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Priority Groundwater Management Areas and Groundwater Conservation Districts, Report to the 81st Texas Legislature

Prepared by
Texas Commission on Environmental Quality
Texas Water Development Board

SFR-053/06
January 2009
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Executive Summary

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

**Priority Groundwater Management Area Program.** Between 1987 and 2001 – 17 PGMA study areas were evaluated by the Commission and the TWDB. Six of these study areas were designated as PGMAs by the Commission. These include: (1) Hill Country PGMA in all or part of eight counties; (2) Reagan, Upton and Midland County PGMA in part of each county; (3) Briscoe, Swisher and Hale County PGMA in all or part of each county; (4) Dallam County PGMA in part of county; (5) El Paso County PGMA in part of county; and, (6) Northern Bexar County (added to Hill Country PGMA in 2001).

From 2002 to 2008, one new PGMA study area was evaluated, and five previously studied areas were reevaluated. The Commission designated a PGMA in five out of 16 counties in one of the updated study areas, and recommended GCD creation. In a second updated study area, PGMA designation and groundwater conservation district creation have been recommended for 13 of the 20 counties.

The executive director’s report and recommendations, *Updated Evaluation for Central Texas - Trinity Aquifer Priority Groundwater Management Study Area*, was completed and filed with the Commission in December 2007. The report concluded that the state and regional water planning data indicate that present groundwater use exceeds or is near the estimate of sustainable supply in Bosque, Coryell, Hill, McLennan, and Somervell counties, thus indicating present shortages or near shortages of groundwater supplies. After contested case and public hearings, the Commission designated the five counties as the Central Texas Trinity Aquifer PGMA on October 31, 2008. The commission order recommends that a regional, combination tax-based and fee-funded GCD for the PGMA is the most feasible, economic, and practicable option for conservation, protection and management of the groundwater resources in the area. An alternative recommendation is also provided that recognizes: multi-GCDs in the PGMA would be practicable and feasible; two created but unconfirmed GCDs (McLennan County GCD and Tablerock GCD in Coryell County) were present in the PGMA; and these two GCDs are required by their enabling Acts to add an adjacent county by September 2011, or be dissolved by the TCEQ.

The executive director’s report and recommendations, *Updated Evaluation for North-Central Texas – Trinity and Woodbine Aquifer Priority Groundwater Management Study Area*, was completed and filed with the Commission in June 2007. The report recommends that Collin, Cooke, Dallas, Denton, Ellis, Fannin,
Grayson, Hood, Johnson, Montague, Parker, Tarrant and Wise counties be designated as the Northern Trinity and Woodbine Aquifers PGMA and that a regional, fee-funded GCD should be created. The State Office of Administrative Hearings (SOAH) took jurisdiction for the case and held a preliminary hearing in Fort Worth on October 23, 2007. The hearing on merits was held in Austin on May 13, 2008, and the SOAH administrative law judge’s proposal for decision was filed with the TCEQ on September 2, 2008. The proposal for decision generally supports the executive director’s recommendations. As of November 1, 2008, the Commission hearing for decision had not been conducted.

Locally initiated GCD creation or additions of territory to an existing district has occurred in four of the previously designated PGMAs; however, areas remain in each PGMA that have not yet established a GCD. Successful district creation has not occurred in the designated parts of Briscoe, Comal, Dallam, Midland, Swisher, Travis, and Upton counties. In 2008, the executive director started the process to petition the TCEQ for the establishment of GCDs in the Dallam County PGMA and the Comal and Travis County portions of the Hill Country PGMA. The executive director will start this same process in the other two PGMAs in fiscal year 2009.

**Groundwater Conservation District Creation, Dissolution, and Consolidation.** Eight new GCDs were created by special Acts of the 80th Legislature, 2007 in 11 counties. These districts included the Colorado County, Culberson County, Lavaca County, McLennan County, Northern Trinity, Panola County, Tablerock, and Upper Trinity GCDs. Creation of seven of the eight GCDs is subject to voter confirmation. Neither district dissolution nor district consolidation activities took place during the biennium. No new districts were created by the TCEQ through either the landowner petition process or the PGMA process during the 2007–2008 biennium. As a result of these actions, a total of 97 GCDs have been created in the state. The total includes 93 established (confirmed) districts and four unconfirmed districts. The 93 established districts cover all or part of 145 of the state's 254 counties.

Four GCDs created by the 80th Legislature and two GCDs created by the 79th Legislature were confirmed in the biennium. The Colorado County GCD, Panola County GCD, San Patricio County GCD, and Star County GCD were confirmed by the voters in November 2007. The Upper Trinity GCD was also confirmed in all Hood, Montague, Parker, and Wise counties in November 2007. Confirmation election was not required for the Northern Trinity GCD in Tarrant County.

Confirmation elections for two GCDs created by the 80th Legislature and one GCD created by the 79th Legislature remain pending. If the Duval County GCD, McLennan County GCD or Tablerock GCD are not confirmed by the voters before September 1, 2012, the GCDs will be dissolved on September 1, 2012. The Lavaca County GCD was defeated by voters in Lavaca County on May 10, 2008. The Act creating the District provides the District may hold subsequent confirmation elections until the Act expires on September 1, 2013.

**Groundwater District Management Planning and Implementation.** Each GCD must develop and adopt, in coordination with surface-water management entities, a groundwater management plan to address district goals. Once adopted,
the plan must be approved for statutory completeness by the executive administrator of the TWDB. District implementation of the plan is subject to review by the SAO after one year. In addition, the TCEQ is required to take certain enforcement actions if a district does not adopt its plan within statutory deadlines, or if a district is determined by the SAO to be not operational in achieving the objectives of its approved plan.

Between January 2007 and October 2008, there were six new GCDs that were required to submit their first management plan after their confirmation election. Four of the six GCDs submitted their plans during this period, and the TWDB approved all four plans as administratively complete. In addition to the management plans received from new GCDs, the TWDB also received 17 plans for re-approval. The executive administrator approved a total of 21 plans as administratively complete during the 2007–2008 biennium.

In December 2007, the North Plains GCD entered into a compliance agreement with the TCEQ with management plan development, coordination, adoption, and submittal milestones. The TWDB approved the District’s management plan on July 14, 2008. The TCEQ is currently pursuing a compliance agreement with the Brewster County GCD on failure to submit a readopted District management plan. Blanco-Pedernales GCD, Gonzales County GCD, and Goliad County GCD missed deadlines to readopt their management plans and are currently working cooperatively with the TWDB for approval of their plans. Anderson County UWCD, Hemphill County UWCD, Hudspeth County UWCD No. 1, Plum Creek CD, and Culberson County GCD also missed deadlines to readopt their management plans in the biennium. These GCDs worked with TCEQ in a timely manner to address compliance without any TCEQ intervention.

Two nonoperational GCD cases previously referred to the TCEQ from SAO are ongoing. To date, the Salt Fork UWCD (Kent County) has not demonstrated compliance in achieving its management plan objectives. The TCEQ notified the District in May 2008 that enforcement action had begun and that the executive director would petition the Commission to dissolve the District. The case was referred to SOAH, and the preliminary hearings were held on October 9 and December 9, 2008. Since November 2007, the TCEQ has requested Kinney County GCD financial audit documentation for the years ending September 30, 2006 and September 30, 2007 to conclude its review of District actions to comply with GCD financial oversight requirements. The TCEQ has not received copies of the District board approved financial audits and the case will not be closed until the audits are provided. The SAO did not review any GCDs in the 2007-2008 biennium.

**Joint Planning in Groundwater Management Areas.** GCDs have the responsibility of joint planning within each groundwater management area, must meet at least annually to conduct joint planning with the other districts in the management area, and must review the management plans and accomplishments for the management area. In addition, the GCDs are charged with establishing desired future conditions for the relevant aquifers. The desired future conditions are due to the TWDB no later than September 1, 2010, and every five years thereafter. Since September 1, 2007, there have been a total of 43 groundwater
management area meetings and another nine related meetings such as public workshops or technical work group meetings.

The GCDs in Groundwater Management Area 8 have adopted desired future conditions for all of the major and minor aquifers within the management area. On December 17, 2007, the GCDs in Groundwater Management Area 8 adopted desired future conditions for the Edwards (BFZ), Woodbine, Brazos River Alluvium, Blossom, and Nacotoch aquifers. The GCDs then adopted desired future conditions for the Ellenburger-San Saba, Hickory, and Marble Falls aquifers on May 19, 2008. Finally, on September 17, 2008, the GCDs adopted the desired future conditions for the Trinity aquifer.

The GCDs in Groundwater Management Area 9 also adopted desired future conditions. On August 29, 2008, the GCDs adopted conditions for the Edwards-Trinity (Plateau), Hickory, Ellenburger-San Saba, and Hickory aquifers.

**Groundwater Management Issues.** During the 2007-2008 biennium, the Office of the Attorney General (OAG) responded to requests for opinions for Kinney County GCD (OAG Opinion No. OR2007-05260), North Plains GCD (OAG Opinion No. OR2007-05310), Refugio GCD (OAG Opinion No. OR2008-10465), Goliad County GCD (Opinion No. GA-0540), and Fox Crossing Water District (Opinion No. GA-0540). The agencies are not aware of any other recent OAG opinion requests specific to GCDs or groundwater management as outlined and authorized under Texas Water Code, Chapters 35 and 36.

Over the interim, the Legislature Interim Committees held numerous hearings around the state to invite testimony and public input to identify the water management issues that should be addressed and to develop the appropriate recommendations for consideration by the 81st Legislature, 2009. The TCEQ and the TWDB respectfully defer recommendations regarding the management of groundwater supplies to the work of the Legislature Interim Committees.
Introduction

This report has been prepared for the 81st Legislature by the Texas Commission on Environmental Quality (TCEQ or Commission) and the Texas Water Development Board (TWDB), as required by Section 35.018 of the Texas Water Code. The introduction describes the purpose and scope of the legislative report and describes the interagency roles and coordination by which the provisions of Chapters 35 and 36 of the Texas Water Code are implemented.

Purpose and Scope

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

The report summarizes the Acts of the 80th Legislature, Regular Session, 2007, that generally and specifically affect the state’s GCDs. The report describes elections held for the confirmation of recently created groundwater conservation districts and the additions of territory into existing districts. The report provides information on district activities, including district adoption and TWDB approval of comprehensive groundwater management plans. The report describes State Auditor’s Office (SAO) management plan implementation reviews and TCEQ noncompliance review actions related to district management plan adoption or implementation. The report presents information on groundwater management areas (GMAs) and the new joint planning requirements in the GMAs. The report also presents information on educational programming that has been initiated by the state agencies and other entities, and in other areas where local governments or landowners have requested education on groundwater management and groundwater conservation district creation.

This legislative report is the sixth edition of a series that is prepared jointly by the TCEQ and the TWDB. The first five reports were presented to the 80th Legislature in 2007 (TCEQ, 2007), the 79th Legislature in 2005 (TCEQ, 2005), the 78th Legislature in 2003 (TCEQ, 2003), the 77th Legislature in 2001 (TNRCC, 2001), and the 76th Legislature in 1999 (TNRCC, 1999). The Texas Parks and Wildlife Department (TPWD), the Texas AgriLife Extension Service (TAES), and the SAO provided assistance in preparing these reports.

In addition, six previous reports on groundwater conservation districts and groundwater management issues have been prepared by the TCEQ’s predecessor agencies, the Texas Natural Resource Conservation Commission (TNRCC) and the Texas Water Commission (TWC). These reports, spanning the years 1985 to 1997, were presented to the 70th (1987) through 75th (1997) legislatures (TWC, 1987, 1989, 1991 and 1993; TNRCC, 1995 and 1997). These reports were prepared under Chapter 133 (General and Special Laws), Regular Session, 69th
Legislature, 1985, which was repealed and replaced with Section 35.018 of the Texas 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. The TCEQ is also responsible for enforcing the GCD management plan adoption, approval, and implementation requirements of Chapter 36 of the Texas Water Code, and for providing technical assistance to groundwater districts, when requested.

The Texas Water Development Board provides technical and administrative support to groundwater districts in the development of their groundwater management plans, reviews and approves 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 GMAs. For planning purposes, the TWDB determines values for managed available groundwater based on desired aquifer conditions developed by GCDs in common GMAs. The TWDB also provides financial assistance to GCDs for activities, including groundwater data collection, development and implementation of long-term management plans, and participation in regional water-planning efforts.

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

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

The State Auditor’s Office is authorized 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 may be conducted after the first anniversary of the plan’s approval by the TWDB. Subsequent reviews may occur on a seven-year cycle after the initial approval of the plan, subject to risk-assessment basis. The SAO reports its findings to the TCEQ and the Legislative Audit Committee.
The **Texas Alliance of Groundwater Districts (TAGD)** is a nonprofit organization formed to further the purposes of groundwater conservation and protection activities. The TAGD’s membership is restricted to groundwater conservation districts in Texas that are responsible for the management of groundwater, as defined in Texas Water Code, Chapter 36. Members of TAGD serve on various local, state, and federal advisory groups and routinely assist the TAES and the state agencies through their participation in groundwater educational programming efforts.

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

A second MOA regarding responsibilities of state agency groundwater management programs was signed in April 2001 by the TCEQ and TWDB, and amended in August 2007. The purpose of the second MOA was to clarify agency communications regarding the creation of new groundwater conservation districts, the administrative approval of management plans for groundwater conservation districts by the TWDB, and TCEQ noncompliance review and enforcement actions if a district failed to submit or receive approval of its management plan.
Acts of the 80\textsuperscript{th} Legislature Affecting Groundwater Conservation Districts

The Acts of the 80\textsuperscript{th} Legislature, Regular Session, 2007, affecting groundwater conservation districts (GCDs) are described and tabulated in this chapter. These Acts include both special legislation creating new or amending existing GCDs, and legislation that affects the general law authority and therefore all GCDs.

