TCEQ Carrizo-Wilcox Study
Project 582-8-75374-119
Final Summary Report for Task 4

Final Summary Report to characterize GCD plans with respect to their ability to conserve and protect the aquifer. Compare each GCD's plans, rules and procedures with those of each adjacent GCD for compatibility.

1.0 Executive Summary

This summary report prepared by the Bureau of Economic Geology (BEG) is submitted to fulfill requirements of Task 4 of the Texas Commission on Environmental Quality (TCEQ) Carrizo-Wilcox Aquifer Study (the Study), Project 582-8-75374-119. Task 4 directs the BEG to, *"Characterize Groundwater Conservation District (GCD) plans with respect to their ability to conserve and protect the aquifer. Compare each GCD's plans, rules and procedures with those of each adjacent GCD for compatibility."*

This summary report evaluates GCD management plans, rules, and procedures in order to characterize GCD plans with respect to their ability to conserve and protect the aquifer. We compared each GCD's plans, rules and procedures with those of each adjacent GCD for compatibility. The complete responses provided by the 16 GCDs that submitted requested information to the Study's survey questionnaire are now available for review at the Carrizo-Wilcox Aquifer Study webpage at http://www.beg.utexas.edu/cswr/aquiferstudy/. The remaining five GCD management plans and rules were acquired from the Texas Water Development Board (TWDB) and from district websites.

We reviewed 20 complete sets of management plans and rules in order to evaluate and link specific plans, rules, and procedures that support the GCDs' ability to conserve and protect the Carrizo-Wilcox Aquifer. One additional management plan for Anderson County Underground Water Conservation District was obtained from the TWDB, but no rules were available.

Programs developed by Carrizo-Wilcox GCDs to conserve and protect the groundwater resources under their jurisdiction vary greatly, from simple to complex, from narrow to broad in scope, and from passive to aggressive. During our review, the compatibility of programs designed to conserve and protect groundwater resources within groundwater management areas, between neighboring Carrizo-Wilcox GCDs, and between Carrizo-Wilcox GCDs and adjacent counties that are not under the jurisdiction of a GCD were evaluated. Solely based on a review of groundwater management plans and rules, no compatibility issues were identified within groundwater management areas and between existing Carrizo-Wilcox GCDs. However, there will always be the potential for conflict and incompatibility between adjacent counties where one county is within a GCD and a neighboring county is not. Progressive conservation of groundwater resources through programs developed and implemented in a GCD management plan can and has led to economic development shifting to neighboring counties that are not in a GCD. Potential incompatibility may also occur between existing, adjacent Carrizo-Wilcox GCDs that have significantly different approaches to permitting strategies, for example. However, compatibility issues resulting from disparate permitting strategies are not discernable solely from a review of management plans.

2.0 GCD Management Plans and Rules Supporting Conservation and Protection Programs

According to Section 36.1071 of the Texas Water Code (TWC), GCDs are to develop and implement groundwater management plans, *"…develop a comprehensive management plan which addresses the following management goals, as applicable."* Therefore, we reviewed seven of the eight management goals required for a management plan, excluding the management goal requiring a GCD to establish their desired future conditions of aquifers within their jurisdictional boundaries because they have only very recently been adopted and management plans have not been amended to implement adopted desired future conditions at this point in time.

The following management goals were reviewed:

1. Providing the most efficient use of groundwater (TWC §36.1071(a)(1));
2. Controlling and preventing waste of groundwater (TWC §36.1071(a)(2));
3. Controlling and preventing subsidence (TWC §36.1071(a)(3));
4. Addressing conjunctive surface water management issues (TWC §36.1071(a)(4));
5. Addressing natural resource issues (TWC §36.1071(a)(5));
6. Addressing drought conditions (TWC §36.1071(a)(6));
7. Addressing conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control, where appropriate and cost-effective (TWC §36.1071(a)(7)).

In order to accomplish this task, the BEG requested specific information from the GCDs in an online survey developed for the Study. The requests were as follows (a subset of total online survey):

- *Number 13 - Provide an electronic copy of the District's current adopted management plan.*
- *Number 14 - Provide an electronic copy of the District's current adopted rules.*
- *Number 15 - Provide an electronic copy of any written procedures or guidelines for operational purposes that have been developed and adopted by the District.*
- *Number 21 - Summarize significant programs included in the District's management plan specifically designed to conserve and protect the Carrizo Wilcox Aquifer.*

According to the Survey results, 15 of the 16 GCDS addressed question 21 which requested each district to "*Summarize significant programs included in the District's management plan specifically designed to conserve and protect the Carrizo Wilcox Aquifer."* Six of the GCDs, including Panola County GCD, Rusk County GCD, Fayette County GCD, Gonzales County GCD, Post Oak Savannah GCD, and Brazos GCD provided summaries of programs included in their management plans that have been designed to conserve and protect the Carrizo-Wilcox Aquifer. Other districts responded to the Survey with more abbreviated descriptions of programs designed to preserve and protect that Carrizo-Wilcox Aquifer. For example, Lost Pines GCD stated *"The District's Management Plan is self-explanatory. In addition, though, LPGCD engages in public education through presentations at elementary schools within the District, county commissioners' courts, various civic associations, Bastrop and Lee counties' Emergency*

Management Services, the WSCS, and environmental groups such as Lee County Wildlife Association, Bastrop County Audubon Society. To the extent possible, all requests for presentations are honored." Medina County GCD stated that. *"Well level monitoring; annual use reports for all non-exempt wells; and production limits of 2 acre feet"* as the programs implemented by the District to conserve and protect the Carrizo-Wilcox Aquifer. Wintergarden GCD stated *"Series of well monitors monitoring water levels."* Plum Creek CD stated "*Many of our management goals: 10.1 efficient use of groundwater, 10.2 controlling and preventing waste of groundwater, 10.4 conjunctive use of surface and groundwater, 10.6, natural resource issues, 10.7 conservation, and 10.8 mitigation are all important and are designed to conserve and protect the Carrizo-Wilcox Aquifer. Significant, as far as resource allocation, is the monitoring well observation program in which we have already budgeted for 4 In-situ 24/7 units and will probably have to purchase more in the future*." Each of the Districts independently developed management plans to address conservation and protection of the aquifer. The Districts methodologies and metrics were broad and varied in how they addressed the need to conserve and protect the Carrizo-Wilcox Aquifer within their respective jurisdictions.

2.1 Providing the Most Efficient Use of Groundwater

All 21 GCDs addressed the management goal, *"providing the most efficient use of groundwater,"* in their management plans. The nature and scope of management objectives and performance standards varied greatly among the 21 Carrizo-Wilcox GCD's throughout Groundwater Management Areas 11, 12, and 13. Appendix 1 is a complete matrix of management goals, objectives, and performance standards currently included in the 21 Carrizo-Wilcox GCD management plans. Approaches to providing the most efficient use of groundwater, if achieved, within the GCDs were varied, largely because of diverse regional socio-economic and developmental pressures and environmental concerns represented in the three different groundwater management areas and 21 GCDs..

