a common GMA must consider the plans individually and must compare them to other management plans then in force in the GMA. A GCD in the GMA may, by resolution, call for joint planning with the other districts in the management area to review the plans and accomplishments for the management area. A GCD, with good cause, may petition TCEQ to initiate a peer panel review of a neighboring GCD, if the GCD refused to participate in the joint planning process or the GCD has failed to adopt, implement, or enforce its rules to protect groundwater resources.

SB 2 changed specific provisions relating to TCEQ management plan noncompliance review with regard to joint planning and enforcement actions. Under §36.108 and §§36.301 - 36.303, TCEQ management plan noncompliance review and enforcement are required if a GCD fails to: 1) submit a groundwater management plan to the TWDB within two years of the date the GCD was confirmed; 2) achieve certification from the Executive Administrator of the TWDB of a groundwater management plan or amended plan; 3) forward a copy of its certified groundwater management plan to the other GCDs included in a common GMA; 4) be actively engaged and operational in achieving the objectives of its groundwater management plan based on the State Auditor's

Office audit of the GCD's performance under its plan; or 5) adopt, implement, or enforce rules to protect groundwater as evidenced in a report prepared by a peer-review panel. The authority to remove a district's taxing authority was repealed as a TCEQ enforcement option and replaced with provisions for the TCEQ to request the Attorney General to place a GCD into receivership.

Implementation by Agency Rulemaking

To implement SB 2, the TCEQ adopted revisions to its rules in Title 30, Texas Administrative Code, Chapters 293 and 294 on August 7, 2002. The revisions in Chapter 293 changed the Commission's process and procedures on creation of GCDs and Commission enforcement options and procedures relating to GCD management planning. The revisions in Chapter 294 removed TCEQ groundwater management area designation procedures and streamlined the Commission PGMA designation process and procedures by incorporating considerations for creating GCDs in the PGMA designation hearing and requiring a specific GCD recommendation in the Commission's PGMA designation order. Proposed rules were published in the May 10, 2002 issue of the *Texas Register* (27 TexReg 3939). The adopted rules were published in the August 23, 2002 issue of the *Texas Register* (27 TexReg 7942) and became effective on August 29, 2002.

TWDB adopted revisions to its rules in Title 31, Texas Administrative Code, Chapter 356 in December 2001. The revisions in Chapter 356, Subchapter A implement the SB 2 changes for the development of, and requirements for GCD management plans and added procedures for TWDB to process, consider, and resolve petitions that inquire about potential conflicts between GCD management plans and regional water plans. Proposed rules were published in the November 2, 2001 issue of the *Texas Register* (26 TexReg 8733). The adopted rules were published in the December 28, 2001 issue of the *Texas Register* (26 TexReg 11008) and became effective on January 2, 2002.

In addition, TWDB adopted new rules in 31 Texas Administrative Code, Chapter 356 on November 13, 2002. The new rules in Chapter 356, Subchapter B designate 16 groundwater management areas that cover all of the state's major and minor aquifers as directed by SB 2. The proposed rules were published in the August 21, 2002 issue of the *Texas Register* (27 TexReg 8414). The adopted rules were published in the December 13, 2002 issue of the *Texas Register* (27 TexReg 11786) and became effective on December 15, 2002. A graphical representation of the GMA boundaries entitled "Groundwater Management Areas.jpg" is available on the TWDB's web site at http://www.twdb.state.tx.us.

Other Legislation Affecting Groundwater Districts

In addition to SB 2, the 77th Legislature in 2001 passed nine Acts that amend the enabling legislation of specific groundwater conservation districts and six other Acts that affect groundwater conservation districts in general. The following list provides the bill and chapter number, and a brief description of the Acts that affect specific groundwater conservation districts.

HB 561 (294)	Renamed the Glasscock County Underground Water Conservation District as the Glasscock Groundwater Conservation District, changed language to conform with present statute, and changed the method for electing the District's board of directors.
HB 1909 (1310)	Related to the Lipan-Kickapoo Water Conservation District; changed language to conform with present statute and changed the method for electing the District's board of directors.
HB 3024 (427)	Renamed the Panhandle Underground Water Conservation District No. 3 as the Panhandle Groundwater Conservation District, changed language to conform with present statute, and authorized the District to impose a fee on water transported out of its boundaries.
HB 3404 (1192)	Made changes related to the classification of the use of water for purposes of fees and regulations imposed by the Edwards Aquifer Authority. SB 2, Article 6 (966) also changed rulemaking procedures for the Edwards Aquifer Authority.
HB 3543 (1348)	Renamed the Headwaters Underground Water Conservation Districts as the Headwaters Groundwater Conservation District, changed language to conform with present statute, and changed District board director qualifications and election procedures.
HB 3676 (1364)	Related to the Collingsworth County Underground Water Conservation District; changed language to conform with present statute, changed the method for electing the District's board of directors, and clarified the District's taxing authority.
SB 404 (22)	Changed the method for electing the Clearwater Underground Water Conservation District's board of directors.
SB 611 (38)	Changed the name of the Haskell/Knox County Underground Water Conservation District to the Rolling Plains Groundwater Conservation District, amended the boundaries of the District to include Baylor County, changed language to conform with present statute, and changed the composition of the District's board of directors.
SB 1036 (1372)	Related to the Bee Groundwater Conservation District; changed the date for the election of directors.

In addition to SB 2, the following list provides the bill and chapter number for changes that were made to Chapter 36 of the Water Code by Acts of the 77th Legislature, 2001, and apply to groundwater conservation districts universally.

HB 675 (69)	Added new §36.1561, Investment Officer, authorizing a GCD to contract with a person to act as an investment officer and establishing instructions and training requirements related to compliance with Government Code, Chapter 2256.
HB 742 (389)	Added new §36.124, District Act or Proceeding Presumed Valid, providing that an act or proceeding of a district is presumed valid on the third anniversary of the effective date of the act or proceeding, if specified conditions are met.
HB 1504 (319)	Amended §36.114, Permit Application and Hearing, requiring a GCD to promptly consider and act on an application for a permit that is administratively complete and establishing other permit consideration timing criteria.

The following list provides the bill and chapter number for three Acts of the 77th Legislature, 2001, that amended provisions of Chapter 36 of the Water Code. Of note, these same provisions were amended by SB 2; however, §13.03(f) of SB 2

provides that the Act (SB 2) would prevail in the event of any conflict with any other Act passed by the 77th Legislature, Regular Session, 2001.

HB 2690 (548)	Amended §36.066(g), relating to Suits, and §36.102(b) and (d), relating to Enforcement of Rules.
HB 3037 (1164)	Amended §36.116, relating to Regulation of Spacing and Production.
HB 3587 (1200)	Amended §36.117, relating to Exemptions, Exceptions and Limitation.

Priority Groundwater Management Area Program

This chapter provides a brief overview of the PGMA process and PGMA program activities that have been completed to date. The chapter describes the status of groundwater conservation district creation action in designated PGMAs and other current or future PGMA activities at the commencement of the 78th legislative session.

Priority Groundwater Management Area Process

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, TWDB, and the TPWD to study, identify and delineate PGMAs, and initiate the creation of groundwater conservation districts 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. A narrative description of the PGMA study and designation process and the steps involved in the TCEQ-initiated formation of a groundwater conservation district is provided in Appendix 2.

The process leading to a PGMA designation and the creation of a groundwater conservation district by the TCEQ consists of several phases as follows.

Identification	Potential PGMA study areas identified by executives of TCEQ and TWDB.
Initiation	PGMA studies initiated by TCEQ's Executive Director.
Public Participation	Water stakeholders provided notice of pending PGMA study and requested to participate and provide information.
Detailed Studies	Detailed studies requested from, and provided by TWDB and the TPWD to evaluate issues within their respective areas of expertise.
Report and Recommendations	Executive Director report that evaluates comments, information and agency studies provided above and makes recommendations regarding PGMA designation and groundwater conservation district creation.
Designation	An evidentiary hearing is required if PGMA designation is recommended. After the hearing, the TCEQ considers the evidence and issues an order regarding the proposed PGMA designation and the recommended GCD creation action.
Education	TCE works with county commissioner court appointed steering committees to inform residents of the status of the area's water resources and management options, including the possible formation of a GCD.

GCD Creation; Local Initiative	The opportunity for local action to establish a district either through legislative, petition, or annexation processes begins on the date of the Commission's order designating an area as a PGMA.
GCD Creation; TCEQ Initiative	If local action has not resulted in the creation of a GCD or the addition of the area to an existing GCD within the two-year period, the Executive Director must identify areas in the PGMA that are still not part of any existing district and recommend, for Commission action, GCD creation and boundaries that are consistent with the Commission's PGMA designation order.

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

Background

The PGMA program was active from 1987 to 1991 with 16 critical area (now PGMA) studies (Figure 1) initiated. Of the 14 initially completed studies, four areas: parts of Reagan, Upton, and Midland counties; Briscoe, Hale, and Swisher counties; Dallam County; and eight counties in the Hill Country (Figure 2) were designated as PGMAs. Five study areas were determined not to be PGMAs. These include the Lower Rio Grande Valley Area, Fort Bend County Area, Orange-Jefferson Counties Area, Wintergarden Area, and the Southernmost High Plains Area (Figure 1). Five other areas also were determined not to be PGMAs, but were identified as requiring monitoring and further assessment of the severity of groundwater problems. These areas, shown in Figure 3, include Williamson and Parts of Adjacent Areas, Central Texas (Waco) Area, East Texas Area, Trans-Pecos Area, and the North-Central Texas Area.

The two study areas for which Commission actions were not initially completed were the El Paso County Area and the North Texas Alluvium and Paleozoic Outcrop Area (Figure 1). In an August 1998 report, the Executive Director determined that the North Texas Alluvium and Paleozoic Outcrop Area was not a PGMA. The Hueco Boslon portion of the El Paso County Area was designated as a PGMA by Commission order in December 1998 (Figure 2). In addition, the Executive Director completed a PGMA evaluation report for the part of northern Bexar County overlying the Trinity aquifer in May 2000. In January 2001, the Commission designated the area as a PGMA, added the newly designated area to the existing Hill Country PGMA, and found that a groundwater conservation district should be created to cover the northern Bexar County area (Figure 2).

Information for each of the completed PGMA study areas is presented in Table 1. Maps showing the major and minor aquifers within the state, as referenced in Table 1, are provided in Appendix 3. Agency PGMA study reports are listed by study area in Appendix 4.

Figure 1. Priority Groundwater Management Study Areas

Figure 2. Designated Priority Groundwater Management Areas

Table 1. Priority Groundwater Management Area Studies

PGMA Study Area (Figure 1 Reference No.)	Major Aquifer(s)	Date Study Started	TNRCC or Executive Director Action
Areas Determined to be PGMAs and Designated by the TCEQ			
Hill Country Area (Area 2)	Trinity	04/01/87	Designated on 06/06/90
Northern Bexar County Area (Area 17)	Trinity	07/26/99	Designated on 01/24/01 Added to Hill Country PGMA
Reagan, Upton and Midland County Area (Area 3)	Edwards-Trinity	10/01/87	Designated on 06/13/90
Briscoe, Hale and Swisher County Area (Area 4)	Ogallala	01/01/88	Designated on 06/06/90
Dallam County Area (Area 9)	Ogallala	09/01/89	Designated on 06/06/90
El Paso County Area (Area 13)	Hueco Bolson	09/01/89	Decision deferred on 06/20/90
		01/29/98	Designated on 12/2/98
Areas Determined Not to be PGMAs; Update Evaluation Required by TCEQ (Presently Ongoing Updates)			
Williamson and Parts of Adjacent Counties (Area 1)	Edwards (BFZ) and Trinity	04/01/87	Decision made on 10/17/90
Central Texas (Waco) Area (Area 5)	Trinity	09/01/89	Decision made on 10/17/90
East Texas Area (Area 6)	Carrizo-Wilcox	09/01/89	Decision made on 10/17/90
Trans-Pecos Area (Area 8)	Cenozoic Pecos Alluvium	09/01/90	Decision made on 10/17/90
North-Central Texas Area (Area 11)	Trinity	09/01/89	Decision made on 10/17/90
Areas Determined Not to be PGMAs; No Further Evaluation Required			
Lower Rio Grande Valley Area (Area 7)	Gulf Coast	09/01/89	Decision made on 09/19/90 (Commission)
Fort Bend County Area (Area 10)	Gulf Coast	09/01/89	Decision made on 09/19/90 (Commission)
Orange-Jefferson Counties Area (Area 12)	Gulf Coast	09/01/89	Decision made on 09/19/90 (Commission)
Wintergarden Area (Area 14)	Carrizo-Wilcox	10/04/90	Decision made on 05/06/91 (Exe. Director)
Southernmost High Plains Area (Area 15)	Ogallala	01/07/91	Decision made on 08/05/91 (Exe. Director)
North Texas Alluvium and Paleozoic Outcrop Area (Area 16)	Seymour, Blaine and Dockum	10/16/91	----
		10/6/97	Decision made on 08/31/98 (Exe. Director)

Figure 3. PGMA Update Study Areas

Following the passage of SB 1 in 1997, the TCEQ developed an implementation process to address groundwater conservation district creation in the PGMAs designated by rule under the previous statutory requirements. The process required the Executive Director to identify areas within the four PGMAs that had not been incorporated into a district and to evaluate the district-creation options for each area. To make these evaluations, the process required the Executive Director to solicit input and information from water stakeholders and the other agencies, and to present the evaluation at a public meeting for additional comments. After the public meeting, the process required the Executive Director to prepare a report and recommendations for Commission consideration. An evidentiary hearing would be held in the PGMA and the Commission would then consider the evidence and information and make a determination on the management action needed. During the 1999 - 2000 biennium, the TCEQ took significant action under this process in the Reagan, Upton, and Midland County PGMA and initiated action in the Briscoe, Hale, and Swisher County PGMA.

Subsequently, SB 2 (2001) clarified language and TCEQ authority, and streamlined and placed time frames on the process relating to landowner and TCEQ creation of GCDs in PGMAs designated after September 1, 2001. The TCEQ procedures for the creation of GCDs in designated PGMAs are contained in 30 TAC, §293.19. The statute and rules provide procedures for TCEQ creation of GCDs in PGMAs designated after September 1, 2001, and implement SB 2 requirements to identify areas in the PGMA that have not created a GCD and to recommend GCD creation consistent with the PGMA designation order.

The rules in 30 TAC, §293.19 also provide procedures for TCEQ creation of GCDs in PGMAs designated by Commission rule before September 1, 2001. In this case, the rule provides for an Executive Director report to identify areas in PGMAs that have not created a GCD and a recommendation of whether to create one or more GCDs, to add the identified areas to an existing GCD, or a combination of these actions. The rule provides for mailed and published notice of the Executive Director's report and recommendations and a contested case hearing on the report and recommendations. The rule and this alternate process were adopted to develop an evidentiary record for Commission creation of a GCD in a PGMA. Since SB 2, these GCD issues are subject to an evidentiary hearing in the PGMA process. Under the statute prior to SB 2, however, this evidentiary record was not developed in the PGMA designation process or hearing. The rule defines the scope of evidentiary hearing considerations on GCD-creation action.

Under either of the two above procedures, the TCEQ rules provide for the required evidentiary record and Commission action to create GCDs in PGMAs. The rules implement new SB 2 requirements and provide for the contents of a Commission order; the appointment of temporary directors by county commissioners courts; and for the temporary directors to call an election to authorize the district to assess taxes and to elect permanent directors; or, for TCEQ to recommend that areas in a PGMA be added to an existing GCD.

PGMA Program Activity

The effort to implement the SB 2 PGMA process changes though the adoption of TCEQ rules was completed in August 2002. The TCEQ rules implement state law by providing the processes and procedures for the identification, public participation, study and evaluation, and designation of PGMAs and the creation of groundwater conservation districts in PGMAs. SB 2 requires the TCEQ, with assistance and cooperation from the TWDB, to complete the initial designation of PGMAs across all major and minor aquifers of the state for all areas that meet the criteria for that designation before September 1, 2005.

Staff from the TCEQ, TWDB, and TPWD met on October 14, 2002 as a precursor to the TCEQ Executive Director and TWDB Executive Administrator PGMA meeting required by Water Code, Chapter 35. Staff conducted the meeting to develop priorities for the agencies' PGMA program activity for fiscal year 2003 and beyond and to discuss other associated groundwater management planning program responsibilities. The staffs independently reviewed and evaluated information on previous PGMA studies, the extent of the major and minor aquifers which have not been studied for critical groundwater problems, the extent of existing and newly created GCDs, areas identified in the State Water Plan with possible supply shortages for the next 25-year period, and other available information.

The annual meeting of the agency executives was held on December 17, 2002. At the meeting, the Executive Director and Executive Administrator identified six PGMA studies that are needed to complete coverage of the state based on presently available information and established criteria. These six studies included five PGMA update studies and one new PGMA study. The agency executives agreed to the following implementation schedule for fiscal year 2003:

- completing PGMA reports for the East Texas and Trans-Pecos update study areas;
- initiating PGMA evaluation efforts for the Williamson and Adjacent Counties update study area;
- starting TCEQ GCD creation action in the Reagan, Upton, and Midland County PGMA; and
- continuing presently ongoing and related efforts in FY 2003 regarding educational programming and GCD management plan certification and noncompliance review.