Groundwater Conservation District Authority

Three Acts passed by the 80\textsuperscript{th} Legislature made changes or additions to Texas Water Code (TWC), Chapters 35 and 36. These changes generally related to public participation in groundwater management planning processes, heightened GCD permitting authorities in the Hill Country Priority Groundwater Management Area (PGMA), rules for reporting permitted groundwater use to GCDs, and protocols for citizen suits against unpermitted or illegally operated wells. These changes are briefly described in Table 1.

Table 1. Acts of the 80\textsuperscript{th} Legislature Amending Texas Water Code, Chapters 35 and 36

<table>
<thead>
<tr>
<th>Act</th>
<th>Description</th>
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<tbody>
<tr>
<td>SB 3, Art. 2 §2.20 (Chap. 1430)</td>
<td>Adds TWC, §35.020 related to the policy of the state to encourage public participation in the groundwater management process in areas within a groundwater management area not represented by a groundwater conservation district.</td>
</tr>
<tr>
<td>SB 3, Art. 2 §2.21 (Chap. 1430)</td>
<td>Amends TWC, §36.113 related to granting or denying a permit or permit amendment in the Hill Country PGMA. Before granting a permit or permit amendment, the district shall consider if the proposed use of water from the well is wholly or partially to provide water to a pond, lake, or reservoir to enhance the appearance of the landscape.</td>
</tr>
<tr>
<td>SB 3, Art 2 §2.22 (Chap. 1430)</td>
<td>Amends TWC, §36.117 to clarify that a GCD in the Hill Country PGMA may require an exempt domestic use well or a well used for providing water to livestock or poultry to be permitted and to comply with the district rules if the well is no longer used solely for the exempt purpose</td>
</tr>
<tr>
<td>SB 714 (Chap. 523)</td>
<td>Amends TWC, §36.111 related to records and reports. The Act makes the GCD authority to require that records be kept and reports be made of the drilling, equipping, and completing of water wells and of the production and use of groundwater a permissive authority. The Act adds new language authorizing a GCD to adopt rules that require an owner or operator of a registered or permitted water well to report groundwater withdrawals using reasonable and appropriate reporting methods and frequency.</td>
</tr>
<tr>
<td>SB 1383 (Chap. 1321)</td>
<td>Amends TWC, §36.119, revising existing language for citizen suits for unpermitted or illegally operated water wells and adding new provisions for citizen suits for unpermitted or illegally operated water wells only after complaint to and investigation by the GCD. Changes would apply only to a violation occurring on or after September 1, 2007.</td>
</tr>
</tbody>
</table>
Groundwater Conservation District Creation And Dissolution

Seven new GCDs were created by special Acts of the 80th Legislature, 2007. The new GCDs were created in all or part of ten counties and include Panola County, Northern Trinity, Lavaca County, Colorado County, Tablerock, Upper Trinity, and McLennan County GCDs. Creation of six of the seven GCDs is subject to voter confirmation. The Act that creates the Colorado County GCD also repeals the enabling legislation for a previous GCD for Colorado County. Table 2 briefly describes creation and dissolution Acts of the 80th Legislature.

Table 2. GCD Creation and Dissolution Acts of the 80th Legislature

<table>
<thead>
<tr>
<th>Act</th>
<th>Description</th>
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<tbody>
<tr>
<td>HB 1498</td>
<td>Creates, subject to a confirmation election, the Panola County GCD in Panola County and provides for the powers, duties, administration, operations and financing of the District. The Act authorizes the District with special powers and duties and with TWC, Chapter 36, related to general law for GCDs. [Special District Local Laws Code, Chapter 8819.]</td>
</tr>
<tr>
<td>HB 4028</td>
<td>Creates the Northern Trinity GCD in Tarrant County and provides for the powers, duties, administration, operations and financing of the District. The Act authorizes the District with the powers and duties of TWC, Chapter 36, related to general law for GCDs. [Special District Local Laws Code, Chapter 8820.]</td>
</tr>
<tr>
<td>HB 4029</td>
<td>Creates, subject to a confirmation election, the Lavaca County GCD in Lavaca County and provides for the powers, duties, administration, operations and financing of the District. The Act authorizes the District with special powers and duties and with TWC, Chapter 36, related to general law for GCDs. [Special District Local Laws Code, Chapter 8822.]</td>
</tr>
<tr>
<td>HB 4032</td>
<td>Creates, subject to a confirmation election, the Colorado County GCD and provides for the powers, duties, administration, operations and financing of the District. The District’s initial boundaries would be coextensive with the boundaries of Colorado County except for territory in the southeastern part of the county that is within the boundaries of the Coastal Bend GCD. The Act authorizes the District with special powers and duties and with TWC, Chapter 36, related to general law for GCDs. The Act repeals Chapter 303, Acts of the 77th Legislature, Regular Session, 2001, the enabling legislation for a previous GCD for Colorado County. [Special District Local Laws Code, Chapter 8824.]</td>
</tr>
<tr>
<td>SB 3, Art. 11</td>
<td>Creates, subject to a confirmation election, the Tablerock GCD in Coryell County and provides for the powers, duties, administration, operations and financing of the District. The Act authorizes the District with special powers and duties and with TWC, Chapter 36, related to general law for GCDs. [Special District Local Laws Code, Chapter 8823.]</td>
</tr>
<tr>
<td>SB 1983</td>
<td>Creates, subject to a confirmation election, the Upper Trinity GCD and provides for the powers, duties, administration, operations and financing of the District. The District’s initial boundaries are coextensive with the boundaries of Hood, Montague, Parker, and Wise counties. The Act authorizes the District with special powers and duties and with TWC, Chapter 36, related to general law for GCDs. [Special District Local Laws Code, Chapter 8814.]</td>
</tr>
<tr>
<td>Act</td>
<td>Description</td>
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<tr>
<td>SB 1985 (Chap. 1345)</td>
<td>Creates, subject to a confirmation election, the McLennan County GCD in McLennan County and provides for the powers, duties, administration, operations and financing of the District. The Act authorizes the District with special powers and duties and with TWC, Chapter 36, related to general law for GCDs. [Special District Local Laws Code, Chapter 8821.]</td>
</tr>
</tbody>
</table>

**Amendments for Specific Groundwater Conservation Districts**

Fifteen Acts of the 80th Legislature made changes to authorities and responsibilities of existing groundwater conservation districts. These Acts amended the enabling legislation of each of the 14 GCDs that were changed in some manner. Table 3 provides a brief description of these Acts.

**Table 3. Acts of the 80th Legislature Amending Specific GCDs**

<table>
<thead>
<tr>
<th>Act</th>
<th>Summary</th>
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<tbody>
<tr>
<td>HB 3, Art 2 (Chap. 1351)</td>
<td>Amends the enabling legislation for the Edwards Aquifer Authority to own, finance, design, construct, operate, or maintain recharge facilities; clarifies the written notice requirements and opportunity for input when the authority intends to own, finance, design, construct, operate, or maintain recharge facilities; authorizes the withdraw of water from the aquifer of 572,000 acre-feet of water for each calendar year; and change the critical period management plan requirements. [Amends Chapter 626, Acts of the 73rd Legislature, Regular Session, 1993; Effective 09/01/2007]</td>
</tr>
<tr>
<td>HB 556 (Chap. 1182)</td>
<td>Amends the enabling legislation of the Hickory UWCD No.1 to allow the District to use a voting station that does not meet the requirements for accessibility under 42 U.S.C. Section 15481 (a) (3), except in the case that an election that is held jointly with another election in which a federal office appears on the ballot. The Act provides that the board of directors of the District shall notify the Secretary of State if the District does not provide at least one voting station at each polling place used in the election that meets the requirements for accessibility under 42 U.S.C. §15481 (a) (3). [Adds Special District Local Laws Code, Chapter 8818; Effective 06/15/2007]</td>
</tr>
<tr>
<td>HB 2070 (Chap. 701)</td>
<td>Amends the enabling legislation for the Duval County GCD to extend the date to September 1, 2009 for the District to hold a confirmation election, to extend the date the statute will expire if the District is not confirmed to September 1, 2012, and to authorize Duval County to pay for any portion of the costs incident to the District’s confirmation election. [Amends Special District Local Laws Code, Chapter 8808; Effective 06/15/2007]</td>
</tr>
<tr>
<td>HB 2072 (Chap. 1395)</td>
<td>Amends the enabling legislation for the Starr County GCD to extend the date to September 1, 2009 for the District to hold a confirmation election, to extend the date the statute will expire if the District is not confirmed to September 1, 2012, and to authorize Starr County to pay for any portion of the costs incident to the District’s confirmation election. [Amends Special District Local Laws Code, Chapter 8803; Effective 06/15/2007]</td>
</tr>
<tr>
<td>HB 3166 (Chap. 920)</td>
<td>Section 1.11 of the Act codifies the enabling legislation for the Coke County UWCD into the Special District Local Laws Code by adding Chapter 8806 [Effective 06/15/2007].</td>
</tr>
<tr>
<td>Act</td>
<td>Summary</td>
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<tr>
<td>HB 3995 (Chap. 786)</td>
<td>Amends the enabling legislation for the <strong>Collingsworth County UWCD</strong> by removing references to TWC, Chapters 51 and 52, and replacing them with references to TWC, Chapter 36; adding authority for the District’s board, by resolution, to change the name of the District; providing that the District may not contain more than 11 single-member districts for board representation; providing clarification for board representation considerations if the District adds territory; providing that financial information must be filed with the county treasurer of each county included in the District; and repealing provisions relating to initial directors, confirmation of the District, dissolution of the District, and statutory interpretation. [Amends Chapter 376, Acts of the 69th Legislature, Regular Session, 1985; Effective 06/15/2007]</td>
</tr>
<tr>
<td>HB 4009 (Chap. 1123)</td>
<td>Amends the enabling legislation for the <strong>Emerald UWCD</strong> in Crockett County and changes the name of the District to the <strong>Crockett County GCD</strong>. The Act clarifies that District directors are subject to the general law provisions for disqualification of directors in TWC, §49.052; that District directors must qualify for office in accordance with TWC, §36.055; and that District elections may be held at any location in Crockett County, director election dates will be in November of each even-numbered year, and director terms will expire on December 1 of each even-numbered year. The Act repeals provisions relating to temporary and initial director terms and establishes the terms for the present District directors. [Amends Chapter 712, Acts of the 71st Legislature, Regular Session, 1989; Effective 09/01/2007]</td>
</tr>
<tr>
<td>HB 4114 (Chap. 1290)</td>
<td>Amends the enabling legislation for the <strong>Brazoria County GCD</strong> to clarify definitions for the terms District and Board, provide that the District may not impose a tax for any purpose, and exempt new or existing wells for domestic use of a single-family dwelling and new or existing wells used for agriculture from District fees or metering requirements. The Act provides that the District may establish a schedule and impose production fees on non-exempt wells in accordance with TWC, §36.205, authorizes the District to impose an export fee for groundwater transferred out of the District in an amount not to exceed 150 percent of the maximum wholesale water rate charged by the City of Houston, and authorizes District use of other fees provided by TWC Chapter 36. [Amends Chapter 772, Acts of the 78th Legislature, Regular Session, 2003; Effective 09/01/2007]</td>
</tr>
<tr>
<td>SB 3, Art 12 (Chap. 1430)</td>
<td>Amends the enabling legislation for the <strong>Edwards Aquifer Authority</strong> to own, finance, design, construct, operate, or maintain recharge facilities; clarifies the written notice requirements and opportunity for input when the authority intends to own, finance, design, construct, operate, or maintain recharge facilities; authorizes the withdraw of water from the aquifer of 572,000 acre-feet of water for each calendar year; and change the critical period management plan requirements. [Amends Chapter 626, Acts of the 73rd Legislature, Regular Session, 1993; Effective 09/01/2007]</td>
</tr>
<tr>
<td>SB 3, Art. 13 (Chap. 1430)</td>
<td>Amends the enabling legislation of the <strong>Culberson County GCD</strong> to enlarge the boundaries of the District, subject to an election, to include all of the remaining territory of Culberson County. [Amends Chapter 1075, Acts of the 75th Legislature, Regular Session, 1997; Effective 09/01/2007]</td>
</tr>
<tr>
<td>SB 404 (Chap. 183)</td>
<td>Validates and confirms by law previous <strong>Bee GCD</strong> acts, proceedings, elections, and appointments. District matters pending on the effective date of the Act involved in litigation or that have been held invalid by a final judgment of a court of competent jurisdiction would not be validated or confirmed. [Adds Special District Local Laws Code, Chapter 8804, and repeals Chapter 678, Acts of the 75th Legislature, Regular Session, 1997; Effective 05/23/2007]</td>
</tr>
<tr>
<td>Act</td>
<td>Summary</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SB 585</td>
<td>Requires the Edwards Aquifer Authority to adopt rules pertaining to fire control in the Edwards Aquifer recharge zone and to consult with fire departments and fire marshals in those areas to adopt a plan to fight fires while protecting the aquifer. [Amends Chapter 626, Acts of the 73rd Legislature, Regular Session, 1993; Effective 06/16/2007]</td>
</tr>
<tr>
<td>SB 747</td>
<td>Removes fee authority language specific to the Barton Springs-Edwards Aquifer Conservation District from TWC, §36.205, and amends fee authority in the District’s enabling legislation. The Act provides annual well production fee caps for agricultural and other water use permits, authorizes additional annual production fees on new groundwater production for nonagricultural use permits, and authorizes the District to restrict or prohibit groundwater production during times of drought to sustain groundwater production for human consumption to protect the public health. [Amends Special District Local Laws Code, Chapter 8802; Effective 09/01/2007]</td>
</tr>
<tr>
<td>SB 1950</td>
<td>Amends three Acts relating to the Tri-County GCD. The Act removes the creation and boundary references to the District from Chapter 1331, Acts of the 76th Legislature, Regular Session, 1999. The Act amends Chapter 1352, Acts of the 77th Legislature, Regular Session, 2001, to rename the District as the Gateway GCD; to conform District boundaries with past election results and TWC, Chapter 36; to remove references to Chapter 1331; to provide that the number of directors conforms with Chapter 36; and, to clarify that an equal number of directors are appointed by the commissioners court of each county in the District. The Act also repeals Part 12, Chapter 966, Acts of the 77th Legislature, Regular Session, 2001, and all or part of six sections or subsections in Chapter 1352 for consistency. Section 9 of the Act requires the District to hold an election according to TWC, §36.328 to annex territory to the District and for the commissioners court of each county added to the District to appoint the appropriate number of directors.</td>
</tr>
<tr>
<td>SB 1981</td>
<td>Repeals a provision of the enabling Act for the Lost Pines GCD by removing language that restricts District directors from serving more than two consecutive terms. [Chapter 1323, Acts of the 77th Legislature, Regular Session, 2001; Effective 05/23/2007]</td>
</tr>
<tr>
<td>SB 2029</td>
<td>Amends the enabling legislation for the San Patricio County GCD to provide for one director to be elected by the voters of the entire District, and one director to be elected from each justice of the peace precinct by the voters of that precinct. The Act includes provisions for director eligibility based on residency and for service of directors following the redrawing of precinct boundaries after each federal decennial census. The Act validates and confirms all acts and proceedings of the District taken before the Act’s effective date and the election or appointment of directors or other officers of the District who took office before the Act’s effective date. [Amends Special District Local Laws Code, Chapter 8817; Effective 06/16/2007]</td>
</tr>
</tbody>
</table>
Priority Groundwater Management Area Program