The Carrizo-Wilcox GCDs have established objectives and performance standards that are geared towards influencing the public's perception and consumption practices through education, collection of basic groundwater data for use during development of policy or regulations, and taking physical steps to regulate groundwater consumption via establishment of well permitting, registration, and metering programs. These soft and hard policy measures have been developed by the individual Carrizo-Wilcox GCD Boards of Directors to satisfy the management goal requirement to provide for the most efficient use of groundwater. For example, the Uvalde County GCD listed two management objectives and companion performance standards. The Uvalde County GCD Management Plan states that, "*Each year the District will make available educational brochures to the public promoting and explaining conservation methods and concepts, on at least one occasion,"* and the companion performance standard stating, *"The District will make educational material available at least one time per year through service organizations, and on a continuing basis at the District Office."* The second management objective stated, *"Each year, the District will provide informative speakers to school and civic groups to raise public awareness of practices that ensure the efficient use of groundwater,"* and the companion performance standard stating *"Each year, the District will make at least two public speaking appearances to promote efficient use of groundwater."*

The Rusk County GCD Management Plan includes a management objective that, if achieved, would *"Establish a Groundwater Database for all water wells in the District. The database shall include information relating to well location, production volume, and other information deemed necessary by the District to enable effective monitoring of groundwater in Rusk County,"* and a companion performance standard that states the District will, *"Document all new and existing wells by 2010. Tracking method – each year the number of new and existing groundwater wells added to the database will be presented in the Annual Report submitted to the Board of Directors of the District."* Some GCDs clearly have more comprehensive management objectives and performance standards than other GCDs. For instance, the Evergreen GCD listed four management objectives that included monitoring the "*volume of water produced from nine irrigation wells and make note of the crops irrigated by the wells to promote water conservation in irrigation practices*," and stated that "*Each month the District will monitor the volume of water produced by 35 municipal and rural water suppliers in the District."* The Evergreen GCD also references other metrics for achieving this management goal, such as requesting production data from *"the operators of 800 agricultural irrigation wells in the District*." The phrase "most efficient use" has clearly been viewed differently within the various Carrizo-Wilcox GCDs. Land owners and Boards of Directors in East Texas may perceive the use of groundwater in surface ponds as economically beneficial and efficient whereas landowners in South-Central Texas may find that development and transport of groundwater resources to metropolitan areas to be the most efficient use of their groundwater resources.

Table 1 is a compilation of all management objectives and performance standards included in the Carrizo-Wilcox GCD management plans providing the most efficient use of groundwater.

#	**Table 1 Providing the Most Efficient Use of Groundwater** **MOB= Management Objective PS=Performance Standard**
1	**Anderson Groundwater Conservation District** **MOB:** The District will begin a process to register all wells within the District's jurisdiction. **PS:** Each year, beginning in FY09, the number of new and existing wells registered with the District will be presented in the District's annual report
2	**Bee Groundwater Conservation District** **MOB:** Each year the District will provide education materials concerning the efficient use of groundwater. **PS:** Provide educational materials to at least one school annually
3	**Bluebonnet Groundwater Conservation District** **MOB:** Each year, the District will require all new exempt or non-exempt wells that are constructed within the boundaries of the District to be registered with the District in accordance with the District rules. **PS:** Each Year the number of exempt and non-exempt wells registered by the District for the year will be incorporated into the Annual Report submitted to the Board of Directors of the District.
4	**Brazos Valley Groundwater Conservation District** **MOB:** Require all existing and new non-exempt wells constructed within the boundaries of the District to be permitted by the District and operated in accordance with District Rules. In addition, the District will encourage all exempt wells constructed within the District boundaries to be registered with the District. **PS:** The number of exempt and permitted wells registered within the District will be reported annually in the District's Annual Report submitted to the Board of Directors of the District. **MOB:** Regulate the production of groundwater by permitting wells within the District's boundaries

	based on beneficial use and in accordance with District Rules. Each year the District will accept and process applications for the permitted use of groundwater in the District, in accordance with the permitting process established by District Rules. The District will regulate the production of groundwater from permitted wells by verification of pumpage volumes using meters, if meters are required under the District Rule and/or permit for the wells. **PS:** The number and type of applications made for the permitted use of groundwater in the District, the number and type of permits issued by the District, and the amount of groundwater permitted, will be included in the Annual Report given to the Board of Directors. The actual annual pumpage from each metered well within the District will be reported annually and compared to the amount permitted for that well. This information will be included in the District's Annual Report submitted to the Board of Directors of the District. **MOB:** Conduct ongoing monitoring of the aquifers underlying the District and the current groundwater production within the District, and then assess the available groundwater that can be produced from each aquifer within the District after sufficient data are collected and evaluated. Using this data and information developed for GMA-12 the District will re-evaluate availability goals as necessary and will permit wells in accordance with the appropriate production goals. **PS:** The District will conduct the appropriate studies to identify the issues and criteria needed to address groundwater management needs within the District's boundaries. Groundwater availability goals will take into consideration the GMA-12 Planning and research of the hydro-geologic and geologic characteristics of the aquifers, which may include, but not necessarily be limited to, the amount of water use, water quality, and water level declines. A progress report on the work of the District regarding the groundwater availability will be written annually, as substantial additional data are developed. The progress report will be included in the annual report to the District Board of Directors.
5	**Evergreen Underground Water Conservation District** **MOB:** Each month the District will monitor the volume of water produced from nine irrigation wells and make note of the crops irrigated by the wells to promote water conservation in irrigation practices. **PS:** A table of the monthly meter readings from the nine irrigation wells and a discussion of the irrigation application rates for each type of crop irrigated by the nine wells monitored by the District will be included in the Annual Report on District Activities made to the Board of Directors each year. **MOB:** Each month the District will monitor the volume of water produced 35 municipal and Rural water suppliers in the District. **PS:** A table showing the monthly production volumes reported to the District by the Municipal and Rural water suppliers in the District will be included in the Annual Report on District Activities made to the Board of Directors each year. **MOB:** Each year the District will request production reports from the operators 800 agricultural irrigation wells in the District. **PS:** A copy of the request for production reports sent to the operators of agricultural irrigation wells will be included in the Annual Report on District Activities made to the Board of Directors each year. A table showing the production volumes reported to the District from the agricultural irrigation well operators in the District will be included in the Annual Report on District Activities made to the Board of Directors each year. **MOB:** Each month the District will measure the water levels in 45 water wells and will measure the water level of an additional 126 wells on an annual basis each year. **PS:** A table showing the monthly and a table showing the annual water level measurements made by the District will be included in the Annual Report on District Activities made to the Board of Directors each year.

6	**Fayette County Groundwater Conservation District** **MOB:** ***Establish a Water Level Monitoring Program***: Establish a water level monitoring network by first, identifying the wells to be monitored, and secondly, by annually measuring the depth to water in those wells; record all measurements and/or observations; enter all measurements into District's computer data base; file specific locations of wells in the District's filing system. Establish a baseline by using existing wells, preferably those for which the District already has some historical data, in all major and minor aquifers where wells are available. **PS:** Annually report to the Board of Directors on: ♦ The percent of water level monitoring wells for which measurements were recorded each year. ♦ The number of data records entered into District's data base each year. ♦ The number of wells in the water level measurement network each year. ♦ The number of wells added to the network, if required, each year. **MOB:** ***Set and Enforce Maximum Allowable Production Limits***: Annually, the District will investigate all reports filed by District constituents, on forms provided by the District, regarding pumpage of groundwater in excess of the maximum production allowable under the District's rules. Investigation of each occurrence shall occur within 30 days of receiving the report. Each case will be remedied in accordance with District rules. **PS:** Annually report to the Board of Directors on: ♦ The number of reports investigated each year. ♦ The average amount of time taken to investigate reports each year. ♦ The number of incidences where violations occurred and violators were required to change operations to be in compliance with District rules each year. **MOB:** ***Implement Well Permitting Process:*** Issue water well drilling permits for the drilling and completion of non-exempt water wells in the District within 30 days of application, or as soon thereafter as possible. Randomly inspect new well drilling sites to be assured that the District's completion and spacing standards are met. Send written notification to the well owner if the well fails to meet standards within 30 days of inspection. The Board will vote on final approval of the permit at the next scheduled meeting and insure that well completion standards have been met. **PS:** Annually report to the Board of Directors on: ♦ The number of permits issued each year in Fayette County. ♦ The number of on-site inspections performed of all wells for which District staff have reason to question compliance with District rules. ♦ The number of permits field checked each year. ♦The number of letters mailed to permit applicants requesting applicant to provide additional information or make changes to comply with District rules. ♦ The number of these letters which result in changes to comply with District rules and the number of cases still open at year-end.
7	**MOB:** The District will register at least 20 exempt wells annually and will compile 100 percent of the data in a database within 30 working days. **PS:** Record the date and number of exempt wells registered annually, the percentage of exempt wells that were entered into the database, and the number of days before the data was entered. **MOB:** The District will measure water levels in 20 wells three times a year in western Gonzales County within the same 60 day period and will compile 100 percent of the water level data into a database within 30 working days. **PS:** Record the date and number of wells measured, the percent of collected water level data that was entered into the database and the number of days before the data was entered. **MOB:** The District will measure water levels in 20 wells three times a year in eastern Gonzales County within the same 60 day period and will compile 100 percent of the water level data into a database within 30 working days. **PS:** Record the date and number of wells measured, the percent of collected water level data that