Planned fiscal year 2004 PGMA study and designation activities would include completing the Williamson and Adjacent Counties update study report and designation efforts, if needed; starting and completing the PGMA report for the Central Texas (Waco) update study area and initiating designation if needed; and starting and completing a new PGMA report for the Rio Grande Valley/South Texas area and initiating designation if needed. Planned PGMA study and designation activities for fiscal year 2005 would include completing PGMA designation efforts, if needed, for the Central Texas (Waco) update study area and the new Rio Grande/South Texas study area; starting and completing the

PGMA report for the North Texas (Metroplex) update study area and initiating designation if needed; and evaluating the need for any additional new PGMA studies. Presently ongoing and related efforts would also continue during fiscal years 2004 and 2005.

The General Appropriations Act (SB 1, 77th Legislature, 2001) provided less than half of the revenue requested by TCEQ for fiscal years 2002 and 2003 to implement the SB 2 PGMA program changes and mandates. While SB 2 authorized additional contingent funding for TCEQ implementation of the additional PGMA work, requested additional full time employees (FTEs) were not authorized. The contingent funding was not certified by the State Comptroller of Public Accounts due to insufficient state revenue, and was not appropriated to the agency. TCEQ internally reallocated resources for two FTEs and partial funding for the PGMA program.

District Creation Action in Designated PGMAs

As discussed, four areas: in Reagan, Upton, and Midland counties; Briscoe, Hale, and Swisher counties; Dallam County; and in the Hill Country (Figure 2) were designated as PGMAs by Commission rules in 1990 under previous statutory provisions of Chapter 52, Water Code. Two additional areas, the El Paso County area in 1998 and the Northern Bexar County area in 2001, were designated as PGMAs by Commission order (Figure 2). The TCEQ order designating the Northern Bexar County area added the area to the existing Hill Country PGMA, delineated the new boundaries for the PGMA, and replaced the previous rule designating the PGMA.

Groundwater conservation district creation activity has occurred in four of the five designated PGMAs. Between 1987 and 2000, five new districts were created through local initiative and confirmed by the voters in two of the designated PGMAs. Four of the districts were created by legislative action and one was created by TCEQ through the landowner petition process provided in Chapter 36 of the Water Code. Another district was created by the TCEQ in 1994 through the petition process but failed to be confirmed by the voters. In 1999, three new temporary districts were created through local initiative by the legislature. In 2001, the three temporary districts were ratified by the legislature and one additional new district was created. During the 2001 - 2002 biennium, two of these four districts have been confirmed by the voters and two remain unconfirmed at present. Landowners within the other two designated PGMAs have petitioned for joining adjacent districts and large portions of these areas have been added into existing districts. However, one significant effort to add territory to an existing district failed in 2001. No district creation activity has yet been undertaken in the El Paso County PGMA. District creation status in the designated PGMAs is described further in the following PGMA-specific sections.

Reagan, Upton, and Midland County PGMA

Some local/landowner district creation activity occurred in the Reagan, Upton and Midland County PGMA prior to, during, and after 1990 designation of the PGMA. A portion of the PGMA in Reagan County joined the Glasscock GCD and the remaining portion of the PGMA in that county was included in the legislatively created Santa Rita UWCD. Presently, there are areas of the PGMA in Midland and Upton counties that have not been incorporated into any district.

In 1999, TCEQ and TCE staff met with Upton and Midland county officials, groundwater conservation district managers and directors, and area landowners regarding the need and requirement to establish GCDs. At these meetings, staff apprized the officials and landowners of the status of the PGMA and of TCEQ's mandate to initiate the creation of a groundwater conservation district in the area. An options paper discussing advantages and disadvantages of the various alternatives available for the formation of a groundwater conservation district in Midland and Upton counties was completed by the TCEQ and mailed to stakeholders in July 2000, and presented at a public meeting in Midkiff in August 2000.

In the July 2000 options paper, the Executive Director identified the addition of the portions of Midland and Upton counties to the Glasscock Groundwater Conservation District as the most feasible, viable, and cost-effective option. However, the report identified potential problems relating to adequate representation on the Glasscock GCD's board of directors because of restrictive language in the District's enabling legislation. In 2001, HB 561 was passed to amend the District's enabling legislation to conform with the present statute and change the method for electing the District's board of directors. This legislative change removed the major impediment to have the non-district portions of the PGMA added to the existing district. The TCEQ anticipates continued action regarding the establishment of a GCD in this area during fiscal year 2003 under 30 TAC, §293.19.

Briscoe, Hale, and Swisher County PGMA

Some locally-initiated groundwater management efforts occurred in the Briscoe, Hale, and Swisher County PGMA both during and after the 1990 designation of the area. Presently, there are areas of the PGMA in Briscoe and Swisher counties that have not been incorporated into any district.

TCEQ staff met informally with Swisher County officials and with one Briscoe County commissioner in Tulia in June 2000. A similar invitation extended to Briscoe County officials was declined. The purpose of the meeting was to inform local officials of the status of the PGMA and of TCEQ's mandate and plan to initiate groundwater conservation district creation in the area.

On September 11, 2000, the Commissioners Court of Swisher County petitioned the High Plains UWCD No. 1 to have the county added to the district and on October 10, 2000, the county and the district executed an interlocal agreement.

The agreement stipulated that the county would pay the cost of the election, if the district board adopted a resolution to add the county. If the resolution was passed at the election and the county added to the district, the agreement stipulated that the county would pay the district about $115,000 over a three-year period for costs associated with start-up and data collection efforts to ensure an equitable level of service with the rest of the district.

The High Plains UWCD No. 1 conducted a hearing on the petition in Tulia on October 17, 2000. A second hearing was conducted in Lubbock on November 14, 2000. At the second hearing, the district's board voted to accept the petition and a confirmation election in Swisher County was scheduled. On January 20, 2001, Swisher County residents voted not to join the district with the proposition failing by a vote of 379 (58%) against; 272 (42%) for. The district reported that opponents cited additional property taxes, involvement in the precipitation enhancement program, and district rules as reasons to vote against joining.

Dallam County PGMA

A significant portion of the Dallam County PGMA has been added to adjacent districts since the designation of the area in 1990. The northeastern portion of the county was added into Dallam County UWCD No. 1 on September 19, 1992 following landowner petition, board acceptance and confirmation election. Similarly, another significant portion of Dallam County within the PGMA was added into the North Plains GCD on May 1, 1993 following landowner petition, board acceptance and confirmation election. The TCEQ is unaware of any other landowner-initiated effort since 1993. A portion of the PGMA in the northwestern part of Dallam County and another in the eastern part of the county still remain to be incorporated into a district.

Hill Country PGMA

Locally-initiated district creation efforts occurred in the Hill Country PGMA both during and after the 1990 designation of the area. Prior to the 77th Legislature in 2001, four districts had been created in the Hill Country PGMA and confirmed by the voters. These include the legislatively-created Hill Country UWCD in Gillespie County, the Springhills Water Management District in Bandera County, and the Headwaters GCD in Kerr County. The fourth confirmed district, the Blanco-Pedernales GCD in Blanco County, was created by TCEQ in response to a landowner petition. A fifth district, the Comal County UWCD, was created by the TCEQ in response to a landowner petition. However, Comal County voters defeated the May 1995 proposition by a vote of 8 percent for to 92 percent against.

During the 77th Legislature in 2001, three temporary districts in the Hill Country PGMA created by SB 1911 (76th Legislature, 1999) were ratified: the Cow Creek GCD in Kendall County, and the Southeast Trinity GCD and Hays Trinity GCD in the PGMA portions of Comal and Hays counties, respectively. In addition, the Trinity Glen Rose GCD was created covering the Bexar County portion of the Hill Country PGMA. The Cow Creek GCD and the Trinity Glen Rose GCD were

confirmed by the voters on November 5, 2002. The Southeast Trinity GCD was defeated by the voters at a November 6, 2001 election; however, the district's enabling legislation authorizes subsequent election attempts to confirm its creation. The Hays Trinity GCD has not yet gone to election.

Unless the Southeast Trinity GCD and Hays Trinity GCD Acts expire before the districts are confirmed, only a small portion of the PGMA in Travis County remains to be incorporated into a groundwater conservation district for the Hill Country PGMA. TCEQ staff presented groundwater conservation district creation information to the Capital Area Planning Council's (CAPCO) Executive Committee in July 2000 and discussed the mandate for a district to be established in the PGMA portion of Travis County. TWDB and TCE staff also presented information at the CAPCO meeting on the groundwater resources of the area and on the powers and authorities of groundwater districts, respectively. The Travis County Commissioners Court discussed the issue in work session on May 7, 2001 and held a public meeting in Manor on July 26, 2001 to gage interest in GCD creation. On June 3, 2002, the court noted that it did not anticipate taking any further action on the issue due to insufficient public interest.

El Paso County PGMA

The Commission's December 2, 1998 order designating the El Paso County PGMA found that a multi-national, multi-state regional approach would be needed to address the Hueco Bolson freshwater-depletion problem. While a 50-Year Water Plan and significant efforts at regional cooperation and actions to reduce pumpage of the Hueco Bolson and address future supply needs have been accomplished, critical groundwater conditions remain and additional and continuing efforts are needed.

The TCEQ creation of a district under the constraints of Chapter 36 of the Water Code was not recommended based on evaluation of existing statutory provisions, funding mechanisms, governing board representation, and El Paso's comments. A regional approach is needed to focus management of groundwater resources in the Hueco Bolson and Rio Grande Alluvium aquifers to address specifically the reduction of pumpage, the minimization of further groundwater quality degradation, and the mitigation of subsidence. This regional approach should include the development of a governmental organization or entity responsible for coordinating management strategies with entities outside of the PGMA and implementing those strategies within the PGMA.

Groundwater Management Areas

As briefly discussed in the previous sections of this report, the terms, definitions, and procedures for delineating and designating groundwater management areas have been changed many times over the past 50 years (see also Appendix 1). This chapter outlines the background and explains the purpose of groundwater management areas, and describes the agencies' activities related to delineation of groundwater management areas during the biennium.

Background

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. To date, groundwater management areas have included groundwater reservoirs, or subdivisions of reservoirs, as delineated and designated by the Texas Board of Water Engineers (TCEQ predecessor agency), and management areas and PGMAs as delineated and designated by the TCEQ and its predecessor agencies.

The Texas Board of Water Engineers designated and delineated the first groundwater reservoir in 1950. Between 1950 and 1985, the Texas Board of Water Engineers and its successor agencies, designated 14 more groundwater reservoirs, or subdivisions thereof. Between 1985 and 2002, the TCEQ or its predecessor agencies have designated five groundwater management areas. Groundwater management areas designated by TCEQ since 1985 are presently described in TCEQ rules, 30 TAC, Chapter 294.

SB 2, 77th Legislature, 2001, made significant changes to Chapter 35 of the Water Code that became effective on September 1, 2001. As amended by SB 2, the designation of GMAs is now under the jurisdiction of the TWDB. Water Code, §35.004(a) as amended by SB 2, provides that the TWDB shall complete the initial designation of GMAs for all of the state's major and minor aquifers by September 1, 2003. Water Code, §35.004(b) as amended by SB 2, however, provides that the TCEQ could designate a GMA after September 1, 2001 for a petition filed and accepted by the Commission according to the statute and TCEQ rules in effect before September 1, 2001. The TCEQ must act on the designation in accordance with §35.004 as amended. Water Code, §35.005 and §35.006, outlining the landowner petition process for the designation of a GMA, were repealed.

Purpose

The purpose for designation of a GMA is two-fold. First, a GMA is a prerequisite for the creation of a groundwater conservation district through the 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 must be designated before a groundwater conservation district can be created by the TCEQ in response to a landowner

district-creation petition. Groundwater management is accomplished by groundwater conservation districts as created and authorized under Chapter 36, or by special law. A GMA is only an identified geographic area and as such does not provide any entity with groundwater management authority.

Groundwater conservation districts that are located 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 groundwater conservation district 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. Groundwater conservation districts can also exercise management and planning authority on a more local scale. Generally under this scenario, multiple single-county groundwater conservation districts created within the same groundwater management area (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, groundwater conservation districts within a common designated groundwater management area 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 review 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.

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.

East Texas Groundwater Management Area

Prior to September 1, 2001, Water Code, §35.004, Designation of Groundwater Management Areas, provided that the Commission on its own motion, or in response to receiving a petition, may designate a GMA. Section 35.004 also provided that, to the extent feasible, GMAs should coincide with the boundaries of a groundwater reservoir (aquifer) or subdivision of an aquifer. However, the statute authorized the Commission to consider other factors such as the boundaries of political subdivisions to delineate and designate GMAs to provide for the most suitable area to accomplish groundwater management.

On February 8, 2001, Wood County landowners petitioned the Commission to designate a GMA to include all of Wood County and requested the GMA be designated with the objective of providing the most suitable area for the management of groundwater resources by a groundwater conservation district. On March 21, 2001, the Commission considered the petition and instructed the Executive Director's staff to study whether a GMA should be designated in the area, and if they determined that one was appropriate, to propose a rule that would designate and delineate the area as a GMA. Because of the regional nature of the groundwater resources that occur in Wood and the surrounding counties, the Commission also instructed the Executive Director's staff to evaluate the most suitable boundaries for the delineation of a GMA for the regional groundwater resources.

The TCEQ proposed rules in the October 26, 2001 issue of the *Texas Register* (26 TexReg 8489) and held three public hearings on the proposed rules. The first two hearings were on November 12, 2001 in Quitman and Tyler and the third hearing was in Nacogdoches on November 13, 2001. The TCEQ adopted new 30 TAC, §§294.60 - 294.63 on February 13, 2002 to designate the new East Texas Groundwater Management Area in all of Anderson, Angelina, Bowie, Camp, Cass, Cherokee, Franklin, Gregg, Harrison, Henderson, Hopkins, Houston, Marion, Morris, Nacogdoches, Panola, Rains, Rusk, Sabine, San Augustine, Shelby, Smith, Titus, Trinity, Upshur, Van Zandt, and Wood Counties. The purpose of the adopted rule was to provide the most suitable boundary for the management of the groundwater resources and to facilitate both the creation of locally managed groundwater conservation districts and regional cooperation by newly created districts to manage regional groundwater resources. The adopted rules were published in the March 1, 2002 issue of the *Texas Register* (27 TexReg 1502) and became effective on March 7, 2002.

Statewide Groundwater Management Area Designations

SB 2 directed the Texas Water Development Board, with the assistance and cooperation of the TCEQ, to designate groundwater management areas covering all major and minor aquifers in Texas by September 1, 2003. SB 2 directed the TWDB to designate GMAs with the objective of providing the most suitable area for the management of groundwater resources. To the extent feasible, GMA boundaries were to coincide with the boundaries of a groundwater reservoir or a subdivision of a groundwater reservoir. However, the TWDB is also authorized to consider other factors, including the boundaries of political subdivisions.

TWDB staff met with TCEQ staff to discuss the statutory charge and to obtain their input on the process to develop the proposed GMA boundaries. TWDB staff also held a public meeting on May 15, 2002, with representatives from groundwater conservation districts, regional water planning groups, and other water interests to discuss approaches for delineation of the GMA boundaries. Based on statute and initial comments, TWDB staff developed a draft rule that would designate GMAs based primarily on hydrologic boundaries. The TWDB approved the draft rule in August of 2002 for publication in the *Texas Register* (August 21, 2002; 27 TexReg 8418) and accepted comments for 30 days. During the review period, TWDB staff held public meetings at Plainview, Alpine, San Angelo, Fredericksburg, Corpus Christi, Wharton, Tyler, and Stephenville and a formal public hearing in Austin. The public comments fell into three main categories as follows.

- Do not split existing groundwater conservation districts or counties by using aquifer lines to determine GMA boundaries.
- Counties or districts are incorrectly placed into a GMA if the primary water use is from an aquifer in another GMA.
- Adoption of the rule should be delayed; TWDB was rushing the process.