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

This chapter provides a brief overview of PGMA program activities that have been completed to date. The chapter also describes the status of GCD creation action in designated PGMAs and other present and pending PGMA activities to the 81st legislative session.

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

Background

Between 1987 and 2001 – 17 PGMA study areas covering 117 counties were evaluated by the Commission and the Texas Water Development Board. Six of these study areas, covering all or part of 17 counties, were designated as PGMAs by the Commission.

- Hill Country PGMA in all or part of eight counties (1990)
- Reagan, Upton and Midland County PGMA in part of each county (1990)
- Briscoe, Swisher and Hale County PGMA in all or part of each county (1990)
- Dallam County PGMA in part of county (1990)
- El Paso County PGMA in part of county (1998)
- Northern Bexar County (added to Hill Country PGMA in 2001)

From 2002 to 2008, one new PGMA study area covering one county was evaluated, and five previously studied areas covering all or part of 46 counties were reevaluated. The Commission designated a PGMA in five out of 16 counties in one of the updated study areas, and recommended GCD creation. In a second updated study area, PGMA designation and groundwater conservation district creation has been recommended for 13 of the 20 counties.

- Designated October 2008 – Central Texas Trinity Aquifer PGMA in Bosque, Coryell, Hill, McLennan, and Somervell counties
• Recommended – Northern Trinity and Woodbine Aquifer Area in Collin, Cooke, Dallas, Denton, Ellis, Fannin, Grayson, Hood, Johnson, Montague, Parker, Tarrant, and Wise counties

Table 4 provides information for each of the PGMA studies and agency PGMA study reports are listed in Appendix 1. Figures 1 and 2 show the PGMAs and study areas in relationship to the area of the state located within the major and minor aquifers as delineated by the TWDB. The areas of the state that are designated as PGMAs, or are presently recommended for PGMA designation, are shown in Figure 1. Figure 2 illustrates all of the areas of the state that have been evaluated through the PGMA process to date. Figure 2 shows the designated PGMAs, the area recommended for PGMA designation, and the areas that were determined not to be PGMAs. Maps showing the major and minor aquifers in the state are provided in Appendix 2.

Groundwater conservation district creation activity has occurred in five of the six designated PGMAs and in the recommended PGMA. Figure 3 shows the PGMAs and where GCDs have been established within the state. Areas where GCD creation is needed remain in all of the PGMAs. Figure 4 is included to illustrate that most of the state has been evaluated for groundwater management needs by a groundwater conservation district, either by local initiative to create or defeat a GCD, or by the TCEQ in the PGMA process.
### Table 4. Priority Groundwater Management Area Studies

<table>
<thead>
<tr>
<th>PGMA Study Area</th>
<th>Major Aquifer(s)</th>
<th>Date Study Started</th>
<th>TCEQ or Executive Director Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study Areas Determined to be PGMAs and Designated by the TCEQ</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hill Country Area</td>
<td>Trinity</td>
<td>04/01/87</td>
<td>Designated on 06/06/90</td>
</tr>
<tr>
<td>Northern Bexar County Area</td>
<td></td>
<td>07/26/99</td>
<td>Designated on 01/24/01 Added to Hill Country PGMA</td>
</tr>
<tr>
<td>Reagan, Upton and Midland County Area</td>
<td>Edwards-Trinity</td>
<td>10/01/87</td>
<td>Designated on 06/13/90</td>
</tr>
<tr>
<td>Briscoe, Hale and Swisher County Area</td>
<td>Ogallala</td>
<td>01/01/88</td>
<td>Designated on 06/06/90</td>
</tr>
<tr>
<td>Dallam County Area</td>
<td>Ogallala</td>
<td>09/01/89</td>
<td>Designated on 06/06/90</td>
</tr>
<tr>
<td>El Paso County Area</td>
<td>Hueco Bolson</td>
<td>01/29/98</td>
<td>Designated on 12/02/98</td>
</tr>
<tr>
<td><strong>Study Areas Determined Not to be PGMAs; No Further Evaluation Required</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Rio Grande Valley Area</td>
<td>Gulf Coast</td>
<td>09/01/89</td>
<td>Decision made 09/19/90 (Commission)</td>
</tr>
<tr>
<td>Fort Bend County Area</td>
<td>Gulf Coast</td>
<td>09/01/89</td>
<td>Decision made 09/19/90 (Commission)</td>
</tr>
<tr>
<td>Orange-Jefferson Counties Area</td>
<td>Gulf Coast</td>
<td>09/01/89</td>
<td>Decision made 09/19/90 (Commission)</td>
</tr>
<tr>
<td>Wintergarden Area</td>
<td>Carrizo-Wilcox</td>
<td>10/04/90</td>
<td>Decision made 05/06/91 (Exe. Director)</td>
</tr>
<tr>
<td>Southermost High Plains Area</td>
<td>Ogallala</td>
<td>01/07/91</td>
<td>Decision made 08/05/91 (Exe. Director)</td>
</tr>
<tr>
<td>N. TX Alluvium and Paleozoic Outcrop Area</td>
<td>Seymour, Blaine and Dockum</td>
<td>10/06/97</td>
<td>Decision made 08/31/98 (Exe. Director)</td>
</tr>
<tr>
<td>East Texas Area</td>
<td>Carrizo-Wilcox</td>
<td>12/23/98</td>
<td>Decision made 08/04/04 (Exe. Director)</td>
</tr>
<tr>
<td>Trans-Pecos Area</td>
<td>Cenozoic Pecos Alluvium</td>
<td>12/23/98</td>
<td>Decision made 05/01/05 (Exe. Director)</td>
</tr>
<tr>
<td>Hudspeth County Area</td>
<td>Hueco and West TX Bolsons</td>
<td>06/30/04</td>
<td>Decision made 06/17/05 (Exe. Director)</td>
</tr>
<tr>
<td>Williamson, Burnet and Northern Travis Counties</td>
<td>Edwards (BFZ) and Trinity</td>
<td>08/23/04</td>
<td>Decision made 01/09/06 (Exe. Director)</td>
</tr>
<tr>
<td><strong>Update Evaluations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Texas (Waco) Area</td>
<td>Trinity</td>
<td>07/08/05</td>
<td>Designated on 10/31/08</td>
</tr>
<tr>
<td>North-Central Texas Area</td>
<td>Trinity – Woodbine</td>
<td>08/04/05</td>
<td>Pending Commission action</td>
</tr>
</tbody>
</table>
Figure 1. Priority Groundwater Management Areas (PGMA)
Figure 2. Areas Evaluated in PGMA Program
Figure 3. PGMAs and GCDs
Figure 4. PGMA Program and GCD Initiatives
PGMA Studies and Designations

In 2002 and 2004, the executive director (TCEQ) and executive administrator (TWDB) agreed to evaluate and complete five update PGMA studies and one new PGMA study. During the 2007-2008 biennium, the executive director completed the two remaining update studies.

Central Texas Trinity Aquifer PGMA

The executive director released a draft report and recommendations for the Central Texas Trinity Aquifer PGMA study area in February 2007 for stakeholder review and comments. The study area included Bell, Bosque, Brown, Callahan, Comanche, Coryell, Eastland, Erath, Falls, Hamilton, Hill, Lampasas, Limestone, McLennan, Mills, and Somervell counties. The report and recommendations, *Updated Evaluation for Central Texas - Trinity Aquifer Priority Groundwater Management Study Area*, was completed and filed with the Commission in December 2007.

The executive director’s report recommended that Bosque, Coryell, Hill, McLennan, and Somervell counties should be designated as the Central Texas Trinity Aquifer Priority Groundwater Management Area. The report concluded that the state and regional water planning data indicate that present groundwater use exceeds or is near the estimate of sustainable supply in these counties, thus indicating present shortages or near shortages of groundwater supplies. A regional, combination tax based and fee-funded GCD for Bosque, Coryell, Hill, McLennan, and Somervell counties was recommended as the most feasible, economic, and practicable option for conservation, protection and management of the groundwater resources in the area. An alternative recommendation was provided that recognized: multi-GCDs would be practicable and feasible; two created but unconfirmed GCDs (McLennan County GCD and Tablerock GCD in Coryell County) were present in the five-county area; and these two GCDs are required by their enabling Acts to add an adjacent county by September 2011, or be dissolved by the TCEQ.

In addition, the executive director’s report concluded and recommended that critical groundwater problems are not presently occurring or projected to occur in Bell, Brown, Callahan, Comanche, Eastland, Erath, Falls, Hamilton, Lampasas, Limestone, or Mills counties within the next 25-year period and these counties should not be designated as part of the recommended PGMA. The report recognized that Bell, Comanche, Erath, Lampasas, and Mills counties presently have GCDs, suggested that the residents of the Trinity aquifer portion of Eastland County may want to consider joining the Middle Trinity GCD, and suggested that the residents of Brown, Callahan, Falls, and Hamilton counties may want to consider GCD creation if groundwater usage practices and trends drastically exceeds regional water plan projections.

In January 2008, the executive director requested the SOAH to conduct the required evidentiary hearing. The executive director provided mailed notice of hearing to the water stakeholders in early February 2008 and posted notice of hearing in ten area newspapers later that month. The SOAH took jurisdiction for the case and held a preliminary hearing in Waco on April 3, 2008. The hearing on merits was held in Waco on May 1, 2008, and the SOAH administrative law judge’s proposal for decision was filed with the TCEQ on July 28, 2008.
The Commission designated the Central Texas Trinity Aquifer PGMA in Bosque, Coryell, Hill, McLennan, and Somervell counties by order on October 31, 2008. The TCEQ designation order recommends that a regional GCD in the PGMA is the most feasible, practicable, and economic option for protection and management of the groundwater resources, or that two GCDs based on local actions conducted in a timely manner is also a feasible and practicable solution.

Copies of the TCEQ designation order were mailed in November 2008 to the commissioners courts of the affected counties, the GCDs within and adjacent to the PGMA, and to TAES. An education program by TAES, facilitated by county steering committees appointed by the commissioners courts, was requested.

**Recommended Northern Trinity and Woodbine Aquifers PGMA**

In December 2006, the executive director released a draft report and recommendations for the North Central Texas – Trinity and Woodbine Aquifers – PGMA study area for stakeholder review and comments. This study area included Collin, Cooke, Dallas, Delta, Denton, Ellis, Fannin, Grayson, Hood, Hunt, Johnson, Kaufman, Lamar, Montague, Navarro, Parker, Red River, Rockwall, Tarrant, and Wise counties. The executive director’s final report and recommendations, *Updated Evaluation for North-Central Texas – Trinity and Woodbine Aquifer Priority Groundwater Management Study Area*, was completed and filed with the Commission in June 2007.