	was entered into the database and the number of days before the data was entered. **MOB:** The District will meet with the cities of Gonzales, Nixon, Smiley and Waelder, at least once a year, to inform the cities on water availability for economic development. The District will provide input on 100 percent of requests for information within 30 days of the request. **PS:** Record the date and number of meetings with each city. Record number of requests for information from each city, the number of responses to each city, and the number of days required to respond to each request for information. **MOB:** The District will attend all Groundwater Management Area (GMA) 13 meetings annually. The District will provide input on 100 percent of the requests for information within 30 days. **PS:** Record the number of GMA meetings posted annually, the number of GMA 13 meetings attended annually, the number of requests for information made by GMA 13, the number of responses to requests for information by GMA 13, the number of days required for each response to GMA 13 requests for information. **MOB:** The District will meet with the Gonzales Area Development Corporation (GADC), at least once a year, to inform the GADC on water availability for economic development. The District will provide input on 100 percent of requests for information within 30 days of the request. **PS:** Record the date and number of meetings with the GADC. Record the number of requests for information from the GADC, the number of responses given to the GADC, and the number of days required to respond to each request for information. **MOB:** The District will gather water production data from at least 4 public water suppliers annually and will compile 100 percent of these figures into a database of groundwater usage within 30 working days of receipt in order to better project the needs of the District. **PS:** Record the number of public suppliers from which water production data was collected annually, the percent of collected water production data that was entered into the database, and the number of days before the data was entered. **MOB:** The District will gather water production data from at least 10 irrigation wells and 5 livestock production facilities annually and will compile 100 percent of these figures into a database of groundwater usage within 30 working days of receipt in order to project future water use. **PS:** Record the number of irrigation wells and number livestock production facilities from which water production data was collected annually, the percent of collected water production data that was entered into the database, and the number of days before the data was entered.
8	**Guadalupe County Groundwater Conservation District** **MOB:** District will establish a Carrizo-Wilcox aquifer water-level observation well program with a minimum of nine (9) observation wells. The nine observation wells will be measured twice annually, in January and September. **PS:** Number of times the wells are measured per year. The water level database will be maintained by the District office.
9	**Live Oak Underground Water Conservation District** **MOB:** School education: (a) Provide speakers to address water topics. (b) Distribute water resource education packets for use in the classroom. **PS:** Contact teacher or principle of 1 school annually. **MOB:** Farm education: (a) Provide speakers to address water topics at farm meetings (b) Distribute water resource education packets to farm leaders and farmers **PS:** Contact 1 farm group annually. **MOB:** Home Education: (a) Provide speakers to address water topics (b) Distribute water resource education packets to community people **PS:** Contact 1 civic group annually.
10	**Lost Pines Groundwater Conservation District** **MOB:** To inform the residents of Bastrop and Lee counties about the efficient use of groundwater.

	Such information may be related to irrigation efficiency, transmission losses, xeriscaping, or any other related subject deemed appropriate by the LPGCD board. The information on efficient use of groundwater may be disseminated in conjunction with information on controlling and preventing waste of groundwater and/or water conservation. **PS:** At least annually, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article on efficient use of groundwater. The article on efficient use of groundwater may be published in conjunction with an article on controlling and preventing waste of groundwater and/or water conservation. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
11	**McMullen Groundwater Conservation District** **MOB:** Each year the District will provide education materials concerning the efficient use of groundwater **PS:** Provide educational materials to at least one school annually.
12	**Medina County Groundwater Conservation District** **MOB:** Each year, the District will provide informative speakers to schools and civic groups to raise public awareness of practices which ensure the efficient use of groundwater. **PS:** The District will make at least 2 public speaking appearances to promote the efficient use groundwater per year.
13	**Mid-East Groundwater Conservation District** **MOB:** The District will at least once annually conduct at least one program to provide public information and education to promote the efficient use of groundwater. Such programs may include newspaper publication, open meetings, handout brochures and mail-out brochures. **PS:** The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.
14	**Neches & Trinity Valleys Groundwater Conservation District** **MOB:** Each year the District will require the registration of all new wells drilled within the District's jurisdiction and the District will require a permit for drilling all non-exempt wells. **PS:** At all regularly scheduled Board meetings, the General Manager reports to the Board of Directors on the number of new wells registered with the District and the number of permit applications received and approved for new wells within the District.
15	**Panola County Groundwater Conservation District** **MOB:** Beginning in 2008, the District will require the registration of all wells within the District's boundaries each year. **PS:** The number of new and existing wells registered with the District will be provided in the Annual Report for each fiscal year. **MOB:** The District will require permits for all non-exempt groundwater use within District boundaries pursuant to the District Rules each year. **PS:** The District will accept and process applications for permits for all non-exempt groundwater use pursuant to the permitting process described in the District Rules each year. The Annual Report for each fiscal year will contain a summary of the number of applications for the permitted use of groundwater and the number and type of permits issued.
16	**Pineywoods Groundwater Conservation District** **MOB:** Each year, beginning in FY2002, the District will require the registration of all new wells drilled within the District's jurisdiction and the District will require a permit for all non-exempt wells, new and existing. **PS:** Each month at regularly scheduled meetings the General Manager reports to the District Board of Directors the number of new and existing wells registered with the District and the number of applications received for new wells within the District.

17	**Plum Creek Conservation District** **MOB:** 1. The District will establish the PCCD Aquifer Water Level Observation Well Program with at least 6 observation wells located according to management zones within the District, and measure those wells at least once quarterly. 2. The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at least one printed publication, such as a brochure, and public speaking at service organizations and public schools as provided for in the District's Public Education Program. 3. The District will use its best efforts to obtain information on water being produced from areas in Caldwell County that are outside the boundaries of the District. 4. The District will use its best efforts to obtain information on groundwater being produced from groundwater aquifers in counties surrounding the District as well as in areas close to the District that are not in groundwater districts to develop information about impacts of such production on groundwater in the District. **PS:** Establish the PCCD Aquifer Water Level Observation Well Program and its criteria, and begin quarterly measurements of at least 6 of the observation wells within one year following the adoption and certification of this plan. 2. Water levels at these observation wells will be measured a minimum of once quarterly. 3. PCCD representatives will circulate at least one publication and notice speaking appearances each year. 4. PCCD representatives will attend and participate in GMA meetings appropriate to the District's regulatory authority. 5. PCCD will periodically seek information from nearby groundwater districts not in the same GMA but drawing from the same aquifers regulated by the District.
18	**Post Oak Savannah Groundwater Conservation District** **MOB:** The District will establish the POSGCD Aquifer Water Level Observation Well Program with at least 10 observation wells located according to management zones within the District, and measure those wells at least once annually. **PS:** Establish the POSGCD Aquifer Water Level Observation Well Program and its criteria, and begin measurements of at least 10 of the observation wells within one year following the adoption and certification of this plan. Number of observation wells measured annually by the District. Water levels at these observation wells will be measured a minimum of once annually. **MOB:** The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at least one printed publication, such as a brochure, and public speaking at service organizations and public schools as provided for in the District's Public Education Program. **PS:** The number of publications and speaking appearances by the District each year under the District's Public Education Program.
19	**Rusk County Groundwater Conservation District** **MOB:** The District will require all new exempt or non-exempt wells that are constructed within the boundaries of the District to be registered with the District in accordance with the District rules. **PS:** Issue permits within 20 days of application. Each Year the number of exempt and non-exempt wells registered by the District for the year and a list of any permits that were not issued within 20 days with the cause and corrective action taken, will be incorporated into the Annual Report submitted to the Board of Directors of the District. **MOB:** Establish a Groundwater Database for all water wells in the District. The database shall include information relating to well location, production volume, and other information deemed necessary by the District to enable effective monitoring of groundwater in Rusk County. **PS:** Document all new and existing wells by 2010. Each Year the number of new and existing groundwater wells added to the database will be presented in the Annual Report