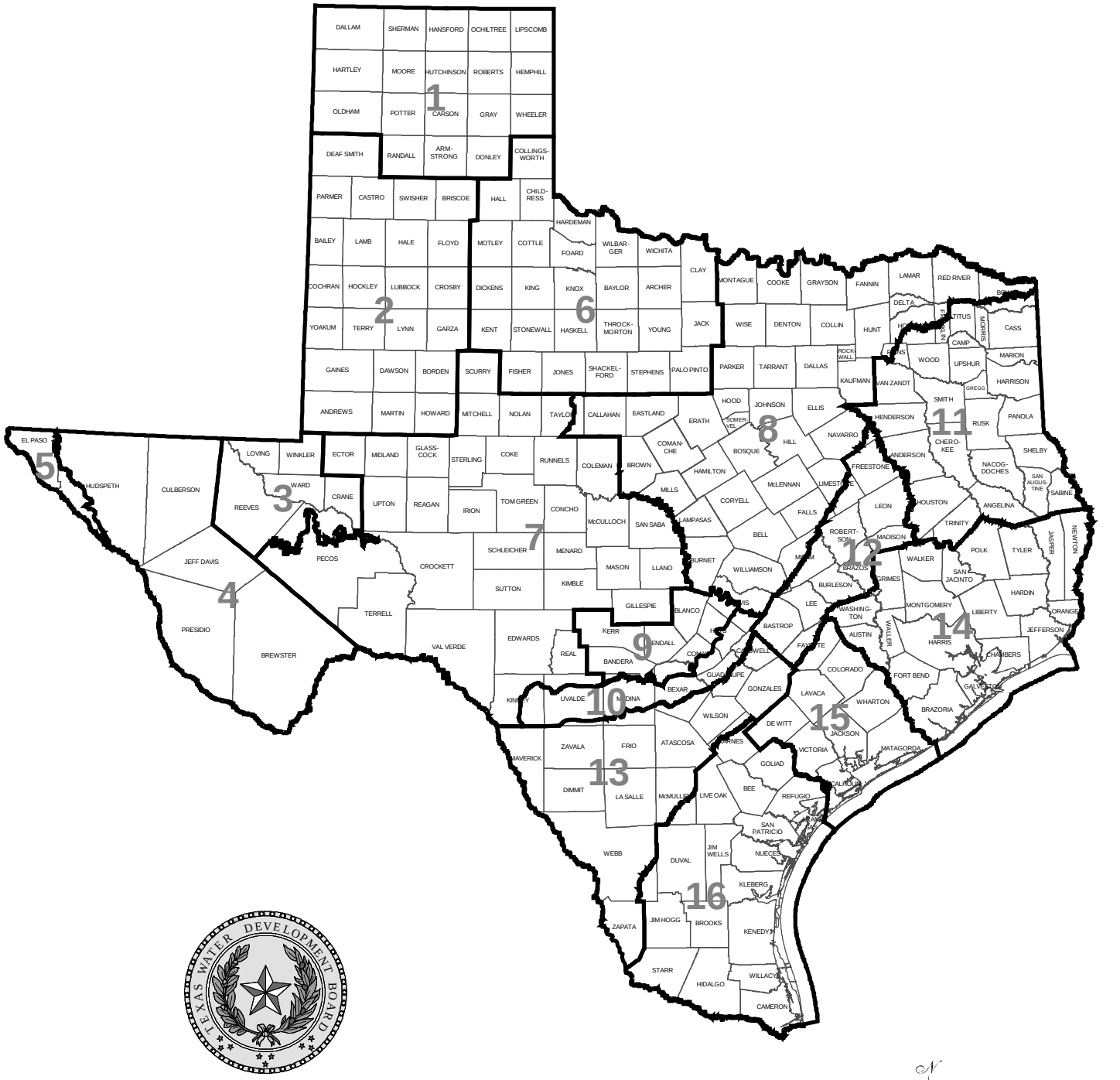
In response to these public comments, TWDB staff aligned GMA boundaries to be consistent with political subdivisions (primarily county lines) when such changes created no significant compromise to the hydrologic management of the resource. TWDB staff also moved counties to the GMA in which the most significant use of groundwater occurs. When a comment was received that indicated use in the county was predominantly in the adjoining GMA, staff reviewed water production records. Where those records showed that the most water usage was from an aquifer in an adjacent GMA, the county was moved. In some cases, a county remained split if the use in two aquifers/GMAs was significant in both. Because staff were able to modify the GMA boundaries based on information provided by public comment, many of the concerns on the proposed schedule were alleviated.

The TWDB adopted the new rules in Title 31, Texas Administrative Code, Chapter 356 on November 13, 2002. The adopted rules were published in the December 13, 2002 issue of the *Texas Register* (27 TexReg 11786) and became effective on December 15, 2002. The new rules in Chapter 356, Subchapter B designate 16 GMAs that cover all of the state's major and minor aquifers as

directed by SB 2. Figure 4 shows the 16 GMAs designated by the TWDB. 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	cental 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 4. Groundwater Management Areas



DISCLAIMER
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November 2002 - by Mark Hayes, GIS section

District Creation and Activities

A description of the groundwater conservation districts ratified or created by the 77th Legislature and the status of unconfirmed and failed districts are presented below. During the 2001 - 2002 biennium, 36 districts were ratified or created. Also, two other previously created districts were confirmed by voter election. No new districts were created by the TCEQ through the PGMA district creation process. Landowner efforts to add territory to six existing districts is also discussed. The activities of existing districts and district management planning efforts are discussed and the agencies' activities related to management plan certification, audit, and compliance are outlined. Educational programming is also reported. Districts created by the 77th Legislature as well as the other existing groundwater conservation districts are shown on Figures 5 through 7. Contact information for the state's groundwater conservation districts is included as Appendix 5.

New Districts Created During the 2001–2002 Biennium

Fifty-three bills relating to the creation of new groundwater conservation districts were introduced during the Regular Session of the 77th Legislature in 2001. These bills proposed to create districts in all or part of 56 counties. Thirty-three Acts were passed relating to the creation of 35 new districts. The 77th Legislature passed 12 Acts ratifying the creation of the 13 districts that were created on a temporary basis by Chapter 1331, Acts of the 76th Legislature, Regular Session, 1999 (SB 1911). Specific legislation was enacted for 11 of the 13 districts and specific parts of SB 2, Article 3 were enacted for 12 of the 13 districts. Two separate pieces of legislation were enacted for 10 of these 13 districts. The 13 districts include all or part of 17 counties.

In addition to the Acts ratifying the creation of the temporary districts, the 77th Legislature passed 21 Acts creating 22 new districts in all or part of 39 counties. Specific legislation was enacted for each of the districts and specific parts of SB 2, Article 3 were enacted for 3 of the 22 districts. Two separate pieces of legislation were enacted for 2 of the 22 districts.

TCEQ also created one new district in response to a landowner petition in 2002. The district includes a single county and was created by TCEQ order on September 25, 2002. Table 2 provides a list of the newly created districts and identifies the enabling Act or Acts for each district.

Districts Created by the 77th Legislature

The 77th Legislature ratified the creation of 13 districts that were created on a temporary basis by the 76th Legislature, and created 22 new districts. The creation of the 35 districts was subject to confirmation by the voters of each district. Interesting trends were noted in many of the district creation Acts regarding the method of director selection, opportunities and time frames for district confirmation elections, exclusive financing through well production fees,

Table 2. Groundwater Conservation Districts Created During 2001–2002 Biennium

Enabling Legislation [1] (Chapter Listed)	District Name	Directors [2]	Expiration Date [3]	Comments [4]
HB 3655, 77th Leg. (1361)	Bluebonnet GCD	Appointed	09/01/03	Created as New; RC
HB 3675, 77th Leg. (1475)	Brazoria County GCD	Elected	09/01/03	Created as New
HB 1784, 77th Leg. (1307) SB 2, 77th Leg. (966)	Brazos Valley GCD	Appointed	08/31/01	Ratified; RC
HB 0787, 77th Leg. (1291)	Brewster County GCD	Appointed	06/16/03	Created as New; SEA
HB 3674, 77th Leg. (1474)	Clear Fork GCD	Elected	06/17/05	Created as New; SEA
HB 1038, 77th Leg. (1294)	Coastal Bend GCD	Elected	06/17/05	Created as New; SEA; RC
HB 3640, 77th Leg. (1358)	Coastal Plains GCD	Elected	06/16/06	Created as New; SEA; RC
HB 3544, 77th Leg. (1349) SB 2, 77th Leg. (966)	Cow Creek GCD	Elected	09/01/03	Ratified; SEA; RC
HB 2643, 77th Leg. (1332) SB 2, 77th Leg. (966)	Crossroads GCD	Appointed	09/01/06	Ratified; SEA; RC
HB 1081, 77th Leg. (302)	Fayette County GCD [5]	Elected	09/01/03	Created as New; SEA; RC
HB 3651, 77th Leg. (1359)	Goliad County GCD	Elected	09/01/06	Created as New; SEA; RC
SB 2, 77th Leg. (966)	Hays Trinity GCD	Elected	09/01/03	Ratified
SB 2, 77th Leg. (966)	Kimble County GCD	Elected	09/01/03	Created as New
HB 3243, 77th Leg. (1344)	Kinney County GCD	Elected	09/01/03	Created as New
Landowner Petition Process	Lake Country GCD	Elected	None	April 1, 2002 Petition September 25, 2002 TCEQ order
HB 3652, 77th Leg. (1360)	Lavaca County GCD	Elected	09/01/06	Created as New; SEA; RC
HB 2362, 77th Leg. (1321)	Lone Star GCD	Appointed	None	Created as New; RC
HB 2529, 77th Leg. (1328) SB 2, 77th Leg. (966)	Lone Wolf GCD	Elected	09/01/03	Ratified
HB 2432, 77th Leg. (1323) SB 2, 77th Leg. (966)	Lost Pines GCD	Appointed	08/31/03	Ratified; SEA; RC
HB 3642, 77th Leg. (1471)	Lower Seymour GCD	Elected	06/17/05	Created as New; SEA
SB 1764, 77th Leg. (1378) SB 2, 77th Leg. (966)	McMullen GCD	Elected	09/01/03	Ratified; SEA
HB 1258, 77th Leg. (1299)	Middle Pecos GCD	Elected	09/01/03	Ratified; SEA
HB 3665, 77th Leg. (1362)	Middle Trinity GCD	Elected	09/01/03	Created as New
HB 1784, 77th Leg. (1307) SB 2, 77th Leg. (966)	Mid-East Texas GCD	Appointed	08/31/03	Created as New; RC

Enabling Legislation (Chapter Listed)	District Name	Directors	Expiration Date	Comments
SB 1821, 77th Leg. (1387)	Neches & Trinity Valleys GCD	Appointed	09/01/03	Created as New
HB 3231, 77th Leg. (1343)	Pecan Valley GCD	Elected	09/01/06	Created as New; SEA
HB 2572, 77th Leg. (1330)	Pineywoods GCD	Appointed	06/16/03	Created as New
HB 1136, 77th Leg. (303)	Post Oak GCD	Elected	09/01/03	Created as New; SEA; RC
HB 1784, 77th Leg. (1307) SB 2, 77th Leg. (966)	Post Oak Savannah GCD	Appointed	08/31/03	Created as New; RC
SB 2, 77th Leg. (966)	Red Sand GCD	Elected	09/01/03	Ratified; SEA
HB 2046, 77th Leg..(1314) SB 2, 77th Leg. (966)	Refugio GCD	Elected	09/01/03	Ratified
HB 2855, 77th Leg. (1335) SB 2, 77th Leg. (966)	Southeast Trinity GCD	Elected	09/01/05	Ratified; SEA
HB 1274, 77th Leg. (307) SB 2, 77th Leg. (966)	Texana GCD	Elected	09/01/03	Ratified; SEA
HB 3626, 77th Leg. (1352) SB 2, 77th Leg. (966)	Tri-County GCD	Appointed	09/01/03	Ratified
HB 2005, 77th Leg. (1312)	Trinity Glen Rose GCD	Elected	09/01/04	Created as New; SEA
HB 3659, 77th Leg. (1473)	Wes-Tex GCD	Elected	09/01/03	Created as New

Notes:

1. Enabling Act or Acts; Chapter citation in Laws of 77th Legislature, Regular Session, 2001.
2. Directors column indicates selection method for district's permanent board of directors.
3. Expiration Date indicates date district's enabling Act or Acts repealed if district not confirmed by voter election.
4. Comments as follows: Created as New indicates district created as new by 77th Legislature, 2001; Ratified indicates district created as new by 76th Legislature, 1999 and creation of district ratified by 77th Legislature, 2001; RC indicates that regional cooperation provisions specific for the district are included in the enabling Act or Acts; SEA indicates that subsequent confirmation elections are authorized for the district should the initial confirmation election efforts fail.
5. By enabling Act, the District was created as the Colorado Valley GCD. As authorized by the enabling Act, the district's board of directors, by June 26, 2002 resolution, changed the name of the district.

and regional cooperation. The following text briefly describes these observations.

Nearly all of the Acts ratifying or creating the 35 districts included expiration provisions. These provisions set out that the specific legislation authorizing creation of the district would expire if the district were not confirmed by a certain date. The expiration dates varied from as soon as June 16, 2003 to as late as September 1, 2006 and are identified in Table 2. In addition, 19 of the districts were authorized to conduct subsequent confirmation elections should the initial election fail. These districts are identified in Table 2 in the comment field as "SEA - Subsequent Election Authorized." Under the Water Code, Chapter 36

general law groundwater conservation districts are provided only one opportunity to confirm a district through election.

Regarding board of director representation and selection methods, 11 of the 35 districts will have permanent district directors that are appointed to serve defined terms. The Bluebonnet, Brazos Valley, Mid-East Texas, and Post Oak Savannah districts have boards appointed by the county commissioners courts that must represent municipal, agricultural, industrial, and rural water supply interests from each county. The Brewster County GCD has a board appointed by the commissioners court that must represent three specific towns, three specific rural areas, and one for the county at large. The Lone Star, Neches and Trinity Valleys, and Pineywoods districts have boards that are appointed by various entities including commissioners courts, governing bodies of large and small cities, river authorities, soil and water conservation districts, and municipal utility districts. The Tri-County GCD has a board appointed by the county commissioners courts and the Lost Pines GCD has a board appointed by the county judges without any representation stipulations. Similarly, the Crossroads GCD has a board appointed by the commissioners court and the City of Victoria without other representation stipulation. The method for the selection of permanent directors for each district is listed in Table 2. Under Water Code, Chapter 36, directors of general law groundwater conservation districts are elected to serve four-year terms and represent precincts without regard to interest groups or local governments.

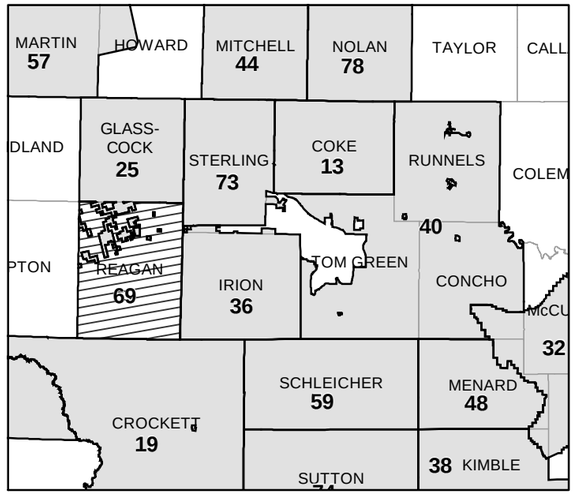
SB 2 provided all new groundwater conservation districts the authority to assess well production fees. SB 2 also authorized districts to assess transport fees for groundwater transferred out of a district. Under Water Code, Chapter 36, production fees, if assessed by a district, are based on the amount of water authorized by permit to be withdrawn from a well or the amount actually withdrawn. Under Chapter 36, the limits for production fees are $1.00 per acre foot per year for water used for agricultural purposes and $10 per acre foot per year for water used for any other purpose. Nine of the new districts created by the 77th Legislature are specifically financed by fees and are not authorized to assess ad valorem taxes to pay for district operations and maintenance. Two of these districts, Lone Star GCD and Neches and Trinity Valleys GCD, are given the same production fee limits as provided by Chapter 36. The Bluebonnet, Lost Pines, Mid-East Texas, and Post Oak Savannah districts have fee limits of $1.00 per acre foot for water used for agricultural irrigation and $0.17 per 1,000 gallons of water used for any other purpose. Fee limits for the Brazos Valley GCD are $0.25 per acre foot for water used for agricultural irrigation or steam electric generation and $0.0425 per 1,000 gallons of water used for any other purpose. Fee rates for the Pineywoods GCD are limited to $0.01 per 1,000 gallons of water for any use. The Hays Trinity GCD is financed solely by a $300 new well construction fee or new utility service connection fee.