The executive director’s report recommended that Collin, Cooke, Dallas, Denton, Ellis, Fannin, Grayson, Hood, Johnson, Montague, Parker, Tarrant and Wise counties be designated as the Northern Trinity and Woodbine Aquifers Priority Groundwater Management Area and that a regional, fee-funded GCD should be created. The report concluded that state and regional water planning data indicates that:

- Water user groups in Ellis, Johnson, and Tarrant counties are collectively using the Trinity aquifer at quantities over regional water planning group estimates for the safe supply for each county, and water user groups in Collin, Cooke, Dallas, Denton, Fannin, Grayson, Hood, Parker, and Wise counties are using the Trinity aquifer at quantities near each county's estimated safe supply.
- Water user groups in Fannin and Johnson counties are collectively using the Woodbine aquifer at quantities over regional water planning group estimates for the safe supply for each county.
- Water use and demand projections for the Barnett Shale, when coupled with present groundwater use estimates, may collectively push Trinity aquifer use above the regional water plan estimates of safe supply for Cooke, Denton, Parker, and Wise counties and add to ongoing aquifer overdraft in Ellis, Johnson, and Tarrant counties.
- The recommended regional water plan strategies to increase reliance on the Trinity and Woodbine aquifers result in collectively higher groundwater demand projections through 2010 for both aquifers and through 2030 for the Woodbine. By 2020, the reduced Trinity aquifer use strategies are projected to counter the new aquifer use strategies.

The report concluded that the water planning data indicates that present groundwater use exceeds or is near the estimate of safe supply in Collin, Cooke,
Dallas, Denton, Ellis, Fannin, Grayson, Hood, Johnson, Montague, Parker, Tarrant and Wise counties. This indicates that there are presently shortages or near shortages of groundwater supplies in these counties. Critical groundwater problems include shortages of groundwater supplies. In addition, the executive director’s report recommended that critical groundwater problems are not presently occurring or projected to occur in Delta, Hunt, Kaufman, Lamar, Navarro, Red River or Rockwall counties within the next 25-year period and these counties should not be designated as part of the recommended PGMA.

Two GCDs were created in this area during the 80th Legislature, 2007. The Northern Trinity GCD was created in Tarrant County effective June 15, 2007, and did not require voter confirmation. The Upper Trinity GCD was created effective September 1, 2007 in Hood, Montague, Parker, and Wise counties. The Upper Trinity GCD was confirmed by the voters on November 6, 2007, after the completion of the executive director's report.

In July 2007, the executive director requested the SOAH to conduct the required evidentiary hearing. The executive director provided mailed notice of hearing to the water stakeholders in early September 2007 and posted notice of hearing in 15 area newspapers later that month. The SOAH took jurisdiction for the case and held a preliminary hearing in Fort Worth on October 23, 2007. The hearing on merits was held in Austin on May 13, 2008, and the SOAH administrative law judge’s proposal for decision was filed with the TCEQ on September 2, 2008. The proposal for decision generally supports the executive director’s recommendations and finds that:

- Collin, Cooke, Dallas, Denton, Ellis, Fannin, Grayson, Hood, Johnson, Montague, Parker, Tarrant and Wise counties be designated as the Northern Trinity and Woodbine Aquifers Priority Groundwater Management Area, and
- A single, regional, fee-funded GCD in Collin, Cooke, Dallas, Denton, Ellis, Fannin, Grayson, and Johnson counties is the most feasible, economic, and practicable option for the protection and management of the groundwater resources.

The SOAH proposal for decision has not been scheduled for Commission decision as of November 1, 2008. If the TCEQ designates the recommended area as a PGMA, the TCEQ will issue an order and provide the order to the commissioners courts of the affected counties, the TAES, and the adjacent GCDs. The executive director will then request an educational outreach program regarding groundwater management and GCD creation be initiated by the TAES and facilitated by the commissioners courts.

Following the issuance of a commission order under TWC, §35.008 designating a PGMA and recommending the creation of one or more districts, or the addition of land to an existing district, the landowners in the PGMA may: (1) create one or more districts by a landowner petition process; (2) have the area added to a district that adjoins the area; or (3) create one or more districts through the legislative process. If local action fails to create a district within two years in the designated PGMA, the TCEQ can take action to create a GCD pursuant to the PGMA order.
Status and TCEQ Actions in Designated PGMAs

State law requires the TCEQ to identify areas within a PGMA which have not been incorporated into a GCD through local initiative and to initiate procedures to create GCDs or have area join an existing GCD if local efforts have not succeeded or occurred. Four critical areas were designated in 1990 by the Texas Water Commission (TCEQ’s predecessor agency) under prior statutory processes, and state law confirmed the designation of these areas as priority groundwater management areas in 1997. For the creation of GCDs in the PGMAs designated before 2001, the TCEQ rules provide for an executive director report and recommendation, stakeholder notice and input, and a contested case hearing before a SOAH administrative law judge on whether GCD creation is needed and is feasible and practicable.

Locally initiated GCD creation or additions of territory to an existing district has occurred in four of the previously designated PGMAs; however, areas remain in each PGMA that have not yet established a GCD. Successful district creation has not occurred in the designated parts of Briscoe, Comal, Dallam, Midland, Swisher, Travis, and Upton counties. In 2008, the executive director started the process to petition the TCEQ for the establishment of GCDs in the Dallam County PGMA and the Comal and Travis County portions of the Hill Country PGMA. The executive director will start this same process in the other two PGMAs in fiscal year 2009.

Dallam County PGMA

In an August 2008 draft report, the executive director identified three areas in the Dallam County PGMA that are not currently part of a GCD. The draft report concluded that these areas impact the management of the groundwater resources and that groundwater problems will continue without county and region-wide GCD management. The draft report recommended that the areas be added to the North Plains Groundwater Conservation District (NPGCD) as the most feasible, practicable, and economic means to achieve groundwater management in the Dallam County PGMA.

In November 2008, the executive director filed the report with the Chief Clerk of the TCEQ, mailed copies of the report to county clerks and public libraries in the county, and posted the report on the agency’s Internet homepage. Within 30 days of filing the report, the executive director will prepare a summary of report findings and recommendations, and note report availability. The summary will be mailed to the stakeholders and published in the Texas Register. The executive director will refer the report to the SOAH, and request a contested case hearing be conducted in Dallam County. Notice of the SOAH hearing will be published in at least one newspaper with general circulation in the area and mailed to stakeholders at least 30 days before the date chosen for the hearing.

After the hearing, the SOAH administrative law judge will file a proposal for decision with the Chief Clerk of the TCEQ, and the Chief Clerk will set the issue for the three-member Commission of TCEQ to consider at a regularly scheduled public agenda hearing in Austin. If the TCEQ recommends that the areas in Dallam County that are not in a GCD be added to the North Plains Groundwater Conservation District, it will issue an order and provide the order to the commissioners Court of Dallam County, and the NPGCD for additional consideration and action.
Hill Country PGMA

In April 2008, the executive director identified that the northwestern half of Comal County and the southwestern quarter of Travis County in the Hill Country PGMA have not established a GCD and began preparing a report and recommendations in accordance with TCEQ rules. The purpose of this report is to evaluate and recommend whether one or more GCDs should be created, whether the identified areas should be added to existing GCDs, or whether a combination of these actions should be taken. The report will convey the executive director's petition to the Commission for actions to establish groundwater management in the identified areas in the Hill Country PGMA. A draft report will be provided to the stakeholders for the opportunity to review and comment on the report and recommendations before they are finalized and a contested case hearing is requested and scheduled.

PGMA Program Planning

Staff from the TCEQ, TWDB, TPWD, and TDA met on August 21, 2007 as a precursor to the executive director/executive administrator PGMA meeting required by Chapter 35 of the Water Code. Staff conducted the meeting to discuss pending and projected PGMA activities, possible future PGMA study areas, and other PGMA implementation issues. TCEQ staff, with concurrence from TWDB and TPWD staff, identified present and pending PGMA issues and developed recommendations for management consideration. A TCEQ/TWDB staff summary report and recommendations pertaining to PGMA planning was provided to the management of the two agencies in December 2007.

The annual meeting of the agency executives was held on July 16, 2008. PGMA program efforts in fiscal years 2009 and 2010 will focus on completing the hearing process and groundwater conservation district education in the two new Trinity aquifer PGMAs, and groundwater conservation district creation in the 1990-designated PGMAs. No new PGMA studies are anticipated during this time frame.
Groundwater Conservation District Creation

A description of the GCDs that were created by the 80th Legislature and the status of confirmation elections during the 2007–2008 biennium are presented below and summarized in Table 5. Landowner efforts to add territory to existing districts are also discussed. The existing groundwater conservation districts are shown on Figure 5.

Confirmation of New Districts During the 2007–2008 Biennium

Four GCDs created by the 80th Legislature and two GCDs created by the 79th Legislature were confirmed in the biennium. The Colorado County GCD was confirmed by the voters in Colorado County on November 6, 2007 by a vote of 1,240 for; 1,130 against and authorized to levy an ad valorem tax at a rate not to exceed $0.03 per $100 assessed valuation of taxable property. The District was created by Chapter 953, Acts of the 80th Legislature, Regular Session, 2007 (HB 4032), and this law is codified as Special District Local Laws Code (SDLLC), Chapter 8824. SDLLC, Chapter 8824 provides for the powers, duties, administration, operations and financing of the District. The District’s initial boundaries are coextensive with the boundaries of Colorado County except for territory in the southeastern part of the county that is within the boundaries of the Coastal Bend GCD. Chapter 8824 authorizes the District with the powers and duties provided by general law for GCDs. The District may not exercise the power of eminent domain; purchase, sell, transport or distribute surface or groundwater for any purpose; acquire property to construct recharge or water conservation facilities; require a meter on a well that is not subject to permitting; or, enter land without advance notice to the property owner. Chapter 8824 repeals Chapter 303, Acts of the 77th Legislature, Regular Session, 2001, the enabling legislation for a previous GCD for Colorado County.

The Northern Trinity GCD in Tarrant County was created by Chapter 1126, Acts of the 80th Legislature, Regular Session, 2007 (HB 4028) – codified in SDLLC, Chapter 8820. The Act provided that an election to confirm the District’s creation was not required. Chapter 8820 provides for the powers, duties, administration, operations, and financing of the District. The District’s boundaries are coextensive with the boundaries of Tarrant. Chapter 8820 authorizes the District with the powers and duties provided by general law for GCDs; provides that four District directors are appointed by the Tarrant County Commissioners and one District director is appointed by the Tarrant County Judge; and provides that District may not exercise the power of eminent domain and may not impose a tax or issue bonds.

The Panola County GCD in Panola County was created, subject to a confirmation election, by Chapter 867, Acts of the 80th Legislature, Regular Session, 2007 (HB 1498). The District’s enabling legislation was codified as SDLLC, Chapter 8819. The District was confirmed on November 6, 2007 by a vote of 1,546 for; 219 against and authorized to levy an ad valorem tax at a rate not to exceed $0.015 per $100 assessed valuation of taxable property. The District’s boundaries are coextensive with the boundaries of Panola County. Chapter 8819 provides that the District may not: purchase, sell, transport or distribute surface water or groundwater for any purpose; exercise the power of
eminent domain; and, exceed bond or note indebtedness of $500,000. Initial well production fee rates may not exceed $0.25 per acre-foot of water used for agriculture irrigation or $0.0675 per 1,000 gallons for water used for any other purpose. Production fee rates may be increased at a cumulative rate not to exceed three percent per year.

The San Patricio County GCD in San Patricio County was created, subject to a confirmation election, by Chapter 1178, Acts of the 79th Legislature, Regular Session, 2005 (HB 3568; SDLLC, Chapter 8817). The District was confirmed on May 12, 2007 by a vote of 3,041 for; 1,886 against and authorized to levy an ad valorem tax at a rate not to exceed $0.05 per $100 assessed valuation of taxable property.

The Starr County GCD in Starr County was created, subject to a confirmation election, by Chapter 451, Acts of the 79th Legislature, Regular Session, 2005 (SB 1848; SDLLC, Chapter 8803). The District was confirmed on November 6, 2007 by a vote of 160 for; 16 against and authorized to levy an ad valorem tax at a rate not to exceed $0.05 per $100 assessed valuation of taxable property. SDLLC, Chapter 8803 authorizes the District with specific power to contract with municipal utility districts and other water-related entities, and to enter into a merger agreement with water supply or sewer service corporations.

The Upper Trinity GCD in Hood, Montague, Parker, and Wise counties was created, subject to a confirmation election, by Chapter 1343, Acts of the 80th Legislature, Regular Session, 2007 (SB 1983; SDLLC, Chapter 8830). The District was confirmed on November 6, 2007 by a vote of 11,752 for; 3,289 against and includes all four counties. Chapter 8830 provides that existing water wells are exempt from District well spacing requirements and that the District may require any new well or class of wells exempt from permitting to register the wells and comply with District spacing requirements. By rule, the District may require the owner or operator or a well or class of wells exempt from permitting to report groundwater usage, except for private domestic water wells producing less than 25,000 gallons per day. The District may not exercise the power of eminent domain and may not impose a tax for any purpose. District well production fees for non-agricultural use are capped at $0.30 per 1,000 gallons. The District is authorized to establish, adopt, and enforce the collection of fees and establish and enforce metering and reporting requirements before the adoption of the District’s management plan.