	submitted to the Board of Directors of the District. **MOB:** Provide Public Education Opportunities. **PS:** Disseminate educational information regarding the hydro-geologic cycle and status of aquifers through at least two articles in Rusk County newspapers, posting on the District internet website, and as needed responses to public inquiries. The Annual Report to the Board of Directors of the District will reflect educational achievements through newspaper articles, the number of hits on the Districts web site, and the number of responses to public inquiries annually.
20	**MOB:** Each year the District will make available educational brochures to the public promoting and explaining conservation methods and concepts, on at least one occasion. **PS:** The District will make educational material available at least one time per year through service organizations, and on a continuing basis at the District Office. **MOB:** Each year, the District will provide informative speakers to school and civic groups to raise public awareness of practices that ensure the efficient use of groundwater. **PS:** Each year, the District will make at least two public speaking appearances to promote the efficient use of groundwater.
21	**Wintergarden Groundwater Conservation District** **MOB:** District will continue monitoring and recording data from the five (5) Carrizo Aquifer well/monitors. **PS:** The District will assimilate data from the aquifer water level monitors and present to the Board monthly.

2.2 Controlling and Preventing Waste of Groundwater

All 21 Carrizo-Wilcox GCD's addressed the goal "*controlling and preventing waste of groundwater*" in their respective management plans. The Carrizo-Wilcox GCDs throughout the three groundwater management areas, as would be expected due to varied local conditions, have adopted different methods of addressing the management of groundwater resources in order to prevent and control the waste of groundwater. For example, Evergreen UWCD stated their management objectives was *"Each year the District will conduct an on-site investigation of any reports of waste of groundwater within two working days of the time of the receipt of the report to the District."* and the coinciding performance standard "*A discussion on the waste of the groundwater observed by the District each year, including the number of reports of the waste of groundwater received by the District and the Districts response to the report will be included in the Annual Report on District Activities made to the Board of Directors each year."*

The Fayette County GCD cited five objectives under "*Management Strategies to Protect and Enhance the Quantity and Quality of Useable Groundwater by Controlling and Preventing Contamination and Waste."* The Fayette County GCD management objectives include "*Establish a Water Quality Monitoring Program*", "*Assume Proper Closing, Destruction, or Reequipping of Wells', "Encourage Plugging of Abandoned wells", "Control and Prevention of Water", and "Produce and Disseminate Quarterly Newsletter".*

Table 2 is a compilation of all management objectives and performance standards included in the Carrizo-Wilcox GCD management plans for controlling and preventing the waste of groundwater

#	Table 2 Controlling and Preventing Waste of Groundwater MOB= Management Objective PS=Performance Standard
1	**Anderson UCWD** **MOB:** Each year the District will disseminate educational information on eliminating and reducing the wasteful use of groundwater focusing on water quality protection. This may be accomplished annually by two of the following methods: a. Conduct an annual contest on water quality protection b. Compile literature packets for distribution to schools in Anderson County c. Conduct classroom presentations d. Sponsor an educational program/curriculum e. Post information on the District's website f. Provide newspaper articles for publication g. Publish District newsletter h. Conduct public presentations i. Set up displays at public events j. Distribute brochures/literature **PS:** The annual report will include a summary of the District activities during the year to disseminate educational information on eliminating and reducing the wasteful use of groundwater focusing on water quality protection.
2	**Bee Groundwater Conservation District** **MOB:** Measure water levels from the land surface on strategic wells on an annual basis and report waste to the District Board. **PS:** Report to the District Board annually the number of water level measurements. **PS:** The District will investigate all reports of waste of groundwater within five working days. The number of reports of waste as well as the investigation findings will be reported to the District Board in the annual report.
3	**Bluebonnet Groundwater Conservation District** **MOB:** Each year, the District will make an evaluation of the District Rules to determine whether any amendments are recommended to decrease the amount of waste of groundwater within the District. **PS:** The District will include a discussion of the annual evaluation of the District Rules and the determination of whether any amendments to the rules are recommended to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors. **MOB:** Each year, the District will provide information to the public on eliminating and reducing wasteful practices in the use of groundwater posting information or a link to information on groundwater waste reduction on the District's website. **PS:** Each year, a copy of the information provided on groundwater waste reduction on the District's website will be included in the District's Annual Report provided to the District Board of Directors.
4	**Brazos Valley Groundwater Conservation District** **MOB:** Apply a water use fee to the permitted use of groundwater in the District to encourage conservation-oriented use of the groundwater resources to eliminate or reduce waste. **PS:** Each year the District will apply a water use fee to the non-exempt permitted use of groundwater produced within the District pursuant to District rules. The amount of fees generated and the amount of water produced for each type of permitted use will be a part of the Annual Report presented to the District Board of Directors. **MOB:** Evaluate District rules annually to determine whether any amendments are necessary to decrease the amount of waste within the District.

	PS: The District will include a discussion of the annual evaluation of the District rules, and the determination of whether any amendments to the rules are necessary to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors. **MOB:** Provide information to the public and the schools within the District on the wise use of water to eliminate and reduce wasteful practices. **PS:** The District will include a page on the Districts web-site devoted to the wise use of water and providing tips to help eliminate and reduce wasteful use of groundwater annually. The District will provide information to local school Districts including providing book covers to encourage wise use of water.
5	**Evergreen Underground Water Conservation District** **MOB:** Each year the District will conduct an on-site investigation of any reports of waste of groundwater within two working days of the time of the receipt of the report to the District. **PS:** A discussion of the waste of groundwater observed by the District each year, including the number of reports of the waste of groundwater received by the District and the District response to the report will be included in the Annual Report on District Activities made to the Board of Directors each year.
6	**Fayette County Groundwater Conservation District** **MOB:** The District will investigate all identified wasteful practices within a reasonable number of working days of identification or complaint received, depending upon the magnitude of the wasteful practice. **PS:** Annually report to the Board of Directors on: ♦ the number of wasteful practices identified and the average number of days District personnel took to respond or investigate after identification or complaint received. ♦ the actions taken to resolve the identification or complaint received.
7	**Gonzales Underground Water Conservation District** **MOB:** The District will collect samples for water quality data in 20 wells annually at locations throughout the District during the same period every year and will compile 100 percent of this data into a water quality database within 30 working days of receipt. In selecting wells the District will emphasize the wells at or near the zone of bad water or potential pollution sources based on best available data. **PS:** The District will collect samples for water quality data in 20 wells annually at locations throughout the District during the same period every year and will compile 100 percent of this data into a water quality database within 30 working days of receipt. In selecting wells the District will emphasize the wells at or near the zone of bad water or potential pollution sources based on best available data. **MOB:** The District will monitor new facilities and activities on the recharge zones of the Carrizo/Wilcox, Queen City and Sparta aquifers on at least an annual basis for point source and non-point source pollution and compile 100 percent of this data into a pollution database within 30 working days from completion of the survey. **PS:** Record the date and results of visual survey of all recharge zones for point source and nonpoint source activities and facilities, the percent of available information that was entered into the database, and the number of days before the data was entered. **MOB:** The District will meet with the Railroad Commission at least once annually and coordinate its efforts with this agency in locating abandoned or deteriorated oil wells. The District will act on local complaints of abandoned or deteriorated oil wells within 30 days and compile 100 percent of the complaints and resulting District action in a database. **PS:** Record the date and number of meetings with the Railroad Commission annually. Record the date and number of complaints filed with the District annually, the time required to respond to each complaint, and the percentage of complaints entered into the database.
8	**Guadalupe County Groundwater Conservation District**