The emphasis for new districts to actively pursue aquifer-based groundwater management and protection was highlighted in the Acts for 11 of the 35 districts. Provisions regarding regional cooperation were included for the Brazos Valley, Lost Pines, Mid-East Texas, and Post Oak Savannah districts over the Carrizo-

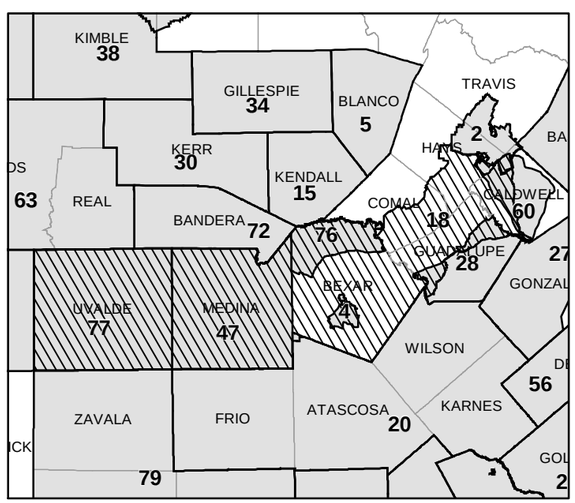
Figure 5. Groundwater Conservation Districts

Legend

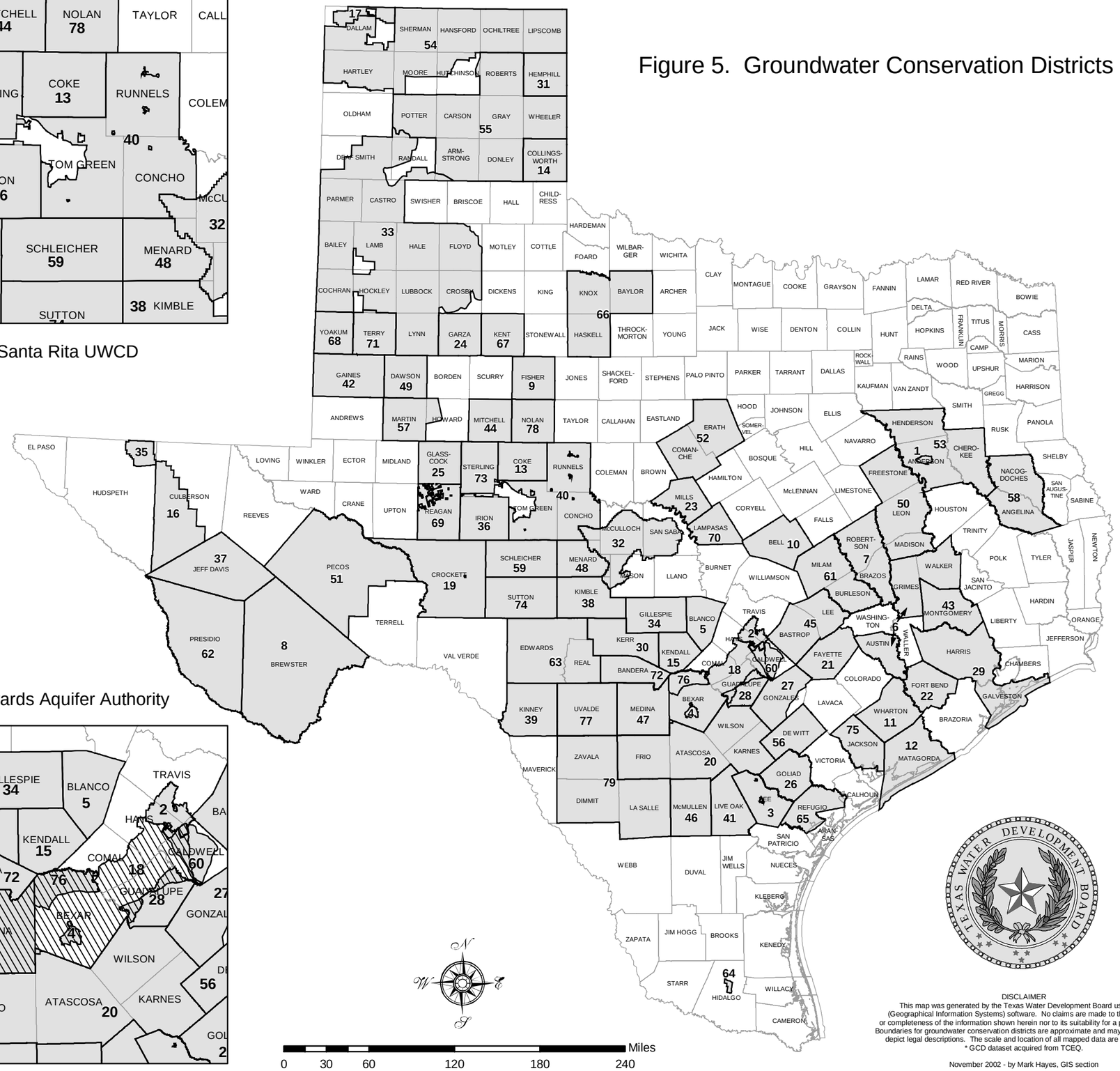
1. Anderson County UWCD
2. Barton Springs/Edwards Aquifer CD
3. Bee GCD
4. Bexar Metropolitan Water District
5. Blanco-Pedernales GCD
6. Bluebonnet GCD
7. Brazos Valley GCD
8. Brewster County GCD
9. Clear Fork GCD
10. Clearwater UWCD
11. Coastal Bend GCD
12. Coastal Plains GCD
13. Coke County UWCD
14. Collingsworth County UWCD
15. Cow Creek GCD
16. Culberson County GCD
17. Dallam County UWCD No. 1
18. Edwards Aquifer Authority
19. Emerald UWCD
20. Evergreen UWCD
21. Fayette County GCD
22. Fort Bend Subsidence District
23. Fox Crossing Water District
24. Garza County Underground And Fresh Water CD
25. Glasscock GCD
26. Goliad County GCD
27. Gonzales County UWCD
28. Guadalupe County GCD
29. Harris-Galveston Coastal Subsidence District
30. Headwaters GCD
31. Hemphill County UWCD
32. Hickory UWCD No. 1
33. High Plains UWCD No.1
34. Hill Country UWCD
35. Hudspeth County UWCD No. 1
36. Irion County WCD
37. Jeff Davis County UWCD
38. Kimble County GCD
39. Kinney County GCD
40. Lipan-Kickapoo WCD
41. Live Oak UWCD
42. Llano Estacado UWCD
43. Lone Star GCD
44. Lone Wolf GCD
45. Lost Pines GCD
46. McMullen GCD
47. Medina County GCD
48. Menard County UWD
49. Mesa UWCD
50. Mid-East Texas GCD
51. Middle Pecos GCD
52. Middle Trinity GCD
53. Neches&Trinity Valleys GCD
54. North Plains GCD
55. Panhandle GCD
56. Pecan Valley GCD
57. Permian Basin UWCD
58. Pineywoods GCD
59. Plateau UWC And Supply District
60. Plum Creek CD
61. Post Oak Savannah GCD
62. Presidio County UWCD
63. Real-Edwards C and R District
64. Red Sands GCD
65. Refugio GCD
66. Rolling Plains GCD
67. Salt Fork UWCD
68. Sandy Land UWCD
69. Santa Rita UWCD
70. Saratoga UWCD
71. South Plains UWCD
72. Springhills Water Management District
73. Sterling County UWCD
74. Sutton County UWCD
75. Texana GCD
76. Trinity-Glen Rose GCD
77. Uvalde County UWCD
78. Wes-Tex GCD
79. Wintergarden GCD



* Santa Rita UWCD



* Edwards Aquifer Authority



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* GCD dataset acquired from TCEQ.

November 2002 - by Mark Hayes, GIS section

Wilcox aquifer and the Bluebonnet, Coastal Bend, Coastal Plains, Fayette County (Colorado Valley), Goliad County, Lavaca County, Lone Star, and Post Oak districts over the Gulf Coast aquifer. The provisions generally require or encourage the districts to participate in meetings with adjacent districts to coordinate data collection, water quality monitoring, pollution investigations, and educational programs, and to share data such as well inventories and estimates of groundwater production. These regional cooperation provisions apply over and above, and in addition to the joint management planning provisions provided by general law.

Landowner District Creation Petitions

On April 1, 2002, the TCEQ received a petition signed by 150 landowners from Wood County for the creation of the Lake Country Groundwater Conservation District. The proposed boundaries for the Lake Country GCD were coterminous with those of Wood County and entirely within the East Texas Groundwater Management Area (TCEQ, 2002).

The Executive Director's report on the petition was completed on May 16, 2002 and notice was mailed to the water stakeholders on May 23, 2002. The petitioners posted notice of the complete petition at the Wood County Courthouse on May 28, 2002 and published the notice in the *Wood County Democrat* on June 5 and 12, 2002. The required public meeting was held on July 15, 2002 in Quitman, Texas to receive public comment on the Lake Country GCD petition, and a 10-day comment period was provided to allow for submission of written comments. Approximately 152 people attended the public meeting. A total of 18 citizens presented oral comments and 824 written comments were submitted within the ten-day period.

On September 16, 2002, the TCEQ's Chief Clerk provided notice of the issue on the TCEQ's agenda and copies of a response to comment issues report to the stakeholders, commenters, and other interested persons. By September 25, 2002 order, the TCEQ certified the petition as administratively complete, appointed the temporary directors of the district, and created the district subject to approval at a confirmation election. The temporary directors have taken their oaths of office and have scheduled the Lake Country GCD's confirmation election for February 1, 2003. Creation information for the Lake Country GCD is included in Tables 2 & 3.

Status of District Elections during the 2001–2002 Biennium

Two previously created groundwater conservation districts were confirmed by election in January 2001. The Bee GCD, created by Chapter 678, Acts of the 75th Legislature, Regular Session, 1997, was confirmed by Bee County voters on January 20, 2001. The Blanco-Pedernales GCD, created by TCEQ order dated October 4, 2000, was confirmed by Blanco County voters on January 23, 2001. Information regarding these confirmation elections is given in Table 3.

As of December 2002, 31 of the 35 districts ratified or created by the 77th Legislature have held elections. Of these, 27 districts have been confirmed by the voters. Tax propositions have been offered to the voters for 14 of the 19 districts so authorized and approved by the voters of ten of these districts. The location, status of district confirmation, and information pertaining to tax authorization for the new districts is given in Table 3 and in Figure 7.

Confirmation of four of the 35 districts was defeated by the voters at their initial offerings in November 2001. These include the initial confirmation elections for the Crossroads, Lavaca, Post Oak, and Southeast Trinity districts (Table 3). As previously discussed, the Act or Acts specific to these districts authorize the temporary or initial board of directors to schedule and take the district creation confirmation proposition back to the voters after a one-year period. The Post Oak GCD was also defeated by the voters of Colorado County at its second confirmation election in November 2002. The enabling legislation for the Post Oak GCD expires on September 1, 2003 and the provisions do not allow for a subsequent confirmation election within a one-year period. The Acts for the remaining districts have expiration dates ranging from September 1, 2005 to September 1, 2006 to confirm district creation. In addition, the voters of three counties chose not to create a district. Voters in Bosque County defeated the creation of the Middle Trinity GCD in the county, and voters in Waller and Washington counties defeated the creation of the Bluebonnet GCD in the counties. In these cases, the creation of the districts were confirmed by the voters of other counties and there are no provisions for subsequent elections.

TCEQ staff observes that the most common reasons to oppose creation of these districts mirrored historic reasons relating to the burden of increased taxes on landowners or fees on water users and questioning the necessity of adding another layer of governmental regulation. However, several newly-voiced reasons to oppose district creation were raised in recent confirmation elections. Opposition groups did not address the statutory purpose of GCDs to conserve, preserve, and protect groundwater resources, but argued that the new districts were being created to facilitate and market groundwater exportation under the authority granted by Water Code, §36.104. These groups also feared that the new districts would abuse eminent domain authority to pursue groundwater exportation projects even though the statute is clear that such authority may not be used for the purpose of acquiring rights to groundwater, surface water, or water rights. Groups argued that GCDs had no real authority to protect groundwater resources because they could not prohibit the export of groundwater out of a district, that GCDs did not represent local control because of state roles in the management planning process, and that GCDs merely represented the first step toward state-control of groundwater.

Four of the 35 districts have not yet held their confirmation elections. These include the Brazoria County, Hays Trinity, Lower Seymour, and Tri-County districts. In addition, five counties in the Middle Trinity GCD have not held confirmation elections for the district. These include Callahan, Coryell, Eastland, Hamilton, and Somervell counties. The district created by TCEQ, Lake Country GCD, also remains to be confirmed by the voters.

Addition of Territory to Existing Districts

There were several additions of territory to existing districts during the years 2001 - 2002. The efforts are discussed as follows and shown in Table 4. The TCEQ is not aware of any removal or withdrawal of territory from a district during the previous two-year period.

On May 5, 2001, residents in Tom Green, Concho, and Runnels counties voted to join the Lipan-Kickapoo Water Conservation District by a vote of 225 for; 189 against. The resolution was the culmination of a process that started in January 2000 when residents of the territory outside the district first inquired about the possibility of joining the district. The landowner petition to be added to the district was accepted by the district's board on May 16, 2000. Four public meetings regarding the petition were held in May and June 2000 and public hearings were conducted in the area proposed to be added and in the district in June 2000. In late June 2000, the district board voted to delay the election to allow for further education on the issue. On March 7, 2001, the board adopted a resolution with some modifications to the boundaries described in the original petition and initiated the final round of educational outreach. From March to May, the district released six news articles, made four presentations to commissioners courts and civic groups, and held five public meetings on the issue. The territory, added on May 5, 2001, generally includes all of Runnels County and the portions of Tom Green and Concho counties that were not currently within the boundaries of the Hickory UWCD No. 1. The cities of Ballinger, Christoval, Grape Creek, Miles, Paint Rock, Rowena, San Angelo, and Winters, the Red Creek Municipal Utility District, and the area northwest of San Angelo north of the Middle Concho River and south and west of U.S. Highway 87 north to the Coke County line are excluded from the district (Figure 5).

Efforts to add territory to two existing districts were unsuccessful during the biennium. The residents of Swisher County chose not to add the county to the High Plains UWCD No. 1. On January 20, 2001 Swisher County voters defeated the proposal by a vote of 272 in favor; 379 against. Landowners in the portion of southern Bexar County bounded by Atascosa and Wilson county lines on the south, State Highway 16 on the west, Loop 1604 on the north, and U.S. Highway 181 on the east petitioned the Evergreen UWCD on October 8, 2001 to have the area added to the district. The district's board approved the petition on August 14, 2001, conducted a hearing in the area on October 25, 2001, and conducted a hearing in Pleasanton and formally accepted the petition by resolution on October 30, 2001. However, the residents of the area of southern Bexar County defeated the proposition on May 4, 2002 by a vote of 322 for; 348 against.

The Irion County Water Conservation District was petitioned by three adjacent landowners in Tom Green County in June and September, 2001, to add their property to the district. After review of the three landowner petitions, the board of directors added the land to the district on July 18 and October 17, 2001. The added territory included 17,064 total acres in the Tom Green County panhandle, west of State Highway 163.

Table 3. Status of Groundwater Conservation District Elections During the 2001–2002 Biennium

District [1]	County(s) [2]	Election Date [3]	Confirmation Election		Tax Authorization	
			Vote For/Against	Confirmed	Rate (limit per $100)	Vote For/Against
Districts Confirmed By Election						
Bee GCD [4]	Bee	01/20/2001	343/55	Yes	$0.05 approved	343/55
Blanco-Pedernales GCD [4]	Blanco	01/23/2001	495/372	Yes	$0.03 approved	495/372
Bluebonnet GCD [5]	Austin	11/05/2002	Austin - 3705/2653	Yes	No Tax Authority Authorized	
	Grimes		Grimes - 2351/2004	Yes		
	Walker		Walker - 4909/3308	Yes		
	Waller		Waller - 2034/4484	No	NA	
	Washington		Washington - 1603/7454	No		
Brazos Valley GCD	Brazos	11/05/2002	Brazos -17653/3904	Yes	No Tax Authority Authorized	
	Robertson		Robertson - 2661/2415	Yes		
Brewster County GCD	Brewster	11/06/2001	441/44	Yes	Tax proposition not offered; limit of Chapter 36	
Clear Fork GCD	Fisher	11/05/2002	978/297	Yes	$0.015 approved	721/469
Coastal Bend GCD	Wharton	11/06/2001	1430/1052	Yes	$0.05 approved	1430/1052
Coastal Plains GCD	Matagorda	11/06/2001	1218/555	Yes	Proposition ($0.025) defeated	823/885
		05/04/2002	Special Tax Authorization Election		$0.005 approved	753/699
Cow Creek GCD	Kendall	11/05/2002	3782/3277	Yes	Proposition ($0.03) defeated	2113/4925
Fayette County GCD [6]	Fayette	11/06/2001	930/693	Yes	Tax proposition not offered; $0.02 limit by special law	
Goliad County GCD	Goliad	11/06/2001	318/255	Yes	Proposition ($0.03) defeated	228/317
Kimble County GCD	Kimble	05/03/2002	211/129	Yes	$0.20 approved	194/143
Kinney County GCD	Kinney	01/12/2002	609/86	Yes	$0.01 approved	373/281