Confirmation elections for two GCDs created by the 80th Legislature and one GCD created by the 79th Legislature remain pending. The Duval County GCD in Duval County was created, subject to a confirmation election, by Chapter 450, Acts of the 79th Legislature, Regular Session, 2005 (SB 1847). The District’s enabling legislation is codified in SDLLC, Chapter 8808. The District has not held a confirmation election to date. Chapter 701, Acts of the 80th Legislature, Regular Session, 2007 (HB 2070) amended SDLLC, Chapter 8808 by extending the confirmation election date for the District to September 1, 2009, changing the expiration date for Chapter 8808 if the District is not confirmed by September 1, 2012, and authorizing Duval County to pay for any portion of the costs incident to the District’s confirmation election.
The **McLennan County GCD** in McLennan County was created, subject to a confirmation election, by Chapter 1345, Acts of the 80th Legislature, Regular Session, 2007 (SB 1985). This Act is codified in SDLLC, Chapter 8821. The temporary directors will become the initial directors at the time the District is confirmed by the voters, and serve staggered two- and four-year terms. Permanent directors will then be appointed to four-year terms by the McLennan County Commissioners Court. The District is authorized to: require a registration or permit for any activity that extracts groundwater, impose additional requirements or limitations on permits to transfer groundwater out of the district, and adopt rules and issue permits before it adopts a management plan. The District may not exercise the power of eminent domain. Chapter 8821 authorizes District revenue through service fees, user fees, well production fees, and grants. The District may not impose a fee for agricultural use that is more than 20 percent of the rate for municipal use. The District is required to expand and add territory by September 1, 2011, and TCEQ must dissolve the District if TCEQ finds that the territory has not been added. Chapter 8821 includes provisions for an election to dissolve the District if petitioned by over 50 percent of the registered voters in McLennan County. The District’s temporary directors may hold subsequent elections if the initial election to confirm the District’s creation is defeated. The District is dissolved on December 31, 2012, if not confirmed by the voters. The District has not scheduled a confirmation election to date.

The **Tablerock GCD** in Coryell County was created, subject to a confirmation election, by Chapter 1430, Acts of the 80th Legislature, Regular Session, 2007 (SB 3, Art. 11). This enabling legislation was codified in SDLLC, Chapter 8823. The temporary directors will become the initial directors at the time the District is confirmed by the voters, and will serve staggered two- and four-year terms. Permanent directors are appointed to four-year terms by the Coryell County Commissioners Court. The District is authorized to: require a permit for any activity that extracts groundwater, impose additional requirements or limitations on permits to transfer groundwater out of the district, and adopt rules and issue permits before it adopts a management plan. The District may require exempt wells to comply with the District’s spacing rules. The District may not exercise the power of eminent domain. The District is required to expand and add territory by September 1, 2011, and TCEQ must dissolve the district if TCEQ finds that the territory has not been added. The Act authorizes District revenue through the imposition of an ad valorem tax at a rate that is approved by the voters and does not exceed $0.02 per $100 assessed valuation. The District is authorized to assess service fees, user fees, well production fees, and grants. The Act includes provisions for an election to dissolve the District if petitioned by over 50 percent of the registered voters in Coryell County. The District is dissolved on September 1, 2012, if not confirmed by voters. The District has not scheduled a confirmation election to date.
Table 5. Status of GCD Elections During the 2007-2008 Biennium

<table>
<thead>
<tr>
<th>District Name</th>
<th>County(s)</th>
<th>Enabling Legislation (Chapter Listed)</th>
<th>Date</th>
<th>Vote</th>
<th>Special District Local Laws Code (SDLLC)</th>
<th>Board of Directors</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado County GCD</td>
<td>Colorado</td>
<td>HB 4032, 80th Leg. (953)</td>
<td>11/06/07</td>
<td>1,240/1,130</td>
<td>Confirmed</td>
<td>Appointed; Temporary</td>
<td>NA</td>
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<tr>
<td>Culberson County GCD</td>
<td>Rest of Culberson County</td>
<td>SB 3, Article 3, 80th Leg. (459)</td>
<td>11/06/07</td>
<td>616</td>
<td>NA</td>
<td>Appointed; Temporary</td>
<td>NA</td>
</tr>
<tr>
<td>Duval County GCD</td>
<td>Lavaca</td>
<td>SB 1847, 79th Leg. (545)</td>
<td>11/06/07</td>
<td>1,262,1,696</td>
<td>No</td>
<td>Appointed; Temporary</td>
<td>NA</td>
</tr>
<tr>
<td>Lavaca County GCD</td>
<td>McLennan County GCD</td>
<td>HB 4028, 80th Leg. (951)</td>
<td>06/15/07</td>
<td>616</td>
<td>No</td>
<td>Appointed; Temporary</td>
<td>NA</td>
</tr>
<tr>
<td>McLennan County GCD</td>
<td>Northern Trinity GCD</td>
<td>HB 4029, 80th Leg. (951)</td>
<td>05/10/08</td>
<td>1,262,1,696</td>
<td>No</td>
<td>Appointed; Temporary</td>
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<tr>
<td>Panola County GCD</td>
<td>Starr County GCD</td>
<td>SB 1985, 80th Leg. (450)</td>
<td>11/06/07</td>
<td>1,546,219</td>
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<td>San Patricio County GCD</td>
<td>Starr County GCD</td>
<td>SB 1848, 79th Leg. (545)</td>
<td>05/12/07</td>
<td>3,041,1,886</td>
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<td>Starr County GCD</td>
<td>Table Rock GCD</td>
<td>SB 1983, 80th Leg. (1343)</td>
<td>11/06/07</td>
<td>11,752,239</td>
<td>Confirmed</td>
<td>Appointed; Temporary</td>
<td>NA</td>
</tr>
</tbody>
</table>
Notes:

1. Chapter citation in Laws of Named Legislature, Regular Session.
2. Indicates method of director selection and board status.
3. Addition of territory in Culberson County not presently included in the Culberson County GCD
4. District has authorized by special law to hold subsequent confirmation elections until its Act expire on September 01, 2013.
5. District confirmation was not required by the Act.
Addition of Territory to Existing Districts

In February 2007, the Commissioner Court of Waller County petitioned the board of directors of the Bluebonnet GCD to add Waller County to the District. The board of directors of the District approved the petition in July 2007 pending the outcome of a confirmation election on November 6, 2007. The confirmation election to add Waller County was confirmed by a vote of 1,163 for; 652 against. The current boundary of the District includes all of Austin, Grimes, Waller and Walker counties.

Landowners in eastern Caldwell County petitioned the Gonzales County UWCD on October 9, 2007 to add territory to the District. After the board of directors of the District conducted hearings and examined the public comments, the District approved the petition on December 11, 2007. The addition of the territory to the District was confirmed by voters in the eastern part of Caldwell County on May 10, 2008. Approximately 77,440 acres of land in Caldwell County was added to the District.

Individual landowners in parts of Caldwell County also petitioned the Plum Creek CD to add about 541 acres of land on February 11, 2008. The Board of Directors of the Plum Creek CD accepted the petition and added the properties after a hearing held on February 19, 2008. These 541 acres are within the 77,440 acres added to the Gonzales County UWCD.

On January 18, 2007, and on January 26, 2007, the Childress and Cottle County Commissioners Court petitioned the Gateway GCD (previously named the Tri-County GCD) to add their territories to the District, respectively. On February 28, 2007, the District approved the petitions to add both territories. All of Cottle County and parts of Childress County that were not included in the Mesquite GCD were added on a successful May 12, 2007 confirmation election.


The board of directors of the Mesquite GCD (previously named the Collingsworth County UWCD) approved a petition on May 10, 2007 that was filed by landowners in Childress and Hall counties to add land to the District. All of the Hall County was added the District by a vote of 115 for; 54 against on May 12, 2007, and the parts of Childress County not included in the Tri-County GCD were added to the Mesquite GCD. The current District boundary included all of the Collingsworth, Hall and parts of Childress counties.

Failed District Creations

Between 1989 and 2006, nine legislatively created groundwater conservation districts and two Commission-created districts failed confirmation elections. Additionally, the Act creating one district was repealed for failure to conduct a
confirmation election within a specified time frame. All of the GCDs that have failed confirmation elections since 1989 are described in Table 6.

In the biennium, two GCDs failed confirmation election to create the district or add territory to the district. Chapter 1430, Acts of the 80th Legislature, Regular Session, 2007 (SB 3, Art. 13) amended the enabling Act of the Culberson County GCD (Chapter 1075, Acts of the 75th Legislature, Regular Session, 1997) by enlarging the boundaries of the District to include all of the remaining territory of Culberson County. The confirmation election for the addition of the remaining territory of Culberson County was defeated on November 6, 2007, by a vote of 6 for; 16 against.

The Lavaca County GCD was created by Chapter 951, Acts of the 80th Legislature, Regular Session, 2007 (HB 4029; SDLLC, Chapter 8822). The District was defeated by voters in Lavaca County on May 10, 2008 by a vote of 1,262 for; 1,696 against. SDLLC, Chapter 8822 provides the District may hold subsequent confirmation elections until the Act expires on September 1, 2013. The District is prohibited from requiring meters on wells that are exempt from permitting or regulation and from exercising the power of eminent domain. The District may adopt rules to require the owners or operators of exempt wells, other than exempt domestic or livestock wells, to report groundwater usage. Existing wells are exempt from District well spacing requirements and the District, by rule, may require exempt wells to comply with spacing requirements. The District is required to expand and add territory by May 31, 2012, and TCEQ must dissolve the District if TCEQ finds that the territory has not been added. The District may not levy a tax that exceeds $0.05 per $100 assessed valuation. The District would be dissolved on September 1, 2013, if it is not confirmed by the voters.
Table 6. Failed GCDs (Since 1989)

<table>
<thead>
<tr>
<th>District</th>
<th>Method of Creation</th>
<th>Confirmation Election</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bill, Legislature, Year, Chapter Listed, County(s)</td>
<td>Date, Vote % For/Against</td>
</tr>
<tr>
<td>Lavaca County GCD&lt;sup&gt;1&lt;/sup&gt;</td>
<td>HB 3652, 76&lt;sup&gt;th&lt;/sup&gt;, 2001, 1360, Lavaca</td>
<td>11/06/2001, 46/54</td>
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<tr>
<td></td>
<td>HB 4029, 80&lt;sup&gt;th&lt;/sup&gt;, 2007, 951</td>
<td>05/10/08, 42/48</td>
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<tr>
<td>Culberson County GCD&lt;sup&gt;2&lt;/sup&gt;</td>
<td>SB 3, 80&lt;sup&gt;th&lt;/sup&gt;, 2007, 1430, Rest of Culberson County</td>
<td>11/06/07, 27/73</td>
</tr>
<tr>
<td></td>
<td>Failed Prior to 2007–2008 Biennium</td>
<td></td>
</tr>
<tr>
<td>Upshur County GCD</td>
<td>HB 3635, 78&lt;sup&gt;th&lt;/sup&gt;, 2003, 1161, Upshur</td>
<td>05/15/04, 25 / 75</td>
</tr>
<tr>
<td>Crossroads GCD&lt;sup&gt;3&lt;/sup&gt;</td>
<td>HB 2643, 77&lt;sup&gt;th&lt;/sup&gt;, 2001, 1332, Victoria</td>
<td>11/06/2001, 45/55</td>
</tr>
<tr>
<td>Lower Seymour GCD</td>
<td>HB 3642, 77&lt;sup&gt;th&lt;/sup&gt;, 2001, 1471, Jones</td>
<td>Act repealed 06/17/05 for failure to conduct election</td>
</tr>
<tr>
<td>Southeast Trinity GCD&lt;sup&gt;4&lt;/sup&gt;</td>
<td>HB 2348, 78&lt;sup&gt;th&lt;/sup&gt;, 2003, 666, Portion of Comal County within the Hill Country PGMA</td>
<td>Act repealed previous enabling Acts effective 06/20/03</td>
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<tr>
<td></td>
<td>HB 2855, 77&lt;sup&gt;th&lt;/sup&gt;, 2001, 1335, Portion of Comal County within the Hill Country PGMA</td>
<td>11/06/01, 33 / 67</td>
</tr>
<tr>
<td>Lake Country GCD</td>
<td>Landowner Petition Under Water Code, Chapter 36 Created by Commission Order, 2002, Wood</td>
<td>02/01/03, 13 / 87</td>
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<tr>
<td>Post Oak GCD&lt;sup&gt;5&lt;/sup&gt;</td>
<td>HB 1136, 77&lt;sup&gt;th&lt;/sup&gt;, 2001, 303, Colorado</td>
<td>11/06/01, 48 / 52</td>
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<tr>
<td></td>
<td>11/05/02, 44 / 56</td>
<td></td>
</tr>
<tr>
<td>San Patricio GCD</td>
<td>HB 3590, 75&lt;sup&gt;th&lt;/sup&gt;, 1997, 1451, San Patricio</td>
<td>01/17/98, 34 / 66</td>
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<tr>
<td>Oldham County UWCD</td>
<td>SB 1714, 74&lt;sup&gt;th&lt;/sup&gt;, 1995, 720, Oldham</td>
<td>Act repealed 09/01/99 for failure to conduct election</td>
</tr>
<tr>
<td>Comal County UWCD</td>
<td>Landowner Petition Under Water Code, Chapter 36 Created by Commission Order, 1994, Portion of Comal County within the Hill Country PGMA</td>
<td>05/06/95, 8 / 92</td>
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<tr>
<td>Rolling Plains UWCD</td>
<td>HB 2820, 73&lt;sup&gt;rd&lt;/sup&gt;, 1993, 1027, Borden, Mitchell, Scurry</td>
<td>06/07/94, 25 / 75</td>
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<tr>
<td>Llano Uplift UWCD</td>
<td>HB 1491, 73&lt;sup&gt;rd&lt;/sup&gt;, 1993, 301, Llano</td>
<td>05/14/94, 15 / 85</td>
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<tr>
<td>Central Texas UWCD</td>
<td>HB 3099, 71&lt;sup&gt;st&lt;/sup&gt;, 1989, 514, Burnet</td>
<td>01/20/90, 12 / 88</td>
</tr>
</tbody>
</table>
Notes:

1. District was authorized by special law to hold subsequent confirmation elections until its Act expired on September 1, 2013.