	MOB: The District will once a year provide public information on closure of abandoned water wells and uncontrolled flowing wells through articles in local newspapers or the District's newsletter and website. **PS:** Number of times a year the District will address the proper closure of abandoned water wells and uncontrolled flowing wells in the local newspaper or the District's newsletter and website.
9	**Live Oak Groundwater Conservation District** **MOB: NA** **PS:NA**
10	**Lost Pines Groundwater Conservation District** **MOB:** To inform the residents of Bastrop and Lee counties about the waste of groundwater. Such information may be related to leaky or poorly functioning plumbing, transmission losses, xeriscaping, or any other related subject deemed appropriate by the LPGCD Board. The information on waste of groundwater may be disseminated in conjunction with information on efficient use of groundwater and/or water conservation. **PS:** At least annually, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article on waste of groundwater. The article on waste of groundwater may be published in conjunction with an article on efficient use of groundwater and/or water conservation. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
11	**McMullen Groundwater Conservation District** **MOB:** Measure water levels from the land surface on strategic wells on an annual basis and report waste to the District Board. **PS:** (a) Report to the District Board annually the number of water level measurements. (b) The District will investigate all reports of waste of groundwater within five working days. The number of reports of waste as well as the investigation findings will be reported to the District Board in the annual report.
12	**Medina County Groundwater Conservation District** **MOB:** Each year the District will provide at least one public service announcement concerning waste, which is prohibited under the District rule, to the newspapers and to the general public on at least six occasions. **PS:**(a) The District will furnish at least six newspaper articles and/or public service announcements on an annual basis. (b) The District will investigate all written reports of waste of groundwater within 24 hours.
13	**Mid-East Texas Groundwater Conservation District** **MOB:** The District will at least annually conduct at least one program to provide public information and education of the prevention of the waste of groundwater. Such programs may include newspaper publications, open meetings, handout brochures and mail-out brochures. **PS:** The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.
14	**Neches & Trinity Valleys Groundwater Conservation District** **MOB:** 100 percent of complete permit applications will be reviewed by the District within 90 days to ensure all procedures are followed to control and prevent the waste of groundwater. The District will report annually to the Board the number of permit application requests that met the District's rules and requirements for approval within 90 days of the receipt of the completed application. **PS:** 1. Number of permits issued each year by the District for new non-exempt wells in compliance with District rules and procedures. 2. Percent of completed applications reviewed within 90 days of receipt of application. **MOB:** The District will maintain procedures for the receipt of well permit applications. Annual reports will be made to the Board on the number and type of well permits approved. If no applications are received by the District during a reporting period, this will annually be reported to

	the Board. **PS:** The procedures for the receipt of well permit applications will be maintained in District files. An annual report will be made by the District to the Board on the number and type of well permits approved. If no well permit applications are filed and completed during the year, this will be reported to the Board.
15	**Panola County Groundwater Conservation District** **MOB:** The District will provide information on an annual basis to the public on the elimination, reduction, and prevention of the waste of groundwater and information focused on water quality protection each year. The District will use one of the following methods to provide information to the public at least once during each fiscal year: a. distribute literature packets or brochures within Panola County and the surrounding areas; b. provide public presentations on groundwater and water issues, including waste prevention; c. sponsor an educational program/course; d. provide information on the District's web site; e. submit newspaper articles to local paper for publication; f. present displays at local public events; or g. become involved in the distribution of information, such as brochures, in schools in Panola County. **PS:** The District's Annual Report will include a summary of the District's efforts during the fiscal year to provide educational information to the public on the elimination, reduction and prevention of the waste of groundwater. **MOB:** The District will make an annual evaluation of its Rules to determine whether any amendments are necessary to facilitate prevention of waste of the groundwater within District boundaries. **PS:** The District's Annual Report will include a summary of the evaluation of the District Rules and will provide a recommendation as to whether any amendments to the Rules are needed to facilitate prevention of waste.
16	**Pineywoods Groundwater Conservation District** **MOB:** Determine waste as defined in the Rules of the District and the Water Code and respond to reports of waste within 4 days. **PS:** Annually review all reported sources of waste, and if corrective actions were taken when warranted. A summary that includes the number of reports of waste and the number of days the District took to respond to each report of waste will be included in the annual report to the District Board of Directors.
17	**Plum Creek Conservation District** **MOB:** The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at least one printed publication, such as a brochure. **PS:** A number of publications and speaking appearances by the District each year.
18	**Post Oak Savannah Groundwater Conservation District** **MOB:** The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at least one printed publication, such as a brochure, and public speaking at service organizations and public schools as provided for in the District's Public Education Program. The District will also offer at least one grant, during years when the District's revenues remain at a level sufficient to fund the program, to sponsor the attendance of students at summer camps/seminars that place emphasis on the conservation of water resources. **PS:** The number of publications and speaking appearances by the District each year, and the number of grants offered and students actually accepting and attending an educational summer camp or seminar.

19	**Rusk County Groundwater Conservation District** **MOB:** Public Education **PS:** The District will provide educational leadership to the citizens of the District concerning this subject through at least one printed publication per year, public speaking at least once per year at service organizations or public schools, and wasteful practices posted on the Districts internet website. Each Year the number of publications and speaking appearances by the District each year will be presented in the Annual Report submitted to the Board of Directors of the District. **MOB:** Identify wasteful practices. **PS:** a) Write and adopt rules to regulate wasteful practices by December 2008. b) Track Water Quality Issues. c) Initiate a District wide program to identify the location of all abandoned wells by January 2010. d) Develop and adopt guidelines, setting forth the period of time allowed, for abandoned well owners to insure voluntary compliance with Texas Water Code well plugging requirements by January 2010. e) Report unplugged abandoned water wells to the well owners and Board within thirty (30) days of discovery. a) Hold public hearing on proposed rules to regulate wasteful practices by December 2008. b) Report achievements in the District's Annual Report. c) Provide TECQ and TWDB an annual status report on unplugged abandoned water wells beginning in 2010.
20	**Uvalde County Underground Water Conservation District** **MOB:** Each year the District will provide education materials concerning waste, which is prohibited under the District rule, to the newspapers and to the general public on at least six occasions. **PS:** (a) The District will provide to a newspaper of general circulation within the District at least six newspaper articles and/or public service announcements on an annual basis, including those that may be posted on the District's Web site. (b) The District will investigate all written reports of waste of groundwater within five working days from the date the report is filed with the District.
21	**Wintergarden Groundwater Conservation District** **MOB:** The District will at least on two (2) occasions each year provide public information on water conservation and waste prevention through public speaking appearances at public schools, and civic organizations or newspaper articles. **PS:** A. The number of speaking appearances made by the District each year. B. The number of newspaper articles published by the District each year.

2.3 Controlling and Preventing Subsidence

Eighteen of the 21 Carrizo-Wilcox GCDs explicitly stated in their management plans that controlling and preventing subsidence is not applicable to their districts due to the geologic and hydrogeologic profile of the region. Two other districts characterized and stated why their district was not managing subsidence within their respective GCD. Plum Creek CD stated *"Subsidence is unlikely to occur in the Plum Creek Conservation District. The District historically has not experienced any subsidence. Accordingly, the District's Plan does not contain any "Management Objective" or related "Performance Standards" to address the issue of non-existent subsidence. Alluvium is poorly consolidated, but generally too thin to experience measurable (if any) subsidence due to groundwater withdrawals."* Uvalde County GCD stated "*The geologic framework of the District Area precludes any significant subsidence from occurring. This management goal is not applicable to the operations of the District."* Only the

Anderson County UWCD has established a management objective and performance standard for the subsidence goal. However, the Anderson County UWCD management objective states that "*Each year, the District will manage the withdrawal of groundwater*," and the coinciding performance standard stated "*Each year, attendance at GMA 11 meetings by a representative of the District will be reflected in the District's annual report and will include the number of meetings attended and the dates."*. Therefore while there is a management objective listed within this management goal, the applicability to subsidence is vague at best.