District [1]	County(s) [2]	Election Date [3]	Confirmation Election		Tax Authorization	
			Vote For/Against	Confirmed	Rate (limit per $100)	Vote For/Against
Lone Star GCD	Montgomery	11/06/2001	8274/2488	Yes	No Tax Authority Authorized	
Lone Wolf GCD	Mitchell	02/02/2002	383/260	Yes	$0.03 approved	322/304
Lost Pines GCD	Bastrop	11/05/2002	Bastrop - 9157/3806	Yes	No Tax Authority Authorized	
	Lee		Lee - 2616/1050	Yes		
McMullen GCD	McMullen	11/06/2001	115/6	Yes	Tax proposition not offered; $0.05 limit by special law	
Mid-East Texas GCD	Freestone	11/05/2002	Freestone - 2887/1216	Yes	No Tax Authority Authorized	
	Leon		Leon - 2982/908	Yes		
	Madison		Madison - 1571/511	Yes		
Middle Pecos GCD	Pecos	11/05/2002	1597/1363	Yes	$0.025 approved	1597/1363
Middle Trinity GCD [7]	Erath	05/04/2002	Erath - 1121/272	Yes	$ 0.025 approved	946/416
	Comanche		Comanche - 974/770	Yes	Proposition ($0.025) defeated	745/906
	Bosque		Bosque - 293/1083	No	Proposition ($0.025) defeated	253/1068
		11/05/2002	Comanche County Tax Authorization Election		$0.025 approved	1430/1216
	Callahan Coryell Eastland Hamilton Somervell	None Held	NA	No	NA	
Neches & Trinity Valleys GCD	Henderson	11/06/2001	Henderson - 1528/1287	Yes	No Tax Authority Authorized	
	Anderson		Anderson - 1525/509	Yes		
	Cherokee		Cherokee - 1122/333	Yes		

District [1]	County(s) [2]	Election Date [3]	Confirmation Election		Tax Authorization	
			Vote For/Against	Confirmed	Rate (limit per $100)	Vote For/Against
Pecan Valley GCD	DeWitt	11/06/2001	941/346	Yes	$0.015 approved	739/515
Pineywoods GCD	Angelina	11/06/2001	Angelina - 1453/497	Yes	No Tax Authority Authorized	
	Nacogdoches		Nacogdoches -1213/379	Yes		
Post Oak Savannah GCD	Burleson	11/05/2002	Burleson - 2667/1264	Yes	No Tax Authority Authorized	
	Milam		Milam - 3368/1473	Yes		
Red Sands GCD	Hidalgo	11/05/2002	101/31	Yes	Tax proposition not offered; $0.02 limit by special law	
Refugio GCD	Refugio	11/06/2001	417/79	Yes	$0.05 approved	291/176
Texana GCD	Jackson	11/06/2001	538/486	Yes	Proposition ($0.02) defeated	414/581
Trinity Glen Rose GCD	Bexar	11/05/2002	13318/6320	Yes	Tax proposition not offered; $0.03 limit by special law	
Wes-Tex GCD	Nolan	11/05/2002	2162/822	Yes	Proposition ($0.01) defeated	1418/1483
Districts that have Failed Initial Confirmation Elections [8]						
Crossroads GCD	Victoria	11/06/2001	2132/2644	No	Proposition ($0.02) defeated	1526/3169
Lavaca County GCD	Lavaca	11/06/2001	1155/1367	No	Proposition ($0.05) defeated	793/1640
Post Oak GCD	Colorado	11/06/2001	750/824	No	Proposition ($0.05) defeated	566/964
		11/05/2002	2505/3156	No	Proposition ($0.05) defeated	1955/3431
Southeast Trinity GCD	Comal	11/06/2001	1390/2782	No	Proposition ($0.07) defeated	1080/2935
Unconfirmed Districts - No Elections to Date [9]						
Brazoria County GCD	Brazoria	Not Set	-	-	$0.05 limit by special law	
Hays Trinity GCD	Hays	05/2003	-	-	No Tax Authority Authorized	
Lake Country GCD [10]	Wood	02/01/2003	-	-	limit of Chapter 36	
Lower Seymour GCD	Jones	Not Set	-	-	$0.05 limit by special law	

District [1]	County(s) [2]	Election Date [3]	Confirmation Election		Tax Authorization	
			Vote For/Against	Confirmed	Rate (limit per $100)	Vote For/Against
Tri-County GCD	Hardeman Foard Wilbarger	Not Set	-	-	$0.01 limit by special law	

Notes:

1. Unless indicated otherwise, district ratified or created as new by 77th Legislature, Regular Session, 2001.
2. District may include all or part of county or counties listed.
3. 11/05/2002 election information based on TCEQ staff communication with temporary district directors or county clerks. Copies of election results not received by TCEQ to date.
4. Districts created prior to 77th Legislature, 2001, but confirmed by election during biennium.
5. Per special law, Bluebonnet GCD will consist of three counties that confirmed creation. No special law subsequent election provisions for the counties that voted down.
6. As authorized by special law, district directors changed name from Colorado Valley GCD.
7. Middle Trinity GCD composed of Comanche and Erath counties. Bosque County defeated confirmation at election and there are no special law subsequent election provisions for the county. Confirmation election has not been conducted in Callahan, Eastland, Hamilton, Coryell, and Somervell counties. Commissioners Courts of Coryell, Eastland, and Hamilton counties have indicated that no election will be conducted in the counties to determine confirmation status. Special law for the unconfirmed counties will expire September 1, 2003.
8. Listed districts are authorized by special law to hold subsequent confirmation elections after a one-year period. The Crossroads GCD and Lavaca County GCD Acts expire on September 1, 2006 if the districts are not confirmed by election, and the Southeast Trinity GCD Acts expire on September 1, 2005 if the district is not confirmed by election. The Post Oak GCD Act expires on September 1, 2003. Per its enabling Act, the district will not be allowed to conduct another election because the Act will expire prior to the required a one-year waiting period since the district's last election on November 5, 2002.
9. Election date information based on November 2002 TCEQ staff communication with temporary district directors.
10. District created by TCEQ on September 25, 2002 in response to landowner petition.

Figure 6. New Groundwater Conservation Districts

Figure 7. Confirmed and Unconfirmed Groundwater Conservation Districts

The Sterling County Underground Water Conservation District was also petitioned by Tom Green County landowners in August 2002. After review of the petitions, the district's board, by August 12, 2002 resolution, added the petitioned area in northwestern Tom Green County to the district.

The Barton Springs/Edwards Aquifer Conservation District was petitioned by 52 landowners on May 18, 2001 to have approximately 1.12 square miles of Travis County added to the district. The area is roughly bounded by Onion Creek, Brandt Road, Bradshaw Road, and Old Lockhart Highway. After hearings on April 9 and 18, 2002, the district's board approved the petition on May 21, 2002. On November 11, 2002, the residents of the proposed area approved the proposition by a vote of 123 for; 103 against.

Failed District Creations

Four legislatively created groundwater conservation districts (Central Texas, Llano Uplift, Rolling Plains, and San Patricio) and one Commission-created district (Comal County) have failed confirmation elections since 1989. Additionally, the Oldham County district created by the 74th Legislature was repealed for failure of the temporary board to schedule and hold a confirmation election within specific deadlines established in SB 1, 1997 (Chapter 1010, Acts of the 75th Legislature, Regular Session). The most common reasons for the failure of the voters to confirm these districts have been the reluctance to pay more taxes and the unwillingness to add an additional layer of governmental regulation. Another reason could be the failure to adequately inform the voters of the benefit of a groundwater conservation district. Voters who have not had the opportunity to evaluate accurate information regarding the value of locally managing groundwater resources and the benefit of supporting a district have nearly always voted against district creation. The failed groundwater districts are described in Table 5.

Table 4. Addition of Territory to Existing Groundwater Districts, Activity Reported During 2001 and 2002

District	County(s) to be Added	Petition Date (s)	Board Approval Date (s)	Confirmation Election Date	Vote For/Against	Comments
Barton Springs/Edwards Aquifer CD	Portion of Travis	5/18/2001	5/21/2002	11/05/2002	123/103	Petition by landowners to add approximately 1.12 square mile in Travis County.
Evergreen UWCD	Portion of Bexar	8/14/2001	10/30/2001	5/4/2002	322/348	Effort to add southern part of county defeated.
High Plains UWCD No. 1	Swisher	09/11/2000	11/14/2000	01/20/2001	272/379	Effort to add entire county defeated.
Irion County WCD	Tom Green (Panhandle)	06/2001 09/2001	07/18/2001 10/17/2001	NA NA	NA NA	Landowner petitions for individual parcels of property; panhandle part of county.
Lipan Kikapoo WCD	Concho, Runnels, Tom Green	05/16/2000	3/7/2001	5/5/2001	225/189	Included all of three counties not within either the Lipan-Kickapoo WCD or the Hickory UWCD; excluded certain areas such as incorporated cities.
Sterling County UWCD	Tom Green	8/6 & 8/12 2002	8/12/2002	NA	NA	Landowner petitions for individual parcels of property; northwestern part of county.

Table 5. Failed Groundwater Conservation Districts (Since 1989)

District	Method of Creation				County	Confirmation Election	
	Bill	Legislature	Year	Chapter Listed		Date	Vote % For/Against
San Patricio GCD	HB 3590	75th	1997	1451	San Patricio	01/17/98	34/66
Oldham County UWCD	SB 1714	74th	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	73rd	1993	1027	Borden, Mitchell, Scurry	06/07/94	25/75
Llano Uplift UWCD	HB 1491	73rd	1993	301	Llano	05/14/94	15/85
Central Texas UWCD	HB 3099	71st	1989	514	Burnet	01/20/90	12/88

Activities of Existing Districts

Chapter 36 of the Water Code requires that each groundwater conservation district 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 groundwater district plans its activities according to rules and goals developed and adopted by the locally governed board. Table 6 summarizes general district activities. The information presented in Table 6 is a summary of activities listed in a district's groundwater management plan, the 2001 Membership Directory and District Activities document published by the Texas Alliance of Groundwater Districts, and information obtained from telephone contacts with selected districts by the TWDB. 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 Water Well Drillers Program.

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.

Table 6. 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
Barton Springs/Edwards Aquifer Conservation District	X	X	X	X	X	X	X	X	X	X	X
Bee GCD											
Bexar Metropolitan Water District	X	X			X	X		X			X
Blanco-Pedernales GCD											
Bluebonnet GCD											
Brazos Valley GCD											
Brewster County GCD	X	X	X	X	X	X			X		X
Clear Fork GCD											
Clearwater UWCD			X	X	X	X		X			X
Coastal Bend GCD											
Coastal Plains GCD											
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											
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											

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
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 Underground & Fresh Water Conservation		X	X	X	X	X				X	
Glasscock County UWCD	X	X	X	X	X	X			X	X	X
Goliad County GCD											
Gonzales County UWCD	X	X	X	X	X	X		X	X		X
Guadalupe County GCD											
Harris-Galveston Coastal Subsidence District	X	X	X	X	X	X		X		X	X
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 Water Conservation District	X	X	X	X	X	X		X		X	X
Jeff Davis County UWCD	X	X	X	X	X	X		X	X		
Kimble County GCD											
Kinney County GCD											
Lipan-Kickapoo Water Conservation District	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

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
Lone Star GCD											
Lone Wolf GCD											
Lost Pines GCD											
McMullen GCD											
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											
Middle Pecos GCD											
Middle Trinity GCD											
Neches and Trinity Valleys GCD											
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											
Permian Basin UWCD	X	X	X	X	X	X		X		X	X
Pineywoods GCD											
Plateau Underground Water Conservation & Supply District	X	X	X	X	X	X			X	X	X
Plum Creek Conservation District	X	X	X	X	X			X	X		
Post Oak Savannah GCD											
Presidio County UWCD	X	X	X	X	X				X		
Real-Edwards Conservation & Reclamation District		X		X	X	X		X			
Red Sands GCD											

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
Refugio GCD											
Rolling Plains GCD	X	X	X	X	X	X			X		
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
Springhills Water Management District	X	X	X	X	X	X		X		X	X
Sterling County UWCD	X	X	X	X	X	X			X	X	X
Sutton County UWCD	X	X	X	X	X	X					X
Texana 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		X

Note: The management plans for the shaded districts, confirmed during the 2001 - 2002 biennium, were not due for TWDB certification during this two-year reporting period.

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

Water Code §36.1071 requires that a groundwater conservation district, in coordination with surface-water management entities, develop a comprehensive management plan that addresses groundwater management goals for the district. These goals include: providing the most efficient use of groundwater; controlling and preventing waste of groundwater; controlling and preventing subsidence; addressing conjunctive surface water management issues; addressing natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater; addressing drought conditions; and addressing conservation.

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. Title 31 TAC Chapter 356 includes the following sections: Scope of Chapter; Definition of Terms; Required Management Plan; Sharing with Regional Water Planning Groups; Required Content of Management Plan; Plan Submittal; Certification; Appeal of Denied Certification; Certification of Amendments; and Possible Conflicts with State Water Plan. Each section is briefly described below:

Scope of Chapter. An introductory section to be used for reviewing and certifying management plans as administratively complete.

Definition of Terms. This section defines the terms used in Chapter 356 and explains the terms necessary to understand and comply with the requirements for completing a management plan.

Required Management Plan. This section discusses submission deadlines for the management plans for both the district and the TWDB. Exceptions to the deadlines are detailed in this section as are plan review and readoption.

Sharing with Regional Water Planning Groups. For management plans certified after January 5, 2002, the district shall forward the plan to the chair of each regional water planning group with territory within the boundaries of the district for that region's consideration in their planning process.

Required Content of Management Plan. The required content of a management plan, necessary for certification, includes:

- A time period of 10 years for the plan.
- Actions, procedures, performance, and avoidance necessary to effectuate the plan including proposed rules.
- Estimates of:
    1. Existing total usable amount of groundwater within the district;
    2. Amount of groundwater being used within the district annually;
    3. Annual amount of groundwater recharge and details of how the natural or artificial recharge could be increased; and
    4. Projected water supply and demand.
- Details of how the district will manage its groundwater including the methodology indicating how the district tracks its progress towards achieving management goals.
- District-established management goals, objectives, and performance standards.
- Any additional information the district chooses to include.
- The plan shall address water supply needs in a manner not in conflict with an approved regional water plan for each region that the district covers.

Plan Submittal. This section lists the requirements of districts submitting plans for review. Documents required for certification of administrative completeness include:

- A copy of the adopted management plan.
- A certified copy of the district's resolution adopting the plan.
- Evidence that the plan was adopted after notice and hearing.
- Evidence that, following notice and hearing, the district coordinated in the development of its management plan with surface-water management entities.
- Evidence that the district transmitted the plan to the regional planning groups for any part of the area that the district may be located in by registered mail, return receipt requested, asking the regional planning group to review the management plan for any conflicts with the approved regional water plan.
- Evidence of any conflict between the management plan and an approved regional water plan for any part of the area that the district may be located in.

Certification. The requirements for the Executive Administrator regarding certification deadlines, notification procedures, and denial of certification for noncompliance with requirements as defined in §36.1072 of the Water Code and §356.5 of the Administrative Code are discussed in this section. The review and certification of a revised plan are also addressed in this section.

Appeal of Denial of Certification. The necessary procedures for appealing the denial of certification and specifications regarding the written and oral appeal are outlined in this section.

Certification of Amendments. Procedures for districts to follow concerning plan amendments are discussed as are deadlines, procedures, and applicability.

Possible Conflicts with State Water Plan. The procedures for resolution of a possible conflict between the management plan and the state water plan identified by a person with a legally defined interest in groundwater in a district or a regional water planning group are discussed in this section.

Development and Certification of Plans

Each groundwater district develops its management plan according to requirements specified in §36.1071 of the Water Code and the TWDB's groundwater management plan certification rules (Title 31, Texas Administrative Code, Chapter 356). TWDB staff reviewed the updated groundwater management plan certification rules and developed a new checklist for required plan content. The checklist is distributed to the groundwater conservation districts at their request. TWDB conducted workshops in Alpine, Berryville, Brackettville, Goliad, and Hearne in 2001 and 2002 about developing groundwater management plans.

Individual districts can receive assistance for the development of the plan by contacting TWDB. TWDB staff have assisted in plan development by providing the following:

- 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, TWDB provided much of the assistance by telephone, fax, and e-mail. If personal contact was desired or warranted by the district, TWDB staff either visited the district or met with the district at TWDB offices. TWDB provided this assistance to 19 districts.

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 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 and TWDB rules, but only one plan has been denied administrative completeness certification.

Current Status

Table 7 shows the status of all groundwater conservation district management plans certified by the TWDB from January 2001 through November 2002. There were a total of 79 established districts as of November 2002. Plans for 52 districts have been submitted and certified since 1998. Thirteen districts will be due for certification during 2003, however one district, Brewster County GCD, is already certified. Five districts are currently working with the TWDB on certification of their management plans.

The management plan of one district, the Guadalupe County Conservation District, was due by November 5, 2001. The district's management plan was adopted and submitted for certification on November 1, 2001. However, the TWDB did not certify the plan. The district has submitted a new plan for consideration.

Table 7. Status of Management Plan Certification, January 2001 through November 2002

District Name	Date Due to TWDB for Certification	Date Certified by TWDB
Haskell-Knox UWCD	January 2001	09/21/2000 [1]
Hudspeth County UWCD No. 1	May 2002	05/31/2002 [2]
Presidio County UWCD	June 2001	07/12/2001
Plum Creek CD	September 1998	08/14/2001
Clearwater UWCD	August 2001	02/12/2001 [1]
Rolling Plains GCD	August 2001	08/31/2001
Menard County UWCD	August 2001	09/12/2001

Notes:

1. Indicates that the district's groundwater management plan was certified before the due date.
2. Indicates certified amendment to District's plan; original plan certified by TWDB on October 14, 1998.