2. Addition of territory in Culberson County not presently included in Culberson County GCD.

3. District was dissolved by House Bill 3423 of the 79th Legislature, 2005, and created the Victoria County GCD in the same County.

4. District was authorized by Chapters 966 and 1335, Acts of the 77th Legislature, Regular Session, 2001, to hold subsequent elections after a one-year period if initial confirmation was defeated by the voters. Chapter 666, Acts of the 78th Legislature, Regular Session, 2003, repealed the enabling Acts thus dissolving the District.
District Activities and Planning

This chapter outlines the activities and management planning activities of existing GCDs and in groundwater management areas. State agency activities related to GCDs and groundwater management areas including management plan development and approval, implementation, and compliance with planning requirements are discussed.

Activities of Existing Districts

Chapter 36 of the TWC requires that each GCD develop and implement a management plan for effective management of its groundwater resources. The management plan identifies the programs and activities to be implemented or accomplished by the district. Each GCD plans its activities according to rules and goals developed and adopted by the locally governed board. The information presented in Table 7 is a summary of activities listed in a district’s groundwater management plan or from the district rules. An “X” in the table indicates that the district describes in their management plan some component of the following activities:

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

**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 may be 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 Regulation’s (TDLR) Water Well Drillers Program.

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

**Water Conservation.** The district may address improving irrigation efficiency by funding loans, encouraging conservation practices through educational programs, performing irrigation efficiency evaluations, conducting pivot flow test, and providing mapping and leveling equipment. The district may 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, developing drought management and conservation 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.** TWDB provides districts with the opportunity to take advantage of three-year loans to be used for initial expenses, funded from the Groundwater District Loan Program. TWDB provides low-interest agricultural water conservation loans to GCDs that in turn provide small loans to individual irrigators who purchase efficient or water conserving irrigation equipment with the funds. TWDB also awards grants for projects that will help implement strategies in the regional and state water plans. In addition, there is a joint effort between TWDB and GCDs, funded partially by the TWDB, to meter irrigation water use.

**Special Projects and Research.** Special projects and research include modeling groundwater, recharging aquifers through infiltration or injection, measuring land subsidence, producing groundwater level maps, and enhancing recharge through weather modification programs. Projects may involve cooperative funding through federal, state, or local entities.
<table>
<thead>
<tr>
<th>District Name</th>
<th>Water Quality Monitoring and Protection</th>
<th>Groundwater Export Rules</th>
<th>Cooperative Surface Water Program</th>
<th>Waste Oil Recycling</th>
<th>Water Conservation</th>
<th>Education/ Public Outreach</th>
<th>Well Spacing Permitting and Construction</th>
<th>Aquifer Storage Monitoring</th>
<th>Water Well Inventory</th>
<th>Aquifer Quality Monitoring and Protection</th>
<th>Special Projects and Research</th>
<th>Grants and Loan Applications</th>
<th>Grants and Loan Applications</th>
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</thead>
<tbody>
<tr>
<td>Anderson County UWCD</td>
<td>X</td>
<td>X</td>
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<td>Barton Springs/Edwards Aquifer CD</td>
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Notes:

Shading indicates that a groundwater management plan has not been adopted/certified by October 10, 2008. Tabulated activity analysis is from certified or approved management plans. Districts that have not been confirmed are not included in the table.
Groundwater Management Plans

Texas law requires each GCD to develop, in coordination with surface water management entities, a comprehensive management plan addressing the groundwater management goals, management philosophy, and rules of the district. TWC, §36.1071 delineates the required content of a groundwater management plan and the associated approval process by the TWDB. In 2005, HB 1763 expanded the conservation management goals and added developing and addressing the desired future condition of an aquifer and resulting managed available groundwater quantitatively for a management plan to be considered administratively complete.

As provided in TWC, §36.1071, groundwater management goals that must be addressed by a district in its management plan 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,
• considering conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, brush control, where appropriate and cost-effective, and
• defining, in a quantitative manner, the desired future conditions of the groundwater resources in the district.

Development and Adoption of Plans

Each GCD develops its management plan according to requirements specified in TWC, §36.1071 and TWDB’s groundwater management plan approval rules (Title 31, TAC, Chapter 356). Districts may receive assistance for the development of the plan by contacting TWDB. The TWDB assists in plan development by providing:

• explanations of management plan content requirements,
• information on planning concepts,
• supporting data for groundwater and surface water estimates required in the plan, and
• technical assistance in developing required estimated recharge, groundwater flow values, and plan language.

In an effort to provide the greatest efficiency of service to the districts, the TWDB provides much of the assistance by telephone, fax, and e-mail. If additional help is necessary and requested, TWDB staff either goes out to the district office or meets with the district at TWDB offices.

Districts are offered the opportunity to submit draft management plans for an informal review by TWDB staff prior to adoption of the plan by the district’s board of directors. When these drafts are received, TWDB staff review the documents, note deficiencies with respect to administrative completeness, and send a completed checklist back to the
district. TWDB staff then contact the district to provide any additional assistance required for plan approval.

After the public adoption hearing, the district may submit the plan to the TWDB for administrative completeness approval. The district must provide TWDB a copy of any site-specific supporting data from the plan if requested. The TWDB is also required to review how the plan considers water management strategies for water supply needs from the adopted state water plan.

Staff logs plans received for the TWDB administrative review in a database to ensure that an administrative review is completed within the 60-day statutory review period. Each submitted plan is reviewed by at least three staff members for their recommendations. The TWDB’s executive administrator, after consideration of staff recommendations and additional review of the plan, considers approving the plan as administratively complete. A process for appeal of the denial of approval is provided in Chapter 36 of the TWC and the TWDB rules.

**District Coordination**

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’s Board of Directors, the districts are also requested to send the plan to the chair(s) of regional water planning area(s) that include the district.
Groundwater Management Plan Approval and Implementation

TWC, Chapter 36 provides that GCD management plans are subject to TWDB approval and authorizes the SAO to determine if a GCD is actively engaged in achieving the objectives of its management plan. Furthermore, Chapter 36 established procedures for the TCEQ to respond when the SAO identifies districts that are not implementing their management plans. District management plan implementation review and compliance activities accomplished during the 2007-2008 biennium are described below.

TWDB Plan Approval During the 2007-2008 Biennium

As of October 2008, there were 91 confirmed districts subject to groundwater management plan requirement and four unconfirmed districts in Texas. Between January 2007 and October 2008, there were five districts that were required to submit their first management plan after their confirmation election. One additional district was required to submit their initial management plan within the required three years from the date of their creation due to no confirmation election requirements within their enabling legislation. Four of the six districts submitted their plans during this period, and the TWDB approved all four plans as administratively complete. Table 8 lists groundwater conservation district management plan approvals and re-approvals during the 2007–2008 biennium.

In addition to the management plans received from new districts, the TWDB also received 17 plans for re-approval. Nine of these management plans were due for re-approval during the 2007–2008 biennium, three plans were due during the 2005–2006 biennium, while four more management plans were due the biennium prior to that (2003–2004). One additional management plan (for Kinney County GCD) was not due for re-approval until 2009, but court-related action required early submittal for review. TWDB’s executive administrator approved a total of 21 plans as administratively complete during the 2007–2008 biennium.

Based on their original management plan approval dates, 19 additional districts had management plans due either for initial approval or for re-approval but had not completed the review process during the January 2007–October 2008 time period. Eight of these 19 districts had management plans submitted for administrative completeness review by the end of October 2008, while the remaining 11 districts were working towards their plan submittals and were in various stages of preliminary review.

Future management plan due dates include 27 districts that have management plans due for approval in 2009, 20 districts in 2010, and 4 districts in 2011. These management plan counts include both first-time approvals and re-approvals and are listed in Table 9. The four unconfirmed groundwater conservation districts will have their plans due three years after the date of their confirmation elections if voters confirm the districts.
Table 8. Status of Management Plan Approval, January 2007 through October 2008

<table>
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<tr>
<th>First Management Plans</th>
<th>District Name</th>
<th>Plan Due Date</th>
<th>Date Received by TWDB</th>
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Notes: * Date on which all missing items were received.
Table 9. Status of Management Plan Due Dates from 2009 through 2011

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Notes: NA - Not Applicable

**TCEQ Noncompliance Review**

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

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

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

If a district fails to respond, is not capable to respond, or will not cooperate to reach a voluntary compliance agreement, formal enforcement action would be initiated by the executive director. Depending on the district's level of cooperation, formal enforcement may be achieved through either an agreed order process or through TCEQ-ordered actions. If an agreed order cannot be achieved or if enforcement is required through ordered actions, statute provides that the TCEQ may remove a district's board of directors, request the State Attorney General to bring suit for the appointment of a receiver to collect the assets and carry on the business of the district, or dissolve the district. If the TCEQ dissolves a district's board of directors or dissolves the district, other follow-up activities will be required. These activities could include such actions as the appointment of new temporary directors for a district if the board has been removed or the disposition of district assets if a district has been dissolved.

Either through failure to meet plan adoption and approval deadlines, or from failure to achieve the majority of the objectives of their plans, 29 GCDs have come under TCEQ’s purview since the management plan compliance provisions were added to the TWC in 1997. These cases are described in the previous reports to the Legislature.

To date, the TCEQ has taken action when 19 GCDs did not comply with the statutory deadlines to adopt a management plan and to submit the plan to the TWDB for approval consideration. Only minor TCEQ intervention to compel compliance was necessary for 11 of the GCD noncompliance cases. Compliance agreements were necessary to compel compliance for five of the GCDs. These 16 GCDs achieved compliance and each district had an approved management plan in place. Three GCDs are currently working with the TWDB for approval of their district management plan.

In the biennium, the North Plains GCD entered into a compliance agreement with the TCEQ with management plan development, coordination, adoption, and submittal milestones. In October 2007, the City of Amarillo filed a formal complaint against the North Plains GCD with the executive director of TCEQ related to failure of the District to timely prepare and submit a readopted groundwater management plan. Prior to the complaint, the District was working cooperatively with TCEQ on readoption of the District’s management plan. In response to the complaint, TCEQ and District finalized a compliance agreement on December 11, 2007. The TWDB approved the District’s management plan on July 14, 2008. Upon receipt of the North Plains GCD
documentation and review, TCEQ concluded its noncompliance review case on August 29, 2008.

The TCEQ is currently pursuing a compliance agreement with the Brewster County GCD on failure to submit a readopted District management plan. Blanco-Pedernales GCD, Gonzales County GCD, and Goliad County GCD missed deadlines to readopt their management plans and are currently working cooperatively with the TWDB for approval of their plan. Anderson County UWCD, Hemphill County UWCD, Hudspeth County UWCD No. 1, Plum Creek CD, and Culberson County GCD also missed deadlines to readopt their management plan in the biennium. These GCDs worked with TCEQ in a timely manner to bring their noncompliance case to close without any TCEQ intervention.

Prior the 2007–2008 biennium, ten GCDs were referred to the TCEQ for noncompliance review based on the nonoperational findings contained in the SAO phase one through phase four reports. Two GCDs independently addressed compliance issues in response to the SAO nonoperational findings with only minor TCEQ intervention. Compliance agreements and various levels of TCEQ involvement were required to compel management plan implementation for the remaining eight referred GCDs. To date, six of the GCDs have demonstrated compliance with the objectives of their management plans. The SAO did not review any GCDs in the 2007-2008 biennium.

The Salt Fork UWCD (Kent County) did not meet the schedule and objectives of a May 2004 compliance agreement to implement its approved management plan. The TCEQ initiated formal enforcement action in December 2004 and was notified by the District of its intent to develop a new, more appropriate management plan. The TCEQ deferred enforcement action and the District’s new management plan was approved by the executive administrator of the TWDB in May 2005. In May 2006, TCEQ requested documentation from the District to demonstrate implementation of the new management plan. To date, the District has not demonstrated compliance in achieving its management plan objectives. TCEQ notified the District in May 2008 that enforcement action had begun and that the executive director would petition the Commission to dissolve the district. The case was referred to SOAH, and the preliminary hearings were held on October 9 and December 9, 2008.

In response to the findings of the 2006 SAO Audit Report on Kinney County GCD, the TCEQ initiated a noncompliance review in June 2006 to determine the District’s compliance with the financial management provisions of TWC, Chapter 36, and to determine if the District has implemented operational changes. The District provided documentation to TCEQ in July 2006 and demonstrated that operational changes have occurred. Since November 2007, the TCEQ has requested the District’s audit documentation for the years ending September 30, 2006 and September 30, 2007 to conclude its review of District actions to comply with GCD financial oversight requirements. TCEQ has not received copies of the District board approved financial audits and the case will not be closed until the audits are provided.
Groundwater Management Areas

A groundwater management area is defined as an area suitable for the management of groundwater resources. Although groundwater management areas have recently become important in groundwater management, groundwater management areas have been around more than 50 years. Until September 2001, the primary purpose of delineating groundwater management areas was the creation of GCDs by petition. After September 2001, the primary purpose of groundwater management areas was to facilitate joint planning by GCDs managing the same aquifer.

In 1949, the Legislature authorized a petition process to the Texas Board of Water Engineers for designating “underground water reservoirs,” the predecessor to groundwater management areas, and for creating GCDs. To create a GCD, an underground water reservoir needed to first be delineated. In 1955, the Legislature authorized the Texas Board of Water Engineers to designate underground water reservoirs on its own without an external petition. In 1985, the Legislature changed “underground water reservoirs” to “management areas” and required that the boundaries of a GCD be coterminous with a management area, although political boundaries could be considered. The Legislature changed the name again in 1989 from “management areas” to “underground water management areas” and removed the requirement for delineating a management area for legislatively created GCDs. Underground water management areas became “groundwater management areas” in 1995.