2.4 Addressing Conjunctive Surface Water Management Issues

Fourteen of the 21 Carrizo-Wilcox GCD management plans have established management objectives and performance standards to address goal four *"conjunctive surface water management issues."* Five of the 14 Carrizo-Wilcox GCD's state they will achieve this goal by attending meetings of regional water authority's, such as the Brazos River Authority, Guadalupe-Blanco River Authority, and the Nueces River Authority. Further, eight of the GCD's have elected to attend regional water planning meetings with the appropriate regional water planning group. Eight of the 21 Carrizo-Wilcox GCDs management plans reviewed stated that goal four related to conjunctive surface water management issues was not applicable to their jurisdiction: Bee GCD, Fayette County GCD, Lost Pines GCD, McMullen GCD, Mid-East Texas, Neches & Trinity Valley's GCD, Pineywoods GCD, and Uvalde County UWCD. For instance, Bee GCD stated *"It is the opinion of the District that the Conjunctive Surface Water goal is not an issue in the District."* Further, Uvalde County UWCD and McMullen GCD stated *"Except as provided in Chapter 36 of the Texas Water Code, the District has no jurisdiction over surface water. The District shall consider the effects of surface water resources as required by Section 36.113 and other state law."*

Four Carrizo-Wilcox GCDs included management objectives and performance standards that went beyond meeting with regional water planning groups and river authority's to address goal four. The degree of intergovernmental cooperation at the local and regional level varies by GCD. For example, Rusk County GCD's management objective stated *"The District will actively participate with Municipal and County Governments to encourage the development of additional surface water sources for Rusk County,"* and the coinciding performance standard stated *"Selected board members will attend at least one planning meeting per year with municipal and county government groups addressing surface water options. Each Year, the progress made by Municipal and County Governments will be submitted to the Board of Directors in the Annual Report on advancements made toward increasing surface water availability and reduction of demand on the aquifers in the county."* The second Rusk County GCD management objective for this goal stated the district would *"Coordinate conjunctive surface water issues with the East Texas Regional Water Planning Group,"* and the coinciding performance standard stated *"The District will participate in the regional planning process by attending at least 50% of the East Texas Regional Water Planning Group meetings per year. A report will be made by the board's representative at each board meeting of the Rusk County Groundwater Conservation District, updating the Board on conjunctive surface water issues being discussed by the ETRWPG."*

The management objectives and performance standards set forth by certain Carrizo-Wilcox GCDs may also be representative of a particular districts definition of conjunctive use. According to the Texas Administrative Code §356.2(a)(7) conjunctive use issues are *"Issues*

relating to the combined use of groundwater and surface water sources that optimize the beneficial characteristics of each source." For example, the Evergreen UWCD management objective for this goal stated that ***"****Each year the District will use the Southern Carrizo-Wilcox Groundwater Availability Model to predict the potential effects of different groundwater pumping scenarios on both groundwater and surface water. In addition, each year the District will arrange to meet with the appropriate surface water management entities"* and the coinciding performance standard stated *"A summary of the discussion(s) with the surface water management entities for status on surface water conditions will be relayed in a memorandum to the Board of Directors each year."*

The Live Oak UWCD management plan listed the following management objectives that support developing a more comprehensive understanding of how local groundwater and surface water resources interact via well and stream monitoring programs.

1. Attend meeting with surface water entities in the district, to include but not limited to; conjunctive use, emergency response, and drought contingency planning
2. Evaluate existing historical data and data derived from new monitoring programs to enhance understanding of aquifer/surface-water relationships
3. Evaluate impact of surface-water usage on groundwater resources within the District as needed. Provide comments regarding surface-water rights requests for those requests effecting the groundwater resources of the district
4. Coordinate with other entities on regional planning efforts

One performance standard was included for the four management objectives listed above, *"District representative will attend 1 meeting with surface water entities annually. District representative will attend 1 meeting concerning regional water planning annually. Coordinate with other entities on regional planning efforts."* Intergovernmental cooperation appears to be an important element of this plan for the management of local and trans-boundary water resources.

The Medina County GCD management objectives stated *"The District will attend 50% of the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management entities within the District"* and the coinciding performance standard states *" The District will attend at least 50% of the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management entities within the District. The District will report these activities annual in the District annual report to the Board of Directors."*

In summary, participation in governing local groundwater and surface water resources is varied. Groundwater resources and surface water resources interaction differs regionally because of different hydrological and hydrogeological interactions in the environment. From this review, it is apparent that regional water planning groups and river authorities are the focal point for the coordination of groundwater and surface water issues for Carrizo-Wilcox GCDs.

Table 3 is a compilation of all management objectives and performance standards included in the Carrizo-Wilcox GCD management plans addressing conjunctive surface water management issues.

	Table 3 Addressing Conjunctive Surface Water Management Issues MOB: Management Objective PS: Performance Standard
1	**Anderson UWCD** **PS:** Each year, the District will participate in the regional planning process by attending at least one meeting of the regional water-planning group per fiscal year. **MOB**: Each year, attendance at Region I meetings by a representative of the District will be reflected in the District's annual report and will include the number of meetings attended and the dates.
2	**Bluebonnet Groundwater Conservation District** **PS**: Each year, the District will participate in the regional planning process by being represented at the Region G and Region H Regional Water Planning Group meetings. **MOB**: The attendance of a District representative to at least 50 percent of the Region G and Region H Regional Water Planning Group meetings will be noted in the Annual Report presented to the District Board of Directors.
3	**Brazos County GCD:** **MOB:** Encourage the use of surface water supplies where available, to meet the needs of specific user groups within the District. **PS:** The District will participate in the Region G - Regional Water Planning process by attending at least one RWPG meeting annually and will encourage the development of surface water supplies where appropriate. This activity will be noted in the Annual Report presented to the District Board of Directors.
4	**Evergreen UWCD** **MOB:** Each year the District will use the Southern Carrizo-Wilcox Groundwater Availability Model to predict the potential effects of different groundwater pumping scenarios on both groundwater and surface water. In addition, each year the District will arrange to meet with the appropriate surface water management entities. **PS:** A summary of the discussion(s) with the surface water management entities for status on surface water conditions will be relayed in a memorandum to the Board of Directors each year.
5	**Gonzales County UWCD** **MOB:** The District will meet with the staff of the Guadalupe Blanco River Authority, at least once a year, to share information updates about conjunctive use potential. **PS:** Record the date and number of meetings with GBRA representatives annually.
6	**Guadalupe GCD** **MOB:** Each year the District will confer at least on one occasion with the Guadalupe-Blanco River Authority (GBRA) on cooperative opportunities for conjunctive resource management. **PS:** Number of meetings per year with GBRA on conjunctive resource management. A memo to document the meeting will be on file in the District's office.
7	**Live Oak UWCD** **MOB: 1)**Attend meeting with surface water entities in the district, to include but not limited to; conjunctive use, emergency response, drought contingency planning **2)** Evaluate existing historical data and data derived from new monitoring programs to enhance understanding of aquifer/surface-water relationships **3)** Evaluate the impact of surface-water usage on groundwater resources within the District as needed. Provide comments regarding surface-water rights requests for those requests effecting the groundwater resources of the district**.** Coordinate with other entities on regional planning efforts. **PS:** District representative will attend 1 meeting with surface water entities annually. District representative will attend 1 meeting concerning regional water planning annually
8	**Medina County GCD** **MOB:** The District will attend 50% 0f the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management entities within the District. **PS:** The District will attend at least 50% of the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management entities within the District.