District Management Plan Implementation

Chapter 36 of the Water Code requires the State Auditor's Office (SAO) to determine if a groundwater conservation district 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 activities accomplished during the 2001 - 2002 biennium are described below.

State Auditor's Office District Audits

Water Code, §36.302 requires the SAO to audit groundwater conservation districts to determine whether they are actively engaged in achieving the objectives of their individual management plans. The primary objective of the required audit 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 becomes eligible for SAO audit one year after the date the TWDB certifies the district's management plan, and thence at the end of every five-year period thereafter.

The SAO's audit methodology consists of gaining an understanding of each district that is audited. In most cases, the audits are performed by reviewing documents submitted by the district such as management plans, annual progress reports, meeting minutes, rules and by-laws and through phone interviews with district staff and board members. The SAO performs fieldwork visits when necessary to understand the activities of a district or when the nature of certain district objectives make a visit necessary. Analytical audit techniques include comparing actual district activities with performance standards set in the district's management plan; analyzing district budgets and financial statements, rules, and policies and procedures to help determine operational status; and querying databases obtained from the district to confirm numbers reported in its annual reports. Audit criteria include unique management plan goals and objectives and internal district policies and procedures. Audits are conducted in accordance with applicable professional standards, including generally accepted auditing standards and government auditing standards.

The SAO audited the Gonzales County UWCD's implementation of its management plan as a pilot project in the spring of 1999. The SAO determined that the Gonzales County UWCD was operational based on satisfactory district performance under its management plan and compliance with basic statutory requirements (SAO, 1999).

After the pilot project, the SAO developed a five-year plan to audit groundwater district management plan implementation. The SAO plans to conduct approximately ten groundwater district audits each year. The SAO selected nine groundwater conservation districts for the first phase of audits completed in August 2000. The primary objective of the phase one audit was for SAO to determine whether the nine groundwater conservation districts were operational based on their good-faith efforts to achieve the goals and objectives of their management plan. A second objective was to determine whether the districts were in compliance with basic statutory requirements established in Water Code, Chapter 36.

In the phase one audit, the SAO determined that six of the nine districts were operational; two of the nine districts, Hudspeth County and Live Oak, were not operational; and that the plan for the last district, Sterling County UWCD, could

not be audited for achievement of its management plan objectives because of the nature of the objectives. The SAO also determined in the phase one audit that two of the six operational districts had fully complied with all audited statutory requirements. The other four operational districts were in full compliance with some and in partial compliance with all other statutory requirements audited. The two non-operational districts and the district whose status could not be determined did not comply with one or more of the statutory requirements audited (SAO, 2000).

During the 2001 - 2002 biennium, SAO completed two additional audit phases. The phase two and three audits were completed in October 2001 and July 2002, respectively. In the phase two audit (SAO, 2001), the SAO evaluated management plan implementation and compliance with basic statutory requirements for 13 districts. The SAO determined that 8 of the 13 districts were operational. The SAO found in the time since the TWDB's certification of the eight districts' management plans, they had either achieved all of their objectives or were making good-faith efforts to achieve them. The SAO determined that 5 of the 13 districts, Collingsworth County, Dallam County, Fox Crossing, Real-Edwards, and Saratoga, were not operational. The SAO found that these five districts had made little progress in accomplishing the objectives within their plans and had not achieved a majority of the audited objectives in their plans (Table 8). The SAO also found that seven of the eight operational districts were in full or partial compliance with all of the Water Code, Chapter 36 requirements audited. SAO found that the five non-operational districts were not in compliance with three or more of the Chapter 36 requirements audited and that none had adopted policies and procedures, obtained financial audits, or fully developed complete budgets (Table 8).

The SAO evaluated management plan implementation for nine districts in the phase three audit (SAO, 2002). SAO did not audit compliance with basic statutory requirements in this phase. The SAO's audits for the phase three evaluation determined that eight of the nine districts were operational and one district, the Permian Basin UWCD, was not operational. The SAO found that the Permian Basin UWCD had not fully achieved any of the five audited objectives in their plan and only partially achieved three of their five audited objectives (Table 8).

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. TCEQ noncompliance review actions are initiated when statutory management plan submission and certification requirements are not met and when information and determination from SAO audit reports find insufficient district management plan implementation.

Table 8. State Auditor's Office District Audit 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
Phase 3 Audit, July 2002		
Anderson County UWCD	Operational	NA
Glasscock GCD	Operational	NA
Jeff Davis County UWCD	Operational	NA

Audited District	Determination of Operational Status	Compliance with Basic Statutory Requirements
Permian Basin UWCD	Not operational	NA
Plateau UWC&SD	Operational	NA
Sandy Land UWCD	Operational	NA
Santa Rita UWCD	Operational	NA
Sutton County UWCD	Operational	NA
Wintergarden GCD	Operational	NA

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 audit of the GCD's performance under its plan; or
- comply with the statutory requirements for joint management planning.

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 would monitor 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 the 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 penalties. If an agreed order cannot be achieved or if action is required through ordered penalties, 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 may 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.

In April 2001, the TCEQ initiated a noncompliance inquiry for the Plum Creek Conservation District because it had not adopted a management plan within the statutory deadline. The District subsequently adopted a plan that was certified by the TWDB in August 2001. Similarly, the TCEQ initiated a noncompliance review for the Guadalupe County Groundwater Conservation District in October 2002 because it had not achieved certification of its plan within the statutory deadlines. The Guadalupe County district adopted a management plan in October 2001 and submitted the plan to the TWDB in November 2001. In December 2001, the Executive Administrator notified the District of the reasons why the submitted plan could not be certified as administratively complete and offered further assistance. However, the District did not appeal the Executive Administrator's decision or resubmit a revised adopted management plan for review and certification within the 180-day statutory deadline. In November 2002, the District adopted a revised management plan that addresses the issues identified by the Executive Administrator. The TWDB received the revised plan on December 3, 2002.

In its August 2000 phase one audit report, the SAO determined that two districts, the Hudspeth County UWCD No. 1 and the Live Oak UWCD, were not operational and had not achieved nor made good-faith efforts to achieve implementation of their management plans. TCEQ initiated noncompliance reviews for both districts in December 2000. In October 2001, the Executive Director determined the Live Oak UWCD had independently addressed compliance issues in response to the SAO audit and TCEQ noncompliance review and concluded that no formal enforcement or other action by the agency was necessary (Table 9).

Similarly, the Hudspeth County UWCD No. 1 was able to take the necessary post-audit actions to address four of the five SAO operational findings and provided sufficient documentation to TCEQ attesting to such. In February 2002, the Executive Director and the District entered into a compliance agreement to address the one remaining nonoperational finding. The compliance agreement directed the District to clarify one management plan goal and its related objectives and performance standards relating to the District's monitoring program and to adopt a formal policy to implement the monitoring program. The District took action and submitted documentation in accordance with the compliance agreement. The District adopted an amended plan with revisions to the goal in March 2002 and received certification of the amended plan from the TWDB in May 2002. The Executive Director is presently evaluating the District's actions with respect to the compliance agreement.

Noncompliance reviews in response to the SAO phase two audit were finalized by TCEQ in June 2002. The five nonoperational districts, Collingsworth County, Dallam County, Fox Crossing, Real-Edwards, and Saratoga, responded in July and August to TCEQ information and documentation requests. Compliance action with these district remains pending in December 2002.

Table 9. Status of TCEQ District Management Plan Noncompliance Review

District	Noncompliance Violation	TCEQ / GCD Resolution Action
Plan Certification		
Plum Creek CD	Plan adopted after statutory deadline	04/01/01 - TCEQ inquiry on issue 08/14/01 - Plan certified by TWDB
Guadalupe County GCD	Plan not certified by statutory deadline	10/18/02 - TCEQ inquiry on issue
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 - Compliance action ongoing [1]
Live Oak UWCD	Not operational by SAO in 2000	12/12/00 - TCEQ review finalized 08/21/01- District response completed 10/24/01 - Compliance resolved
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
Dallam County UWCD No. 1	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 08/12/02 - District response - Compliance action pending [2]
Collingsworth County UWCD	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 08/29/02- District response - Compliance action pending
Fox Crossing WD	Not operational by SAO in 2001	06/28/02 - TCEQ review finalized 08/20/02 - District response - Compliance action pending
Real-Edwards C&RD	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 07/18/02 - District response - Compliance action pending
Saratoga UWCD	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 08/05/02 - District response - Compliance action pending
Permian Basin UWCD	Not operational by SAO in 2002	TCEQ review pending

Notes:

1. "Compliance action ongoing" means district action being taken under agreement with TCEQ.
2. "Compliance action pending" means TCEQ compliance agreement or enforcement option not yet offered.

The TCEQ's noncompliance review evaluation in response to the SAO phase three audit for the Permian Basin UWCD is presently ongoing. The District will be provided the opportunity to respond to the nonoperational findings and appropriate TCEQ actions will be taken subject to the District's response.

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 PGMAs 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. Because of the large number of new district creations over the past biennium, and the ongoing district management planning and regional water planning processes, the demand for this technical assistance and educational programming has never been greater.

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 Texas Legislature passed Senate Bill 1 in 1997. This legislation changed portions of the Texas Water Code to improve water-resources data collection. It directs the Executive Director 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" (TWC § 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, TWDB has assisted groundwater conservation districts with special requests such as: database design and development; demonstration and use of software applications; creation of illustrations and images; processing and delivery of water information data; assistance with Website design and development; purchase of computer hardware and software for use by the districts that cooperate in the network optimization program; and technical assistance with solving problems concerning drought-induced water shortages. A total of 25 districts have participated in this program.

In order to offer groundwater conservation districts opportunities to increase their ability to collect field data, 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 TWDB, and to leverage the statewide network of field groundwater data collection. A total of 34 districts have participated in this program and many have participated in multiple categories of training.

Many groundwater conservation districts have limited resources to devote to the regular collection of water-level data to track changing storage conditions of the aquifers under their management. 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, TWDB will provide monitoring equipment which may include remote data transmission capability, operations, and maintenance support. The data collected from this program benefits both TWDB and the groundwater conservation districts. A total of 21 districts have 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.

To date, four GAM models have been completed and include (1) the Trinity aquifer in the Hill Country, (2) the Hueco Bolson aquifer (by the U.S. Geological Survey and El Paso Water Utilities), (3) the northern part of the Ogallala aquifer (as part of SB 1 water planning), and (4) the Barton Springs segment of the Edwards aquifer (as part of SB 1 water planning). An additional six models will be completed in the spring of 2003 including the (1) Lower Rio Grande Valley, (2) central Gulf Coast, (3) northern Carrizo-Wilcox, (4) central Carrizo-Wilcox, (5) southern Carrizo-Wilcox, and (6) southern Ogallala aquifers. Work is currently proceeding on models for the (1) northern Gulf Coast, (2) Edwards-Trinity (Plateau), (3) northern Trinity and Woodbine, (4) Sparta and Queen City, (5) Seymour, (6) West Texas Bolsons and Igneous, and (7) Lipan aquifers.

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.

TWDB provides technical assistance and funding to groundwater conservation districts to promote agricultural irrigation conservation. The Agricultural Conservation Grants to Districts Program began in 1986 and utilizes appropriated funding from the Agricultural Conservation Trust Fund to provide 75-percent matching grants to local conservation districts and other political subdivisions, to purchase equipment to measure, promote, and demonstrate agricultural conservation practices. In the last biennium 3 groundwater conservation districts were among the 22 entities that participated in this program and received $37,460 in grants.

The Agricultural Conservation Loan Program started as a Pilot Program in 1986 with appropriated funds to make loans to local districts which in turn would make loans to farmers to purchase more efficient equipment. In the last biennium 5 districts have participated in this program for a total of $2,200,000 in loans.

During the 1999 - 2000 biennium, the TWDB and TCEQ worked to develop a groundwater conservation district administrative information database. The purpose of this database is to provide for a comprehensive single source of data for each of the state's groundwater conservation districts. TWDB serves as the database administrator and continues to maintain the update of information to the database. The two agencies have agreed to staff procedures to incorporate new groundwater district data as it becomes available.

The TWDB held its first Aquifers of Texas conference in West Texas. The purpose of the conference and the resulting report documenting 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 Outreach

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 the TAGD have coordinated extensively to discuss and plan groundwater management educational programming strategies. Educational outreach activities were significant during the 2001 - 2002 biennium because of increased interest in groundwater management issues and the large number of new groundwater conservation district creations in the 2001 Legislature.

In August 2001, the Texas Groundwater Legal Defense and Education Fund, assisted by TAGD, hosted a two-day conference in Austin entitled "Groundwater Conservation Districts 101; Preserving Groundwater Through Local Management." The conference targeted the newly appointed or named temporary

directors for the districts created by the 77th Legislature in 2001 and included numerous presentations geared toward educating these new officials of their statutory responsibilities. At the conference, the TCE released advanced copies of a new education video *Divining the Future: Groundwater Conservation Districts* (TCE, 2001). This video depicts methods of groundwater management by groundwater conservation districts and outlines the responsibilities of groundwater districts.

The TCE has been active in providing educational programming in PGMAs, in areas planning to hold confirmation elections, and in other areas that recognize and 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 presentations on local water resources, publish news releases in local papers, and present information on local radio shows. This ensures effective, factual delivery of vital water management information to the local clientele.

In 2001 and 2002, TCE sponsored two water and conflict training seminars for county agents. In December 2001, TCE conducted a two-day groundwater conservation district education training workshop for the county agents of the counties where new districts had been created. Training sessions provided information on groundwater resources, Texas water law and fundamentals of groundwater conservation districts. Both TCEQ and TWDB staff presented information and participated in the training sessions. Additional information was supplied on conducting public information meetings and press releases. In response to temporary district director requests over the biennium, several TCE county agents prepared district-specific educational brochures for use at meetings and for public distribution and coordinated and facilitated countless educational meetings.

Also during the biennium, an existing Texas Agricultural Extension Service (TCE predecessor) groundwater conservation district publication was updated to reflect legislative changes made by SB 2. In February 2002, TCE published *Managing Texas' Groundwater Resources Through Groundwater Conservation Districts* (TCE, 2002c). This fact sheet has been widely distributed throughout the state and 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 an overview of issues related to groundwater conservation districts. In June 2002, TCE published *Questions About Groundwater Conservation Districts* (TCE, 2002b). This publication answers frequently asked questions about groundwater, aquifers, water laws, and groundwater conservation districts. TCE developed a second video, *Foundations: Aquifers of Texas*, in November 2002 (TCE, 2002a). This video 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 state agencies and TAGD worked with and provided assistance to TCE during the development of these educational materials.

During the 2001 - 2002 biennium the TCE, TWDB, TCEQ, TPWD, and TAGD were very 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 have been conducted for county commissioners courts, county water planning committees, councils of governments, local soil and water conservation districts, interested landowners, and others. During the biennium, the state agencies have provided educational programming related to groundwater management for residents at no fewer than 60 events in over 40 counties.

Groundwater Management Issues

This chapter describes some of the implementation issues that have emerged during the past biennium regarding the creation of groundwater conservation districts and the management of groundwater resources. The Office of the Attorney General (OAG) received five requests for opinions relating to groundwater conservation districts in the past two years that are described below. To date, the OAG has answered four of the requests.

Service as District Director

Two requests to the OAG dealt with the issue of who may serve on the board of a groundwater conservation district. A request from Senator Frank Madla (received by OAG on August 28, 2001) concerned Cow Creek Groundwater Conservation District and asked whether it is illegal for elected officials of a governmental body to appoint each other to the board of directors of a groundwater conservation district with a population of less than 50,000.

The Attorney General responded (Opinion No. JC-0455; January 28, 2002) that while the statute exempts districts with populations of less than 50,000, the statute does not affirmatively declare that members of a governmental body are thereby eligible to serve as a director of a groundwater conservation district, and that members of a governmental body located within the district may not serve as a member on the board of directors of a groundwater conservation district. Specifically, the opinion relied on the common-law doctrine of incompatibility and conflicting loyalties to prohibit a member of a county court to serve as director of a groundwater conservation district. The Attorney General issued an additional opinion (Opinion No. JC-0455A) on September 20, 2002 that stated it was unnecessary to even reach the issue of conflicting-loyalties incompatibility because members of a county commissioners court are prohibited from appointing themselves to the board of directors of a groundwater conservation district due to self-appointment incompatibility.

The second OAG request was received on April 4, 2002 from Representative Warren Chisum. This request asked about the ability of a person to serve as an elected member of a school board as well as the board of the groundwater conservation district which have overlapping boundaries. Because both the school district and the groundwater district have taxing authority, the Attorney General determined (Opinion No. JC-0557; September 20 2002) that there is still the potential for conflict between the two positions, and that a member of a school board may not serve simultaneously on the board of a groundwater conservation district with a population of less than 50,000.

Implementation of Special-Law Election Provisions

Several issues related to district implementation of special-law election provisions were brought to the OAG as requests. These issues are briefly discussed as follows.

Confirmation Election Costs; Kinney County GCD

An OAG request was received from the Kinney County Attorney that asked if the county had the authority to expend funds from its general revenue to pay for the confirmation election of a groundwater district. The Attorney General's opinion (Opinion No. JC-0444; December 20, 2001) noted that the legislation creating the Kinney County Groundwater Conservation District authorized the District to contract with Kinney County to conduct the confirmation election, but did not authorize Kinney County to pay for the election. Therefore, the District, not the county, must pay for the election.