In 2001, as part of Senate Bill 2, the Legislature moved the responsibility of creating groundwater management area delineations from the TCEQ to the TWDB and directed the TWDB to develop groundwater management areas that covered all of the major and minor aquifers of the state. The statute directed the TWDB to use aquifer boundaries or subdivisions of aquifer boundaries for the groundwater management area boundaries, although other factors, including political boundaries, could be considered. The TWDB adopted boundaries for groundwater management areas that covered the entire state in November 2002 (Figure 6). TWDB staff used aquifers and other hydrologic boundaries to guide the delineation of groundwater management areas. The boundaries primarily honored the boundaries of the major aquifers of Texas as identified in various TWDB publications. In areas with multiple major aquifers, TWDB staff generally placed a preference on the shallowest aquifer. The TWDB divided several of the major aquifers into multiple groundwater management areas. These divisions were based on hydrogeology and current water-use patterns and coincided with natural features where possible. Where possible, the TWDB aligned boundaries with county and existing GCD boundaries.

Senate Bill 2 required GCDs to share their groundwater management plans with each other within a groundwater management area and participate in joint planning, but only if a district in the management area called for it. However, in 2005, HB 1763 required joint planning among GCDs within groundwater management areas. The presiding officers, or their designees, of GCDs are required to meet at least annually to conduct joint planning and to review groundwater management plans and accomplishments in the groundwater management area. A key part of joint planning is determining “desired future conditions,” conditions that are used to calculate “managed available groundwater” volumes. These conditions and volumes will be used for regional water plans, groundwater management plans, and permitting.
Texas Water Development Board Rule Changes

Since the last legislative report, three changes in TWDB rules have occurred in Title 31 TAC, §356.

The Bluebonnet Groundwater Conservation District asked the TWDB to change the boundary between groundwater management areas 11 and 14. The northern tip of Walker County, north of the Trinity River, was included as part of GMA 11. After review of the public meeting notes TWDB staff determined that the map was in error and subsequently corrected the map. This correction to the rules became official on December 5, 2006.

Groundwater conservation districts in groundwater management areas 15 and 16 asked the TWDB to change the boundary between the two areas. The boundary to be changed is along the common boundary between Karnes and Live Oak counties, through Bee County, along the shared boundary between Refugio and San Patricio counties, and along the common boundary between Aransas and San Patricio counties. TWDB staff required that all of (participating) districts in the affected groundwater management areas agreed with the change and that the change be hydrologically supported. The final rules with the change became effective August 19, 2007.

In addition, the TWDB passed rules concerning the submission of desired future conditions to the TWDB and the petition process appealing the reasonableness of desired future conditions. These rule changes became effective January 23, 2008.

Implementation of HB 1763 Joint Planning

GCDs have the responsibility of joint planning within each groundwater management area. The presiding officer, or the presiding officer’s designee, of each district located in a management area is required to meet at least annually to conduct joint planning with the other districts in the management area. The members are required to review the management plans and accomplishments for the management area. In addition, the members are charged with establishing desired future conditions for the relevant aquifers. The desired future conditions are due to the TWDB no later than September 1, 2010, and every five years thereafter.

The TWDB is responsible for calculating or verifying the managed available groundwater based on the submitted desired future conditions. The TWDB then provides the managed available groundwater to the individual GCDs and the regional water planning groups.

As of October 1, 2008, all of the groundwater management areas with groundwater conservation districts have had at least one meeting. Since September 1, 2007, there have been a total of 43 groundwater management area meetings and another 9 related meetings such as public workshops or technical work group meetings. Table 10 lists the number of meetings for each groundwater management area.
Table 10. Number of Meetings Held for Joint Planning in Groundwater Management Areas

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<th>Groundwater management area</th>
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Note: GMA 5 has no GCDs

The GCDs in Groundwater Management Area 8 have adopted desired future conditions for all of the major and minor aquifers within the management area. On December 17, 2007, the GCDs in Groundwater Management Area 8 adopted desired future conditions for the Edwards (BFZ), Woodbine, Brazos River Alluvium, Blossom, and Nacotoch aquifers. The GCDs then adopted desired future conditions for the Ellenburger-San Saba, Hickory, and Marble Falls aquifers on May 19, 2008. Finally, on September 17, 2008, the GCDs adopted the desired future conditions for the Trinity Aquifer.

The GCDs in Groundwater Management Area 9 also adopted desired future conditions. On August 29, 2008, the GCDs adopted conditions for the Edwards-Trinity (Plateau), Hickory, Ellenburger-San Saba, and Hickory aquifers.

TWDB staff has supported the joint planning process by outlining the overall process for developing desired future conditions and managed available groundwater. In addition, TWDB staff attended groundwater management area meetings, presented information, and answered questions from the groundwater management area member districts. From October 2006 until October 2008, the Groundwater Availability Modeling Section of TWDB completed 56 model runs requested by GCDs in groundwater management areas and with another four pending completion. In addition, the Groundwater Technical Assistance Section of TWDB completed two aquifer assessments by October 2008 with another 10 pending completion.
Figure 6. Groundwater Management Areas in Texas
State Assistance and Educational Programming

The TCEQ, TWDB, TPWD, TDA, and TAES are responsible for providing assistance to the public under Chapters 35 and 36 of the Water Code. The TAES 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 important roles in providing these services.

Technical Assistance

The TWDB provides a wide range of technical assistance to GCDs through both regular programmed activities and by request. TWDB assistance is available for groundwater and planning data, training for water level and water quality data gathering, 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 and subsequent updates and additions change parts of the TWC to update and expand water resources data collection. Section 16.012 specifically directed the TWDB executive administrator to, “…collect, receive, analyze, process, and facilitate access to basic data and summary information concerning water resources of the state and provide guidance regarding data formats and descriptions required to access and understand Texas water resource data.” Some of the programs associated with this directive are highlighted below.

Groundwater Monitoring: The TWDB is actively involved in supporting GCDs with basic data collection activities. The TWDB offers technical training to districts particularly to increase their ability to collect water-level data and to perform aquifer tests, and agency representatives also demonstrate their water quality sampling techniques. The objectives of offering technical training to districts are to strengthen the ability of districts to collect basic groundwater data, to build on the relationship between districts and the TWDB, and to leverage the statewide network of field groundwater data collection. In the last biennium, TWDB contacted nearly 70 districts in advance of water-level measuring and water quality sampling trips in each district’s area to offer one-on-one training and education about the TWDB’s data collection programs. A total of 45 districts have participated in these efforts and most have participated in multiple categories of training.

Many GCDs have limited resources to devote to the regular collection of water level data to track changing storage conditions of the aquifers under their management. The TWDB maintains a program to offer installation and support of continuous recording monitoring equipment to districts. This program helps provide districts with the ability to gather continuous data with minimal labor. Once districts have secured wells that are suitable for monitoring, the TWDB will provide monitoring equipment, when funds are available, which may include remote data transmission capability, operation, and maintenance support. The data collected from this program benefit both the TWDB and the districts. A total of 31 districts participated in this program in the last biennium.
Groundwater Availability Models: Groundwater availability models were an immediate outgrowth of the regional water planning process created by Senate Bill 1, 75th Legislative Session. They are developed or obtained by the TWDB in response to GCD and regional water planning group needs for better scientific tools to assist them in their management and planning efforts. Because of the demonstrated value of these models, statute now requires that GCDs use these models, when available, in developing their groundwater management plans. When HB 1763 became effective on September 1, 2005, groundwater availability models became an even more important tool in managing the state's groundwater resources. This law mandates that GCDs and planning groups use values of managed available groundwater, based on the desired future conditions of aquifers determined for the 16 groundwater management areas, in their management plans and regional water plans. As the groundwater management areas evaluate the desired future conditions of their aquifers, groundwater availability models will be used to estimate the managed available groundwater for each aquifer.

To adequately cover the state's aquifers, at least 31 models will be needed for the 30 major and minor aquifers in Texas. Some of the larger or more complex aquifers require more than one model, while some models incorporate a combination of aquifers. As required by law, the TWDB developed or obtained the initial versions of 17 groundwater availability models for the state's nine major aquifers before October 1, 2004. These nine aquifers currently supply approximately 95 percent of the groundwater produced in the state. Since October 2004, the TWDB has developed or obtained initial versions of two additional models, as well as a number of additions and enhancements to existing models. Some of the initial models came from external cooperators, including El Paso Water Utilities, the Edwards Aquifer Authority, and the U.S. Geological Survey. One of the models, the model for northern part of the Gulf Coast Aquifer, was supported jointly by the TWDB, the U.S. Geological Survey, the Harris-Galveston Subsidence District, and the Fort Bend Subsidence District.

The completed models include: 1) Rita Blanca and northern part of the Ogallala aquifers; 2) southern part of the Ogallala Aquifer; 3) Seymour and Blaine aquifers; 4) Woodbine and northern part of the Trinity aquifers; 5) Hill Country part of the Trinity Aquifer; 6) northern segment of the Edwards (Balcones Fault Zone) Aquifer; 7) Barton Springs segment of the Edwards (Balcones Fault Zone) Aquifer; 8) San Antonio segment of the Edwards (Balcones Fault Zone) Aquifer; 9) northern part of the Carrizo-Wilcox, Queen City, and Sparta aquifers; 10) central part of the Carrizo-Wilcox, Queen City, and Sparta aquifers; 11) southern part of the Carrizo-Wilcox, Queen City, and Sparta aquifers; 12) northern part of the Gulf Coast Aquifer; 13) central part of the Gulf Coast Aquifer; 14) southern part of the Gulf Coast Aquifer; 15) Edwards-Trinity (Plateau) and Pecos Valley aquifers; 16) Mesilla portion of the Hueco-Mesilla Bolson Aquifer; 17) Hueco portion of the Hueco-Mesilla Bolson Aquifer; 18) Lipan Aquifer; and 19) Igneous Aquifer and Wildhorse Flat, Michigan Flat, Ryan Flat, and Lobo Flat portions of the West Texas Bolsons Aquifer.

Completed models have already proved valuable to water planning. The model of the Hill Country portion of the Trinity Aquifer has been used to evaluate the possible effects of increased pumping and drought on water levels. The model of the northern part of the Ogallala Aquifer has been used to assess water-level declines and future groundwater availability trends due to continued and increased pumping. Models for the Barton Springs segment of the Edwards and Hueco Bolson aquifers have also been successfully used as predictive tools.
Currently, the TWDB is working on obtaining or developing initial versions of models for the remaining minor aquifers in Texas. Thus far, seven of the minor aquifers and parts of another minor aquifer are included in existing groundwater availability models: Lipan Aquifer, Igneous Aquifer, Sparta Aquifer, Queen City Aquifer, Woodbine Aquifer, Rita Blanca Aquifer, Blaine Aquifer, and Wildhorse Flat, Michigan Flat, Ryan Flat, and Lobo Flat portions of the West Texas Bolsons Aquifer. The remaining 13 minor aquifers and parts of the West Texas Bolsons Aquifer not yet modeled will require additional groundwater availability models. The Edwards-Trinity (High Plains) Aquifer will be added as a layer to the existing model for the southern part of the Ogallala Aquifer and, as a result, not require its own model.

The seven models currently under development or under consideration to be adopted as a GAM include: 1) Presidio-Redford Bolson part of the West Texas Bolsons Aquifer (currently under development by TWDB staff); 2) Edwards-Trinity (High Plains) Aquifer as a layer in the southern part of the Ogallala Aquifer model (currently under development through a contract); 3) Dockum Aquifer (currently under development through a contract); 4) Nacatoch Aquifer (currently under development through a contract); 5) Red Light, Green River, and Eagle Flat portions of the West Texas Bolsons Aquifer (currently under development through a contract); 6) Yegua-Jackson Aquifer (currently under development through a contract); and 7) Bone Spring-Victorio Peak Aquifer (model completed by El Paso Water Utilities and is currently undergoing internal review to be considered a GAM).

This leaves eight minor aquifers yet to be modeled: 1) Blossom Aquifer; 2) Brazos River Alluvium Aquifer; 3) Capitan Reef Complex Aquifer; 4-6) Ellenburger-San Saba, Hickory, and Marble Falls aquifers, also referred to as the Llano Uplift aquifers; 7) Marathon Aquifer; and 8) Rustler Aquifer.

Updating and improving the initial models is a vital component of the groundwater availability modeling program. To accommodate the ongoing needs of the GCDs, regional water planning groups, regional water suppliers, and other model users, the TWDB has already begun the process of updating and adjusting several existing groundwater availability models. For example, the TWDB updated the three groundwater availability models of the Carrizo-Wilcox Aquifer and is currently updating the models of the Hill Country portion of the Trinity Aquifer and the southern part of the Ogallala Aquifer.

The TWDB currently plans to review the completed models every five years for possible updates or enhancements. To view modeling reports, request a model, or check the status of the program, please visit the TWDB Web site at www.twdb.state.tx.us/gam.

Agricultural Water Conservation Financial Assistance: Since 1985 and the passage of House Bill 2, which established the Agricultural Water Conservation Trust Fund and the TWDB water conservation program, the TWDB has been providing financial assistance to political subdivisions, including groundwater conservation districts, and state agencies for agricultural water conservation projects and programs. With the passage of Senate Bill 1053 in 2003, which terminated the Trust Fund and established an Agricultural Water Conservation Fund, TWDB agricultural water conservation loan and grant programs were expanded to provide additional methods of assistance.