	The District will report these activities annual in the District annual report to the Board of Directors. 1. Attend meeting with surface water entities in the district, to include but not limited to; conjunctive use, emergency response, drought contingency planning 2. Evaluate existing historical data and data derived from new monitoring programs to enhance understanding of aquifer/surface-water relationships 3. Evaluate the impact of surface-water usage on groundwater resources within the District as needed. Provide comments regarding surface-water rights requests for those requests effecting the groundwater resources of the district Coordinate with other entities on regional planning efforts.
9	**Panola County GCD** **MOB**: The attendance at any Region I meeting by a representative of the District will be included in the District's Annual Report and will indicate the dates of attendance. **PS:** The District will participate in the regional planning process by sending a representative to attend at least one meeting of the East Texas Regional Water Planning Group (Region I) each fiscal year.
10	**Plum Creek GCD** **MOB**: Each year the District will confer at least once with the Guadalupe-Blanco River Authority (GBRA) and other local political subdivisions and water and wastewater utilities on cooperative opportunities for conjunctive resource management. **PS:** The number of conferences with the GBRA, other political subdivisions and water and wastewater utilities, on conjunctive resource management each year. The District will continue to monitor progress of the Plum Creek Watershed Project.
12	**Post Oak Savannah GCD** **MOB:** Each year the District will confer at least once with the Brazos River Authority (BRA) on cooperative opportunities for conjunctive resource management. **PS:** The number of conferences with the BRA on conjunctive resource management each year.
13	**Rusk County GCD** **MOB:** The District will actively participate with Municipal and County Governments to encourage the development of additional surface water sources for Rusk County. **PS:** Selected board members will attend at least one planning meeting per year with municipal and county government groups addressing surface water options. Each Year, the progress made by Municipal and County Governments will be submitted to the Board of Directors in the Annual Report on advancements made toward increasing surface water availability and reduction of demand on the aquifers in the county. **MOB:** Coordinate conjunctive surface water issues with the East Texas Regional Water Planning Group. **PS:** The District will participate in the regional planning process by attending at least 50% of the East Texas Regional Water Planning Group meetings per year. A report will be made by the board's representative at each board meeting of the Rusk County Groundwater Conservation District, updating the Board on conjunctive surface water issues being discussed by the ETRWPG.
14	**Wintergarden GCD** **MOB:** Each year the District will confer at least on one occasion with the Nueces River Authority on cooperative opportunities for conjunctive resource management. **PS:** The number of conferences on conjunctive resource management opportunities held with Nueces River Authority each year.

2.5 Addressing Natural Resource Issues

Fourteen of 21 Carrizo Wilcox GCDs included management objectives and performance standards for goal five, "*addressing natural resource issues*." Seven districts elected not to include any management objectives or performance standards addressing natural resource issues. For example, Mid-East Texas GCD stated *"There are no known natural resource issues in the District that have an impact on the groundwater quantity or quality at this time. Therefore, this goal is not applicable to the District at this time,"* Similarly, Rusk County GCD stated *"The District has no documented occurrences of endangered or threatened species dependent upon groundwater resources. However, the District will coordinate with the Texas Commission on Environmental Quality (TCEQ) on water quality issues."*

Gonzales UWCD, Post Oak Savannah GCD, and Plum Creek CD made reference to communicating with the Texas Railroad Commission in their management objectives and performance standards under the natural resources goal of their management plans.

Natural resource issues that could be monitored cooperatively by Carrizo-Wilcox GCDs and the Texas Railroad Commission including the regulation and plugging of abandoned oil and gas wells, well construction of oil and gas production wells and related Class 2 disposal wells, and the documentation and monitoring of active pipelines, inactive pipelines, and other pipelines that may pose a threat to the quality of Carrizo-Wilcox Aquifer groundwater resources were not addressed as frequently as possible in the management plans reviewed for the Study.

One example of cooperation is the following Gonzales UWCD management objective that states *"The District will meet with the local Texas Railroad Commission engineering technician at least once annually to review oil well permits and oil related activity that could endanger the aquifers."* Another example is the Plum Creek CD management objective that states *"Each year the District will confer at least once with a representative of the Texas Railroad Commission (RRC) on the impact of oil and gas production or waste and disposal operations associated with oil and gas production on groundwater availability and quality, as well as the impact of groundwater production on the production of oil and gas in the District. 2. Also, during each year the District will evaluate all permit applications for new production injection or disposal wells permitted by the Railroad Commission, if any are filed, and the information submitted by the applicants on those wells prior to drilling, in order to assess the impact of these wells on the groundwater resources in the District."*

A Post Oak Savannah GCD management objective states *"Each year the District will confer at least once with a representative of the Texas Railroad Commission (RRC) on the impact of oil and gas production on groundwater availability, as well as the impact of groundwater production on the production of oil and gas in the District."*

However, the 18 other Carrizo-Wilcox GCDs elected not to address the contamination monitoring through cooperation with the RRC on oil and gas activity within their respective jurisdictions under goal five "*addressing natural resource issues*".

Other opportunities for addressing natural resource issues that were not included in the management plans reviewed include: (1) monitoring of point source or non-point source pollution that may be of concern for natural resources within their jurisdiction, (2) natural sources of groundwater contamination, and (3) opportunities such as partnering with the TCEQ's Groundwater Planning and Assessment Team which provides "support and coordination of

interagency efforts toward preventing and managing contamination of groundwater by pesticides," or the Texas Groundwater Protection Committee.

According to the August 2010 Texas Groundwater Protection Committee's *Joint Groundwater Monitoring and Contamination Report-2009* the *"(Texas)RCT has jurisdiction over discharges or spills associated with the transportation of crude oil prior to refining of the oil, and of natural gas prior to its use in a manufacturing process or as a residential or industrial fuel. As a result, discharges or spills from crude oil or natural gas pipelines are under the jurisdiction of the RCT. However, discharges or spills from pipelines transporting refined products such as gasoline, diesel, or other fuel oils fall under the regulatory jurisdiction of the TCEQ, and the Spill Prevention and Control Rules should be followed. As specified under the State of Texas Oil and Hazardous Substances Spill Contingency Plan, the TCEQ serves as the lead agency in directing and approving the response for the discharge or spill of a harmful quantity of crude oil (defined as five or more barrels discharged or spilled on the ground or any quantity discharged or spilled into water) during highway or rail transportation"* (Texas Groundwater Protection Committee, 2010).

Texas Water Code §5.236 requires the TCEQ to provide notice to local officials regarding groundwater contamination which may affect drinking water supplies in their area. Notification is provided to county judges and public health officials to supply information on groundwater impacts to drinking water supplies within the county. However, the Carrizo-Wilcox GCDs did not include management objectives or performance standards recognizing or utilizing this source of information from state agencies and committees regarding groundwater contamination.

Eighty percent of the management objectives and performance standards focused on water quantity concerns and not water quality concerns. In many instances well depth and well technology protect Carrizo-Wilcox Aquifer water quality from contamination. The possibility for contamination is always present; however, and the groundwater resource should be protected accordingly. For example, Evergreen UWCD management objective stated "*Each year the District will sample at least 40 water wells in the District for chemical analysis of water quality*" and the coinciding performance standard stated "*A table giving the results of the chemical analyses of the water quality samples taken by the District each year will be included in the Annual Report on District Activities made to the Board of Directors. A discussion of whether any instances of groundwater contamination or issues of concern were noted in the water quality sample analyses will be included in the Annual Report on District Activities made to the Board of Directors*." Information gathered by the Evergreen GCD will be helpful for interagency cooperation to evaluate and possibly eliminate or regulate anthropogenic pollution factors within the District.

A few Carrizo-Wilcox GCDs adopted management objectives and performance standards that comprehensively address natural resource issues within their jurisdictions on an annual basis. For example, the Lost Pines GCD management objective stating "*To provide information to the public about the status of groundwater use, availability, and water levels and a description of natural resource issues, e.g., mining, out of District transport of groundwater, protection of endangered species, or the spread of phreatophytic vegetation, that impact the use and availability of groundwater or which are affected by the use and availability of groundwater,"* and the coinciding management objective stated "*At least annually, the General Manager shall prepare a report for the LPGCD board on the status of groundwater use, availability, and water*

levels within the District and a description of natural resource issues. Once this report is reviewed and accepted by the LPGCD Board, it shall be made available to the public at the District's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. To the extent practical, the LPGCD also will sponsor or co-sponsor workshops open to the public that address this issue and similar issues."