The OAG opinion also noted that Water Code, Chapter 36 authorizes a groundwater conservation district to pay costs incurred in its creation and organization and to reimburse any person who has advanced money for these purposes. Under Chapter 36, a district may make or accept grants, gratuities, advances, or loans in any form to or from any source approved by the district's board, including any governmental entity, and may enter into contracts, agreements, and covenants in connection with grants, gratuities, advances, or loans that the board considers appropriate.

Opportunity for Subsequent Election; Southeast Trinity GCD

On May 8, 2002, the OAG received a request from Senator Jeff Wentworth and Representative Edmund Kuempel asking several questions relating to future elections to confirm the creation of the Southeast Trinity Groundwater Conservation District. The District's initial confirmation and tax authorization propositions were defeated by the voters, but new District directors were elected. The request to OAG asked which set of directors, the initial appointed directors or the elected directors, have the authority to hold subsequent confirmation elections, whether there are were any conditions for future elections, and whether the District was dissolved in response to the defeat of the initial confirmation proposition.

Unlike general law groundwater conservation districts under Water Code, Chapter 36, the 2001 Acts (HB 2855 and SB 2, Article 3, Part 10) that ratify the creation and enable and authorize the Southeast Trinity GCD allow the District to call and hold subsequent elections to confirm establishment of the District after a one-year period. The Acts also provide the District will be dissolved on September 1, 2005 if the District is not confirmed by that date.

The Attorney General responded (Opinion No. JC-0569; October 31, 2002) that the temporary directors continue in their positions and the initial directors elected do not take office; that subsequent confirmation elections may be called by the temporary board; and that propositions to authorize the District to impose a maintenance tax could not be considered in future confirmation elections. The OAG also responded that in accordance with the Southeast Trinity GCD's Acts, Comal County must fund future confirmation elections, if the District is unable to do so. The temporary directors of the District may not dissolve the District, whether or not the board calls and holds future confirmation elections. If the

District has not been confirmed by September 1, 2005, it will dissolve by operation of law. The District continues to have the powers and authorities authorized by SB 1911 (Chapter 1331, Acts of the 76th Legislature, Regular Session, 1999).

Status of District Creation and Authority; Middle Trinity GCD

Another request, received by the OAG on May 28, 2002 from Representative Gary Walker, related to the status of the Middle Trinity Groundwater Conservation District. The District was created to include Bosque, Callahan, Comanche, Coryell, Eastland, Erath, Hamilton, and Somervell counties. The request asked whether a county that elects to join a district, but does not grant the taxing authority, actually joins the district; if the district can assess property taxes until all the counties hold confirmation elections; and, if a county never holds an election, are the temporary directors from that county removed from the board of the district. As of November 27, 2002, the OAG has not responded to this request.

District confirmation elections have been held in Bosque, Erath, and Comanche counties. In May 2002, the voters in Bosque County defeated creation of the District, the voters in Comanche County confirmed creation of the District but rejected the tax proposition, and the voters in Erath County confirmed both the creation of the District and the tax proposition. In addition, a tax proposition was offered and passed by the voters of Comanche County at a subsequent election in November 2002. However, the District confirmation proposition has not been taken to the voters of the other five counties. As a result of not having a simultaneous election in all of the counties, the membership of the governing board of the District is composed of a mix of named temporary directors for the counties that have not held an election, and elected initial directors for those that have confirmed creation. The directors for Bosque County are effectively removed from the District's governing board pursuant to the District's Act and the outcome of the Bosque County election.

In September 2002, the District advised TCEQ that the commissioners courts of Coryell, Eastland, and Hamilton counties had voted to withdraw the counties and their temporary directors from any further consideration, service, or participation in the District. TCEQ staff are unaware of the potential election status for Callahan and Somervell counties. The District's enabling Act (HB 3665, 77th Legislature, 2001) does not authorize subsequent elections, therefore the District's status has been determined in three counties. Further, any confirmation election in the other five counties must be held before September 1, 2003, the expiration date for taking such action in the District's Act.

TCEQ Authority in Previously Designated PGMAs

The May 8, 2002 OAG request received from Senator Jeff Wentworth and Representative Edmund Kuempel asked the OAG to clarify the authority and responsibility of the TCEQ to create a groundwater conservation district in the Hill Country PGMA. The request specifically asked:

> If the Southeast Trinity Groundwater District is dissolved immediately in response to the defeat of the proposition confirming the district at the confirmation election in November, 2001, is the TNRCC required to establish a groundwater conservation district in Comal County on land that is included within the boundaries of the Hill Country Priority Groundwater Management Area?

The Attorney General's October 31, 2002 opinion (Opinion No. JC-0569) concluded that the District may not be dissolved immediately, and accordingly did not answer the question regarding TCEQ creation of a district in the Hill Country PGMA. The OAG noted TCEQ's authority and responsibility under Water Code, §35.012(b) and §36.0151.

PGMA designation and district creation procedures were changed by SB 2 in 2001. PGMA designation now requires an evidentiary hearing at which issues related to groundwater district creation, feasibility, and practicability are considered, and under Water Code, §35.008(g), the TCEQ PGMA-designation order must include a specific recommendation on district creation. This procedure applies to new PGMAs designated after September 1, 2001. Chapter 36, as amended, does not specifically address district creation in PGMAs designated before September 1, 2001.

In 1990, the Hill Country PGMA and other PGMAs were designated by the TCEQ under previous statutory requirements. The Hill County PGMA designation action under the previous statute did not include specific district creation, feasibility, and practicability findings considered through the evidentiary hearing process. TCEQ has decided to conduct evidentiary hearings in the PGMAs designated before September 1, 2001 as a procedural step in considering district creation options in order to initiate district creation actions. TCEQ has adopted rules in 30 TAC, §293.19 to provide the procedures for agency creation of groundwater conservation districts in PGMAs designated before September 1, 2001. The TCEQ rule provides for an Executive Director report to identify areas in the PGMAs that have not created a GCD and a recommendation of whether to create one or more GCDs, to add the identified areas to an existing GCD, or a combination of these actions, and a public evidentiary hearing on the recommendation. This specific rule with this alternate process was adopted to develop an evidentiary record for TCEQ creation of a GCD in a pre-SB 2 PGMA.

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APPENDIX 1. Groundwater District and Groundwater Management Legislative History

State law pertaining to the creation of groundwater conservation districts and the management of groundwater resources has been amended many times over the past 50 years. The following is a brief description of the major statutory changes that have occurred.

Texas Groundwater Act. The creation of groundwater conservation districts and the designation of underground reservoirs for the purpose of groundwater management were first made possible by the enactment of the Texas Groundwater Act (House Bill 162, 51st Legislature, 1949), codified as Article 7880-3c, Vernon's Civil Statutes. The Act provided the petition process for management area designation and authorized district creation. It also defined the powers, duties, and responsibilities for operating a district, outlined procedures for confirmation elections and defined the duties of the boards of directors of districts. The Act established procedures for adding territory, consolidation and dissolution of districts. Amendments in 1955 authorized the Texas Board of Water Engineers (TCEQ predecessor agency) to designate underground reservoirs and subdivisions on its own motion or on landowner petition. In 1971, this law was incorporated into the Water Code as Chapter 52 (Underground Water Conservation Districts).

1985 - 1995. With the enactment of HB 2 in 1985, the 69th Legislature made substantial changes to Chapter 52. The concept of an underground reservoir was changed to that of a management area. HB 2 allowed the Commission to consider boundaries of political subdivisions, in addition to aquifer boundaries, in delineating management areas. Prior to 1985, Chapter 52 required the boundaries of groundwater conservation districts to be coterminous with a designated underground reservoir.

The critical-area program was also established by HB 2 in 1985. The 69th Legislature recognized that certain areas of the state were experiencing, or may experience in the future, critical groundwater problems. HB 2 defined critical areas as being those areas that are experiencing or are likely to experience significant groundwater problems such as water shortages, land subsidence, significant water level declines, groundwater contamination (including saltwater intrusion), or wastage of groundwater supplies. HB 2 authorized the state's water agencies to study, identify and delineate critical areas and initiate the creation of groundwater conservation districts within these areas.

SB 1212, passed by the 71st Legislature in 1989, further modified management area provisions. The law changed the term "management area" to "underground water management area" and required the Commission to use procedures in accordance with agency rulemaking when designating underground water management areas. SB 1212 required that the boundaries of groundwater districts created by the Commission through the petition process provided in Chapter 52 be coterminous with or within the boundaries of a designated underground water management area or critical area. The requirement for

delineation of an underground water management area for district creation was not extended to legislatively-created districts as in prior law. SB 1212 made significant changes to the critical area process by clarifying the critical area process in light of water agency reorganizations. The amendments clarified the roles of the TWDB and the Commission, placed time constraints on the agencies for developing and submitting critical-area reports, and defined procedures for conducting critical-area studies, designating critical areas and creating districts in critical areas. The Act also provided for the consolidation of existing districts.

HB 1744, passed in 1991 by the 72nd Texas Legislature, further amended and clarified the critical-area provisions of Chapter 52 by encouraging local action to create groundwater conservation districts within designated critical areas. These provisions allowed landowners in designated critical areas to create one or more districts through the petition or legislative process or have the area annexed into an existing district. An area failing to establish a district either through the petition or legislative process, or through annexation, would then become subject to inclusion in a proposed delineation of a district for Commission consideration.

HB 2294, passed by the 74th Legislature in 1995, recodified Chapter 52 into new Chapters 35 and 36. It replaced the terms "underground water conservation district," "underground water reservoir," and "underground water management area" with "groundwater conservation district," "groundwater reservoir," and "groundwater management area," respectively. It also repealed provisions requiring groundwater district actions under Chapter 50 of the Water Code (Provisions Generally Applicable to Districts) and repealed Chapter 52. The Act recodified portions of Chapter 52 that addressed groundwater management areas and critical areas into new Chapter 35 (Groundwater Studies). Some language in the critical area process was amended by HB 2294, but no major changes were made. The Act also recodified much of Chapter 52 dealing specifically with district powers, authorities, and administration into new Chapter 36 (Groundwater Conservation Districts).

Senate Bill 1, 1997. SB 1, the omnibus water bill passed by the 75th Legislature in 1997, renamed "critical areas" as "priority groundwater management areas" (PGMA), significantly amended the PGMA process in Chapter 35, and placed a renewed emphasis on the PGMA program. It also changed the TCEQ designation of a PGMA from an agency-rulemaking procedure to a TCEQ order, and added the involvement of local stakeholders in a notification and comment process. SB 1 further required that the TCEQ's PGMA report include an evaluation and consideration of the comments provided by the stakeholders in the decision-making process.

In addition, SB 1 extended the PGMA planning horizon from 20 to 25 years and formally included the TPWD in the study process to evaluate the potential effects of the designation of a PGMA on an area's natural resources. It also amended the schedules for the agency studies and directed the TCE to develop and implement a water education program to aid in the district-creation process. Furthermore, SB 1 removed a provision that denied state financial assistance to areas within designated PGMAs that failed to confirm a TCEQ-initiated district.

The Act required the TCEQ to recommend legislative action for future management of the PGMA if voters in the area failed to confirm the creation of a district or the addition of the area to an existing district as initiated by the TCEQ. These recommended legislative actions could include creation of a district or addition of the area to an existing district or providing for the management of the PGMA by the TCEQ's nearest regional office. It also added a provision in Chapter 35 allowing county commissioners courts within a designated PGMA to adopt certain water availability requirements in an area where platting is required.

SB 1 made numerous changes to groundwater district law in Chapter 36 of the Water Code. Groundwater conservation districts were recognized as the state's preferred method of determining, controlling, and managing groundwater resources. The Act clarified groundwater management planning requirements for districts and required accountability for the implementation of these plans. It established procedures for the TWDB to administratively certify district management plans and required districts to notify the TWDB of any modifications made to the management plans. Furthermore, SB 1 authorized the State Auditor's Office (SAO) to determine if a district was actively engaged in implementing its management plan, and established procedures for the TCEQ to take action to ensure districts implemented these plans. SB 1 also empowered districts to permit the transfer of groundwater out of the district, outlined procedures for the appointment of temporary directors in TCEQ-created districts in designated PGMAs, and authorized the TWDB to allocate funds to groundwater districts for collecting data and developing management and regional plans.

1999. SB 1310, passed by the 76th Legislature in 1999, amended Chapter 35 of the Water Code. SB 1310 provides an opportunity for the Texas Department of Agriculture (TDA) to participate in the PGMA study and evaluation and in groundwater conservation district educational outreach processes.

Summary of Legislative Changes 1949 - 1999

Legislative Act	Legislature	Major Provisions or Changes
HB 162	51st, 1949	Authorized the petition process for designating underground water reservoirs and creating underground water conservation districts. Amended in 1955 to authorize the Texas Board of Water Engineers to designate underground water reservoirs on its own motion. Codified as Chapter 52, Water Code in 1971.
HB 2	69th, 1985	Changed underground water reservoirs to management areas. Required that boundaries of groundwater districts be coterminous with a management area and allowed the Texas Water Commission (TWC) to consider using political boundaries to delineate management areas. Established the critical area process.
SB 1212	71st, 1989	Changed management areas to underground water management areas. Required the TWC to designate underground water management areas by agency-rulemaking procedures. Clarified agency roles, time-schedules and procedures for conducting critical area studies. Repealed underground water management area delineation requirements for legislatively-created districts. Required groundwater districts to develop comprehensive management plans.
HB 1744	72nd, 1991	Provided local opportunity for landowners in designated critical areas to establish underground water conservation districts.
HB 2294	74th, 1995	Replaced references to underground water conservation districts, underground water management areas, and underground water reservoirs with groundwater conservation district, groundwater management areas, and groundwater reservoirs, respectively. Recodified sections specific to groundwater management areas and critical areas into Chapter 35, Water Code. Recodified sections specific to groundwater conservation districts into Chapter 36, Water Code. Repealed Chapter 52 (Water Code) and provisions requiring groundwater district actions under Chapter 50 (now Chapter 49, Water Code).
SB 1	75th, 1997	Provided contents for groundwater district comprehensive management plans and required consistency with regional water plans. Provided for the TWDB to certify management plans if administratively complete, the State Auditor to determine if districts were actively implementing management plans, and the Texas Natural Resource Conservation Commission (TNRCC; predecessor to Texas Commission on Environmental Quality) to ensure district compliance. Replaced the concept of a critical area with a priority groundwater management area (PGMA) as designated by TNRCC order; extended PGMA study evaluation period from 20 to 25 years. Involved the TPWD in the PGMA study process and the TAEX in the PGMA district creation educational process. Removed denial of state assistance for areas within PGMA which have failed to establish a groundwater district. Required initial public notification and evaluation of comments in the PGMA study process.
SB 1310	76th, 1999	Provided opportunity for Texas Department of Agriculture to participate in PGMA study and evaluation and educational programming.

APPENDIX 2. Priority Groundwater Management Area Process

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 Texas Commission on Environmental Quality (TCEQ or Commission), Texas Water Development Board (TWDB), and the Texas Parks and Wildlife Department (TPWD) to study, identify and delineate priority groundwater management areas (PGMAs), and initiate the creation of groundwater conservation districts within those areas, if necessary. "Critical groundwater problems" are defined by state law as shortages of surface water or groundwater, land subsidence resulting from withdrawal of groundwater, or contamination of groundwater. The following is a description of the PGMA study and designation process authorized and required by Texas Water Code, Chapter 35 and the steps involved in the TCEQ-initiated formation of a groundwater conservation district.

The process of identifying, delineating, and designating a PGMA begins with the meeting of the TCEQ and TWDB executives. At this meeting, the executives review available data and identify, for detailed study, areas of the state which face or will face "critical groundwater problems" within the next 25 years. Once such areas have been identified, PGMA studies may then be initiated by the TCEQ's Executive Director and supporting studies and information are requested from the TWDB and the TPWD. The Texas Department of Agriculture may also provide input for purposes of the report.

Prior to initiating a PGMA study, the TCEQ must notify county governments, municipalities, river authorities, adjacent groundwater conservation districts, regional water planning groups, water districts, and entities that supply public drinking water. The aim of the notice is to solicit comments from the area's water stakeholders and to request data on and information about existing studies related to water supply, groundwater availability, groundwater level trends, and groundwater quality. Stakeholders who receive such a notice are allowed 45 days to provide comments to the TCEQ's Executive Director.

The Executive Director's PGMA report evaluates the authorities and management practices of existing groundwater management entities within and adjacent to the study area and makes recommendations on appropriate strategies necessary to conserve and protect groundwater resources in the area. The report evaluates comments and information provided by water stakeholders in the area, data and information provided by the TWDB and the TPWD, and information gathered from independent research. The report also provides specific recommendations as to whether the Commission should or should not designate an area as a PGMA and whether a groundwater conservation district (or districts) would be beneficial for the area and should be created to manage groundwater resources. If a study area is not recommended for designation as a PGMA, no further action is required by the Executive Director or the Commission. The Executive Director notifies the area's stakeholders of the completion and availability of the report and lists the reasons for the non-designation

determination. Any stakeholder may request that the recommendation be reconsidered.