From 1986 to 2003, the TWDB provided small grants to districts for the purchase of water conservation and/or water quality testing equipment. During that period, the
TWDB provided over $500,000 to groundwater conservation districts throughout the state. Since 2004, TWDB has solicited grant proposals for a broader range of water conservation projects including water conservation technical assistance, demonstration, technology transfer, research, education, and metering projects. TWDB awards up to $600,000 per year to projects that will help implement strategies in the regional and state water plans. During FY 08, one grant totaling $150,000 was awarded to a GCD and other previous grants are in various stages of implementation.

Since 1986, the TWDB has been providing low-interest agricultural water conservation loans to GCDs that in turn provide small loans to individual irrigators who purchase efficient or water conserving irrigation equipment with the funds. Since 1986, TWDB has provided a total of 78 loans to GCDs, totaling $48,935,000 in funds. In FY 08, two districts were awarded new loans totaling $1,500,000. Four GCDs currently have active loans with TWDB.

**Irrigation Metering Program**: The TWDB’s Irrigation Metering Program is a joint effort between TWDB and groundwater conservation districts to measure actual irrigation water use to provide data for inclusion in TWDB’s groundwater availability models. A side benefit of the program is that it provides farmers with one of the most valuable tools needed to conserve and manage on-farm water use. From 1998 to 2003, eight groundwater conservation districts were provided with meters that were purchased with Senate Bill 1 regional water planning grant funds or agricultural water conservation capital equipment purchase grant funds. Under ten-year agreements with the TWDB, the districts assist by identifying cooperating irrigation farmers, installing the meters on farmers’ wells, collecting data from the meters, and providing the data to the TWDB. The TWDB is currently completing a full review of program accomplishments and needs and expects to publish a technical report on the program in early 2009.

For fiscal years 2004-2008, TWDB has provided cost share funds to GCDs and irrigation districts for purchase of flow meters through the Agricultural Water Conservation Grants Program for the purposes of implementing conservation best management practices. Districts in this program enter into multi-year contracts to provide estimated water savings and irrigation water use data to TWDB.

**Educational Programming**

Education is a vital component in the effective management of the state's water resources. Since early 1998, representatives from the TCEQ, TWDB, TPWD, TAES, and TAGD have coordinated extensively to discuss and plan groundwater management educational programming strategies. Educational outreach activities were continued during the 2007–2008 biennium.

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

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

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

TCEQ, TAES and TWDB groundwater management educational programs continue to be delivered at local meetings. The TCEQ, TAES and TWDB cooperate with local groups to deliver educational programs. Several educational events to share information on groundwater management have been held in different parts of the state.

With regard to the Priority Groundwater Management Areas, TAES published a reference bulletin entitled “Priority Groundwater Management Areas, Overview and Frequently Asked Questions” in August 2006. The bulletin provides the process to identify priority groundwater management areas where the groundwater is at greater risk and to establish management of the groundwater through local governance.

Specific to water quality protection, the TAES made several demonstrations during the 2007-2008 biennium on abandoned well closure and plugging. TAES held six well plugging demonstrations in four counties with an attendance of almost 115 people. In addition, the TAES coordinated with the Texas Groundwater Protection Committee to develop and publish educational materials on methyl tertiary butyl ether (MTBE), arsenic, perchlorate, nitrate, and radionuclide contamination for private well owners in both English and Spanish. The fact sheets contain information on the occurrences, health effects, testing options, and treatment options for these constituents.

In August 2007, the TWDB held its first annual Groundwater 101 Workshop at the Bureau of Economic Geology on the J.J. Pickle Research Campus in Austin, Texas. The workshop was intended for groundwater conservation district managers, staff, and board members. Participants represented 38 different groundwater conservation districts or 40 percent of the state total number of districts. Covering the basics of groundwater resources and their management, session topics included: an introduction to aquifers, groundwater law, desired future conditions, an introduction to groundwater modeling, an introduction to management plans, TWDB data resources, and an introduction to water level and water quality monitoring. Two demonstrations on water quality sampling and water level data logging were provided “in the field” at nearby well heads on the J.J.
Pickle Research Campus. The Bureau of Economic Geology provided two technology-related demonstrations on the Edwards Aquifer. Overall, the workshop was a resounding success. The next workshop is scheduled for November 2008.

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

During the 2007–2008 biennium the TAES, TWDB, TCEQ, TPWD, and TAGD were active in providing groundwater management educational programming, both on their own initiative and upon request from interested persons or entities. Educational outreach has ranged from question and answer discussions with small groups of landowners to agency or institutions of higher education sponsored, multi-day conferences. Educational meetings and presentations have been conducted for county commissioners courts, county water planning committees, councils of governments, local soil and water conservation districts, interested landowners, statewide organizations, and others.
Groundwater Management Issues

During the 2007-2008 biennium, the Office of the Attorney General (OAG) responded to five requests for opinions concerning GCDs. Three GCDs requested OAG opinions with regard to disclosure of public information under the Public Information Act (Government Code, Chapter 552).

- Kinney County GCD (OAG Opinion No. OR2007-05260)
- North Plains GCD (OAG Opinion No. OR2007-05310)
- Refugio GCD (OAG Opinion No. OR2008-10465)

The Honorable Rob Baiamonte, Goliad County Attorney, asked for an OAG opinion about whether an individual may simultaneously serve as a constable in Goliad County and as a member of the board of directors of the Goliad County GCD. The OAG responded on April 17, 2008 that an individual may not, under Article XVI, Section 40(a) of the Texas Constitution, simultaneously serve as both a Goliad County constable and as member of the board of directors of the Goliad County GCD (Opinion No. GA-0540).

The Honorable Keri Roberts, Mills County Attorney, requested an OAG opinion about whether Mills County may fund the Fox Crossing Water District. The OAG responded on February 11, 2008 that no constitutional provision or statute authorizes Mills County to pay for all of the District’s maintenance and operation expenses. Also, the OAG response noted that no statutory provision prohibits the Fox Crossing Water District from funding all its operation and maintenance expenses from other revenues such as grants, gifts, loans or revenues received from other source, including Mills County, if the source can legally provide the funds (Opinion No. RQ-0615-GA).

Detail OAG summaries for these districts are archived at the Attorney General of Texas home page (www.oag.state.tx.us/oag).

In the biennium, the Honorable Lieutenant Governor David Dewhurst charged the Senate Committee on Natural Resources to monitor the implementation of House Bill 1763, 79th Legislature, Regular Session, 2005, including progress by GCDs on joint planning within GMAs, and collaboration with entities within a GMA not covered by a GCD. Under this charge, the Committee was instructed to study the impact of the joint planning process on GCD creation within areas not covered by a GCD, the creation of single or partial county GCDs, the consolidation of existing GCDs, and the creation of GCDs within PGMAs. The Committee was also charged to assess permitting of brackish groundwater by GCDs, investigate issues related to groundwater use in areas of the state without a TWDB delineated aquifer, and evaluate the impact of permitting the increase of the cap on export fees by GCDs.

In November 2007, the Honorable Tom Craddick, Speaker of the House of Representatives, issued an interim charge to the House Committee on Natural Resources. Speaker Craddick charged this standing Committee to monitor ongoing efforts related to joint planning in GMAs, including progress toward setting desired future conditions for aquifers. Also, the Committee was charged to examine and evaluate the process relating to an appeal challenging the approval of desired future conditions.
Over the interim, the Senate Committee on Natural Resources and the House Committee on Natural Resources have held numerous hearings around the state to invite testimony and public input to identify the water management issues that should be addressed, and to develop the appropriate recommendations for consideration by the 81st Legislature, 2009. The Committees heard testimony on the implementation of state agency programs described in this report and on GCD programs to manage and protect groundwater resources.

Recommendations to the 81st Legislature

The state agencies respectfully defer recommendations regarding the management of groundwater supplies to the work and findings of the Senate Committee on Natural Resources and the House Committee on Natural Resources.

The TCEQ and TWDB urge the Legislature to consider the legislative appropriations requests of the individual agencies and provide the funds necessary to carry out the existing and recommended groundwater management support programs. State funding may allow an agency to leverage the monies with an additional federal funding from the U.S. Geological Survey, the U.S. Environmental Protection Agency, or other federal agencies to implement these activities.
References


Texas House Committee on Natural Resources, 2000; *House Committee on Natural Resources Interim Report 2000; A Report to the House of Representatives, 77th Texas Legislature*, Texas House of Representatives, December 2000.


Texas Senate Natural Resources Committee, 2000; *The Senate Interim Committee on Natural Resources Interim Report to the 77th Legislature; Texas Groundwater Resources*, Texas Senate, November 2000.


Appendix 1. Priority Groundwater Management Area Studies and Reports

Area 1; Williamson and Parts of Adjacent Counties


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


Area 3; Reagan, Upton, and Midland County Area


Area 4; Briscoe, Swisher, and Hale County Area


Area 5; Central Texas (Waco) Area


Area 6; East Texas Area


Area 7; Lower Rio Grande Area


Area 8; Trans-Pecos Area


**Area 9; Dallam County Area**


**Area 10; Fort Bend County Area**


**Area 11; North-Central Texas Area**


Area 12; Orange-Jefferson Counties Area


Area 13; El Paso County Area


Area 14; Wintergarden Area


Area 15; Southernmost High Plains Area


Area 16; North Texas Alluvium and Paleozoic Outcrop Area


Area 17; Northern Bexar County Area


Area 18; Hudspeth County Area


Appendix 2. Major and Minor Aquifer Maps
Major Aquifers of Texas

Legend

- Pecos Valley
- Seymour
- Gulf Coast
- Carrizo - Wilcox (outcrop)
- Carrizo - Wilcox (subcrop)
- Hueco - Mesilla Bolson
- Ogallala
- Edwards - Trinity Plateau (outcrop)
- Edwards - Trinity Plateau (subcrop)
- Edwards BFZ (outcrop)
- Edwards BFZ (subcrop)
- Trinity (outcrop)
- Trinity (subcrop)

NOTE: Chronology by Geologic age.
OUTCROP (portion of a water-bearing rock unit exposed at the land surface)
SUBCROP (portion of a water-bearing rock unit existing below other rock units)

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

Map updated December 2006 by Mark Hayes, GISP
Appendix 3. Groundwater Conservation District Contacts

CREATED AND CONFIRMED DISTRICTS (93)

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UNCONFIRMED DISTRICTS

NO ELECTION TO DATE (3)

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Edmundo B. Garcia, Jr., County Judge
P.O. Box 189, San Diego, TX 78384
Phone: (361) 279-3322 x204

Created by the 79th Legislature, 2005
Enabling Act Expires September 1, 2010 if not confirmed by election.

McLennan County Groundwater Conservation District
Mr. Rodney Kroll, President
4900 Sanger Ave, Waco, TX 76710
Phone: (254) 741-0100

Created by the 80th Legislature, 2007
Enabling Act Expires September 1, 2012 if not confirmed by election.

Tablerock Groundwater Conservation District
The Honorable Riley Simpson, County Judge
Coryell County
620 E Main, Gatesville, TX 76528-1334
Phone: (254) 865-5911

Created by the 80th Legislature, 2007
Enabling Act Expires September 1, 2012 if not confirmed by election

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

Bexar Metropolitan Water District
Bexar Met's groundwater conservation district authority was

Central Texas Underground Water Conservation District
Created by 71st Legislature, 1989, in Burnet County
Failed January 20, 1990 election.

Comal County Underground Water Conservation District
Created in northwestern part of county by November 30, 1994
Texas Natural Resource Conservation Commission Order.
Failed May 6, 1995 election.

Crossroads Groundwater Conservation District
Created by 77th Legislature, 2001, Failed November 6, 2001
election. HB 3423 of the 79th Legislature, 2005, dissolved the
Crossroads GCD and created the Victoria County GCD;
effective September 1, 2005.

Dallam County Underground Water Conservation District
No. 1
Created in northern part of Dallam County by commissioners
court on December 12, 1953; confirmed by voters on
February 6, 1954; validated by 56th Legislature in 1959.
Consolidated with North Plains Groundwater Conservation
District on November 2, 2004.

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

Lake Country Groundwater Conservation District
Created in Wood County by September 25, 2002 Texas
Commission on Environmental Quality Order.
Failed February 1, 2003 election.
Lavaca County Groundwater Conservation District
Created by 77th Legislature, 2001, in Lavaca County
Failed November 6, 2001 election
Created again by 80th Legislature, 2007
Failed May 10, 2008
District has authorized by special law to hold subsequent confirmation elections until its Act expire on September 01, 2013.

Llano-Uplift Underground Water Conservation District
Created by 73rd Legislature, 1993, in Llano County
Failed May 14, 1994 election.

Lower Seymour Groundwater Conservation District
Created by 77th Legislature, 2001, in Jones County
Enabling Act expired on June 17, 2005, because confirmation election never held.

Martin County Underground Water Conservation District No. 1
Created in part of Martin County by Commissioners Court in 1951. Dissolved by 69th Legislature, 1985, and replaced with Permian Basin UWCD.

Oldham County Underground Water Conservation District
Created by 74th Legislature, 1995. Enabling Act was repealed on September 1, 1999, subject to provisions of SB 1, 1997. Confirmation election never conducted.

Post Oak Groundwater Conservation District
Created by 77th Legislature, 2001, Colorado County
Failed November 6, 2001 election.
Failed November 5, 2002 election.

Rolling Plains Underground Water Conservation District
Created by 73rd Legislature, 1993, in Borden, Mitchell and Scurry Counties.
Failed June 7, 1994 election.

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