In study areas recommended for PGMA designation, the Commission is required to conduct an evidentiary hearing before determining: 1) whether the proposed PGMA should be designated; 2) whether one or more groundwater conservation districts should be created within all or part of the proposed PGMA, whether all or part of the land in the proposed PGMA should be added to an existing district, or whether a combination of these actions should be taken; and 3) the feasibility and practicability of each district creation recommendation. After considering all available information, including that obtained during the hearing, the Commission issues an order regarding designation and GCD creation. If the Commission designates the area as a PGMA, the order states the Commission's findings and conclusions regarding the designation of the PGMA, delineates the boundaries for the PGMA, and provides specific recommendations regarding creation of a district in the PGMA. If the Commission finds that a GCD created under Chapter 36 of the Water Code would not be feasible or practicable for the protection of groundwater resources in the PGMA, the Commission may recommend to the legislature the creation of a special law district or amendment of an existing district's powers and authorities. If the Commission determines that the area does not meet criteria to be designated as a PGMA, its order will state that the PGMA will not be designated.

After the designation of a PGMA, the Commission provides copies of the order to the commissioners court of any county that is affected by the designation, any existing GCDs that are adjacent to the PGMA, and the Texas Cooperative Extension. The Executive Director will notify the commissioners courts of their educational programming responsibilities in the PGMA and request the initiation of an educational outreach program by the TCE. The affected commissioners courts are responsible for forming steering committees to provide educational programming assistance to TCE. If the Commission's PGMA designation order recommends that all or part of the PGMA should be added to an existing GCD, the Executive Director will notify the district's board of directors. The board of directors will determine whether to pursue the Commission's recommended action and advise the Commission of their decision and the outcome of district actions.

The opportunity for local action to establish a district either through legislative, petition, or annexation processes begins on the date of the Commission's order designating an area as a PGMA. Whether through district creation or addition of the area to an existing district, voters in the area must confirm the district at an election. At the election, residents vote on propositions to confirm the creation of the district, approve taxing authority for the district, and elect members to serve on the district's board of directors. The opportunity for local action expires two years after the date of the Commission's order.

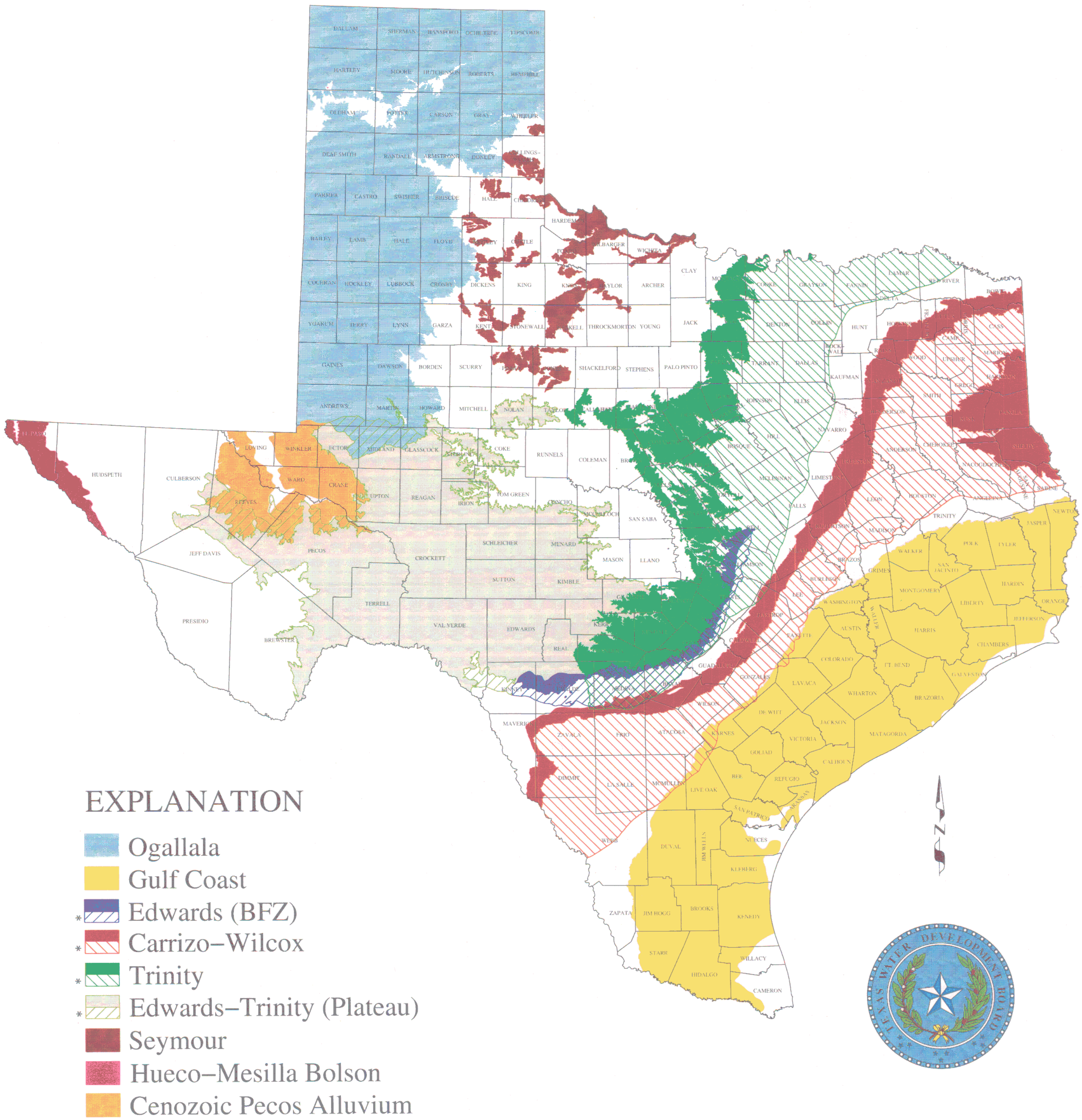
If local action has not resulted in the creation of a GCD or the addition of the area to an existing GCD within the two-year period, the Executive Director must identify areas in the PGMA that are still not part of any existing district and recommend, for Commission action, GCD creation and boundaries that are

consistent with the Commission's PGMA designation order. Notice for a regularly scheduled Commission meeting will be provided to the water stakeholders and other persons identified at the PGMA designation/district creation recommendation hearing. The Commission, without conducting another evidentiary hearing, will issue an order creating the district or districts, charge the commissioners courts of affected counties to appoint temporary directors for the district, and charge the temporary directors to schedule a district election. Unlike a locally-initiated district creation or annexation, voters in the area are only provided the opportunity through the election process to approve taxing authority for the district and to elect members to serve on the district's board of directors. If the voters do not approve taxing authority for the district, it will be funded by revenue generated from well production fees.

State law is implemented by TCEQ rules that outline procedures for the designation of PGMAs and address issues and processes related to the creation of groundwater conservation districts in areas which have been designated as PGMAs. These TCEQ rules are contained in Title 30, Texas Administrative Code, §293.19 and §§294.41 - 293.44.

APPENDIX 3. Major and Minor Aquifer Maps

MAJOR AQUIFERS OF TEXAS



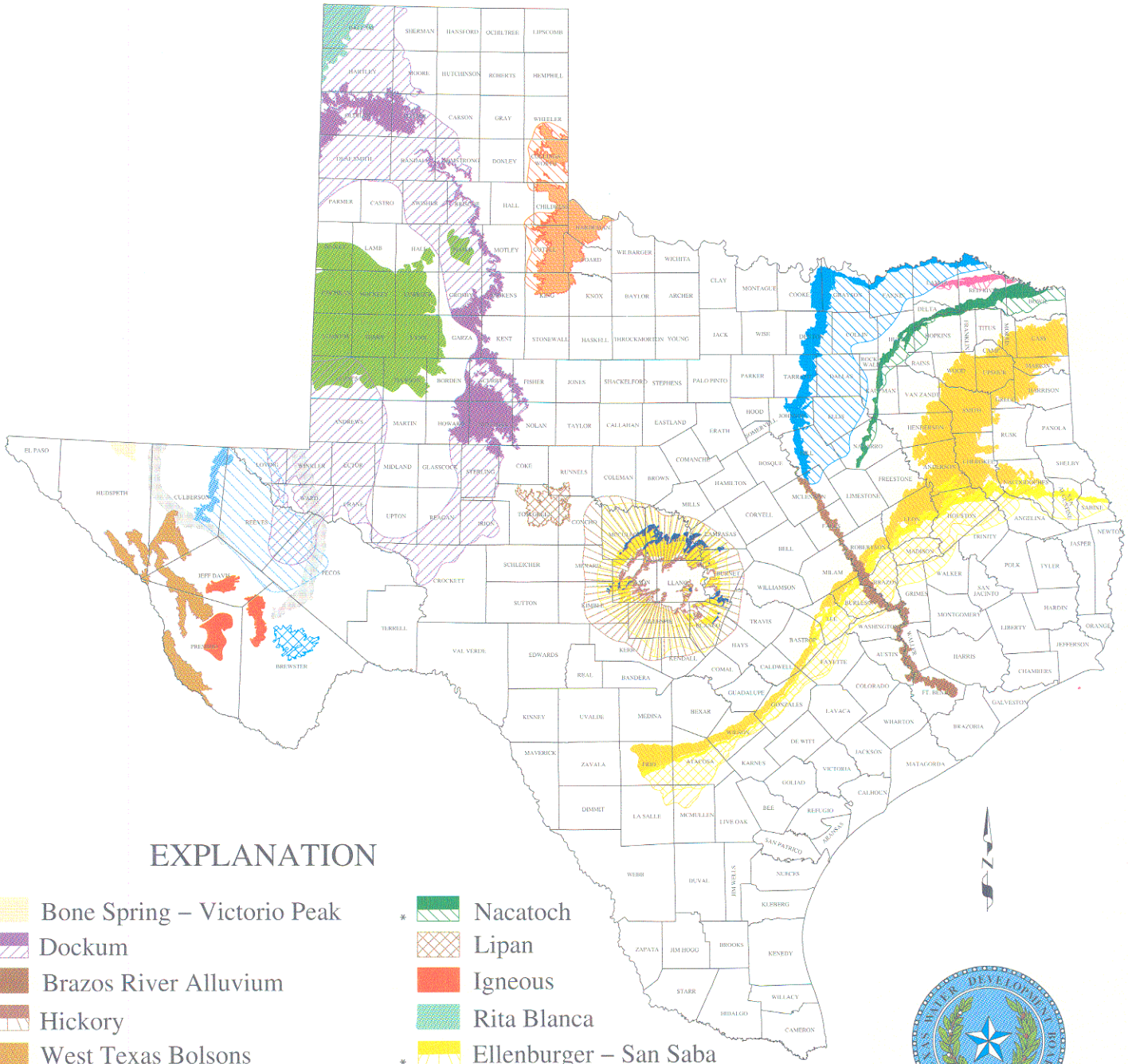
OUTCROP (That part of a water-bearing rock layer which appears at the land surface.)

* DOWNDIP (That part of a water-bearing rock layer which dips below other rock layers.)

Miles
0 25 50 75 100

January 1994

MINOR AQUIFERS OF TEXAS



EXPLANATION

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

Miles
0 25 50 75 100

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.)

January 1994

Yegua-Jackson Minor Aquifer Map

APPENDIX 4. Priority Groundwater Management Area Studies and Reports

Area 1; Williamson and Parts of Adjacent Counties

Duffin, Gail L., and S.P. Musick, 1989, *Critical Area 1, Part 1: Evaluation of Ground-Water Resources Within Bell, Burnet, Travis, Williamson and Parts of Adjacent Counties, Texas*; Texas Water Development Board and Texas Water Commission joint file report, August 1989, 57 pp.

Duffin, G. and S. Musick, 1991, *Evaluation of Ground-Water Resources in Bell, Burnet, Travis, Williamson and Parts of Adjacent Counties, Texas*; Texas Water Development Board Report 326, January 1991, 105 pp.

El-Hage, Albert and D. W. Moulton, 1999, *Evaluation of Selected Natural Resources within Williamson and Parts of Adjacent Counties, Texas*; Texas Parks and Wildlife Department file report, January 1999, 23 pp.

Ridgeway, Cindy and H. Petrini, 1999, *Changes in Groundwater Conditions in the Edwards and Trinity Aquifers, 1987 - 1997, for Portions of Bastrop, Bell, Burnet, Lee, Milam, Travis, and Williamson Counties, Texas*; Texas Water Development Board Report 350, November 1999, 38 pp.

Area 2; Hill Country Area (See Also Area 17)

Cross, Brad L., and B. Bluntzer, 1990, *Ground Water Protection and Management Strategies for the Hill Country Area: A Critical Area Ground Water Study*; Texas Water Commission and Texas Water Development Board joint file report, February 1990, 18 pp.

Bluntzer, Robert L., 1992, *Evaluation of the Ground-Water Resources of the Paleozoic and Cretaceous Aquifers in the Hill Country of Central Texas*; Texas Water Development Board Report 339, 130 pp.

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.

Area 4; Briscoe, Swisher, and Hale County Area

Hart, Margaret, 1990, *Briscoe, Hale, and Swisher Counties, Texas: A Critical Area Ground Water Study*; Texas Water Commission file report, February 1990, 34 pp.

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.

Area 5; Central Texas (Waco) Area

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.

El-Hage, Albert and D. W. Moulton, 1999, *Evaluation of Selected Natural Resources in Part of the Central Texas (Waco) Area*; Texas Parks and Wildlife Department file report, February 1999, 34 pp.

Bradley, Robert, 1999, *Updated Evaluation of Water Resources within the Trinity Aquifer Area, Central Texas*; Texas Water Development Board Open-File Report 99-03, November 1999, 51 pp.

Area 6; East Texas Area

Weegar, Mark A., 1990, *Ground Water Protection and Management Strategies for East Texas*; Texas Water Commission file report, March 1990, 34 pp.

Preston, Richard, and S. Moore, 1991, *Evaluation of Ground-Water Resources in the Vicinity of the Cities of Henderson, Jacksonville, Kilgore, Lufkin, Nacogdoches, Rusk, and Tyler in East Texas*; Texas Water Development Board Report 327, February 1991, 51 pp.

El-Hage, Albert and D. W. Moulton, 1998, *Evaluation of Selected Natural Resources in Angelina, Cherokee, Gregg, Nacogdoches, Rusk, and Smith Counties, Texas*; Texas Parks and Wildlife Department file report, November 1998, 48 pp.

Cullhane, Tom, 1998, *Updated Evaluation of Groundwater Resources in the Vicinity of the Cities of Henderson, Jacksonville, Kilgore, Lufkin, Nacogdoches, Rusk, and Tyler in East Texas*; Texas Water Development Board Open-File Report 98-04, December 1998, 31 pp.

Area 7; Lower Rio Grande Area

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.

Area 9; Dallam County Area

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.

Area 11; North-Central Texas Area

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.

Baker, Bernard, Duffin, G., Flores, R., and T. Lynch, 1990, *Evaluation of Water Resources in Part of North Central Texas*; Texas Water Development Board Report 318, January 1990, 67 pp.

El-Hage, Albert, D. W. Moulton, and P. D. Sorensen, 1999, *Evaluation of Selected Natural Resources in Part of the North-Central Texas Area*; Texas Parks and Wildlife Department file report, February 1999, 37 pp.

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.

Area 12; Orange-Jefferson Counties Area

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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Email: dales@safezone.net

Mr. Brad Engstrom, Temporary Director
Post Oak Groundwater Conservation District
P.O. Box 371
Garwood, Texas 77442
Phone No. (979) 758-3463

Mr. Steve Grigory, Board President
Mr. Ken Fiedler, Director
Southeast Trinity Groundwater Conservation District
P.O. Box 203
Bulverde, Texas 78163
Phone No. (830) 980-2241(Ken Fiedler's home)
Email: steve@grigory.com
Internet: www.geocities.com/southeasttrinity

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

APPENDIX 6. Internet Links

House Research Organization
http://www.capitol.state.tx.us/hrofr/hrofr.htm

Texas Administrative Code (State Agency Rules)
http://204.65.105.13/tac/

Texas Alliance of Groundwater Districts
http://www.texasgroundwater.org/

Texas Commission on Environmental Quality
http://www.tceq.state.tx.us/

Texas Cooperative Extension (formerly Texas Agricultural Extension Service)
http://agextension.tamu.edu

Texas Department of Agriculture
http://www.agr.state.tx.us/

Texas Legislature
http://www.capitol.state.tx.us/

Texas Parks and Wildlife Department
http://www.tpwd.state.tx.us/

Texas Statutes
http://www.capitol.state.tx.us/statutes/statutes.html

Texas Water Development Board
http://www.twdb.state.tx.us/

Senate Research Center
http://www.senate.state.tx.us/SRC/index.htm

State Auditor's Office
http://www.sao.state.tx.us/