Table 4 is a compilation of all management objectives and performance standards included in the Carrizo-Wilcox GCD management plans addressing natural resource issues.

#	**Table 4 Addressing Natural Resource Issues** **MOB= Management Objective PS=Performance Standard**
1	**Anderson Underground Water Conservation District** **MOB:** Each year, the District will require permits for all non-exempt use of groundwater in the District as defined in the District rules, in accordance with adopted procedures. **PS:** Each year, a summary of the number of applications for the drilling of non-exempt wells, the number of applications for the permitted use of groundwater and the disposition of the applications will be presented in the District's annual report.
2	**Bluebonnet Groundwater Conservation District** **Bee Groundwater Conservation District** **MOB:** The District will cooperate with other interested parties and appropriate agencies to develop additional information on aquifer recharge. **PS:** A representative of the District will attend a meeting annually with interested parties and appropriate agencies.
3	**Brazos Valley Groundwater Conservation District** **MOB:** Determine if there are any natural spring flows within the District that may be impacted by increased groundwater pumping. **PS:** Annually monitor water levels in at least 2 wells near natural spring flows, if found, for potential impact from groundwater production. Prepare an annual assessment statement and include in annual report to the District Board of Directors.
4	**Evergreen Underground Water Conservation District** **MOB:** Each year the District will sample at least 40 water wells in the District for chemical analysis of water quality. **PS:** A table giving the results of the chemical analyses of the water quality samples taken by the District each year will be included in the Annual Report on District Activities made to the Board of Directors. A discussion of whether any instances of groundwater contamination or issues of concern were noted in the water quality sample analyses will be included in the Annual Report on District Activities made to the Board of Directors.
5	**Gonzales Underground Water Conservation District** **MOB:** The District will meet with Natural Resources Conservation Service representatives to exchange information on wells and water levels at least once annually. **PS:** Record the date and number of meetings with the Natural Resource Conservation Service representatives annually. **MOB:** The District will meet with the local Texas Railroad Commission engineering technician at least once annually to review oil well permits and oil related activity that could endanger the aquifers. **PS:** Record the date and number of meetings with the Railroad Commission engineering

	technician annually
6	**Guadalupe County Groundwater Conservation District** **MOB:** Each year the District will evaluate all proposed new wells prior to drilling. Information submitted by the applicant will be evaluated in order assess water level impacts within the District. **PS:** A monthly report to the Board will be made on the results of all water level impact studies and number of wells evaluated each month.
7	**Lost Pines Groundwater Conservation District** **MOB:** To provide information to the public about the status of groundwater use, availability, and water levels and a description of natural resource issues, e.g., mining, out of District transport of groundwater, protection of endangered species, or the spread of phreatophytic vegetation, that impact the use and availability of groundwater or which are affected by the use and availability of groundwater. **PS:** At least annually, the General Manager shall prepare a report for the LPGCD board on the status of groundwater use, availability, and water levels within the District and a description of natural resource issues. Once this report is reviewed and accepted by the LPGCD Board, it shall be made available to the public at the District's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. To the extent practical, the LPGCD also will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
8	**McMullen Groundwater Conservation District** **MOB:** The District will cooperate with other interested parties and appropriate agencies to develop additional information on aquifer recharge. **PS:** A representative of the District will attend a meeting annually with interested parties and appropriate agencies.
9	**Medina County Groundwater Conservation District** **MOB:** Each year the District will work with various interest groups and appropriate agencies, such as the San Antonio River Authority, to provide information on aquifer storage and recovery projects and will require permits for all aquifer storage and recovery projects. **PS:** The District will require permits for all aquifer and storage projects within the District and report the number of applications submitted annually. The District will provide one article to a newspaper of general circulation in the District regarding the San Antonio River Authority's Aquifer Storage and Recovery project.
10	**Panola County Groundwater Conservation District** **MOB:** The District will monitor water-levels within District boundaries on an annual basis by measuring the water level of at least 5 wells. **PS:** The District's Annual Report will include a description of the number of wells measured and the monitoring results of the measured well for each year.
11	**Plum Creek Conservation District** **MOB:** 1. Each year the District will confer at least once with a representative of the Texas Railroad Commission (RRC) on the impact of oil and gas production or waste and disposal operations associated with oil and gas production on groundwater availability and quality, as well as the impact of groundwater production on the production of oil and gas in the District. 2. Also, during each year the District will evaluate all permit applications for new production injection or disposal wells permitted by the Railroad Commission, if any are filed, and the information submitted by the applicants on those wells prior to drilling, in order to assess the impact of these wells on the groundwater resources in the District. **PS:** 1. The number of conferences with a representative of the Texas RRC each year; 2. The addition of available RRC well data to the District's database; 3. Monthly reports to the PCCD Board of Directors on the number of new well

	permit applications filed, and the possible impacts of those new wells on the groundwater resources in the District; and 4. Annual reports to the Board about consumption and use of groundwater for commercial purposes, including irrigation uses and enhanced oil and gas production when information is available.
12	**Post Oak Savannah Groundwater Conservation District** **MOB:** Each year the District will confer at least once with a representative of the Texas Railroad Commission (RRC) on the impact of oil and gas production on groundwater availability, as well as the impact of groundwater production on the production of oil and gas in the District. **PS:** The number of conferences with a representative of the Texas RRC each year. **MOB:** Also, during each year the District will evaluate all permit applications for new wells, if any are filed, and the information submitted by the applicants on those wells prior to drilling, in order to assess the impact of these wells on the groundwater resources in the District. **PS:** Monthly reports to the POSGCD Board of Directors on the number of new well permit applications filed, and the possible impacts of those new wells on the groundwater resources in the District.
13	**Uvalde County Groundwater Conservation District** **MOB:** Each year the District will cooperate with interested parties and appropriate agencies to develop additional information on aquifer recharge and weather modification projects. **PS:**(a) The District will establish terms for all aquifer recharge, transportation, or storage project permits. The District shall take into consideration all applicable factors and requirements of the District's rules and state law. (b) The District will make all information available to the District on such projects available to the general public and to permit applicants annually. (c) The District shall require owners or operators of all aquifer pumping, recharge, transportation, or storage projects affecting the district to obtain a permit amendment if the use, volume of groundwater pumped, location of, or means of transportation, recharge, or storage changes from the manner in which it was originally permitted. **MOB:** The District will require issuance of a well construction permit, or preregistration of exempt wells not requiring a construction permit, prior to the drilling of all new wells for all aquifers under the District's jurisdiction. **PS:** All well construction permits in compliance with the District rules will be issued within 20 days. Well construction permits not in compliance with the rules, as determined by the General Manager, will be considered at the next regular board meeting, but within 90 days of the General Manager's determination of the application's compliance with District rules.
14	**Wintergarden Groundwater Conservation District** **MOB:** Each year the District will insure that all new wells permitted for construction within the District, comply with the District construction standards through monitoring of the State of Texas water well report required to be provided to the District by water well drillers. **PS:** The number of newly permitted water wells within the District monitored for compliance will be reported to the Board annually.

2.6 Addressing Drought Conditions

All Carrizo-Wilcox GCDs included management objectives and performance standards for goal six, *"Addressing Drought Conditions"*. Each GCD elected to address drought conditions through establishing a Drought Contingency Plan, monitoring the Palmer Drought Severity Index, or to maintain updates with the Drought Preparedness Council Situation Report. Districts have created rules that trigger conservation by water users in their jurisdictions. Largely, Carrizo-Wilcox GCD boards of directors and general managers are responsible for implementing plans and notifying residents of the water conservation measures established by the individual districts. Thirteen out of 21 Carrizo-Wilcox GCDs stated that they would monitor the Palmer Drought Severity Index; however, several districts did not include detailed management objectives and performance standards necessary to determine whether or not the goal is being achieved.

For instance, Anderson County UWCD District management objective stated *"Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report posted on the Texas Water"* and the coinciding performance standard stated *"Each year, the downloaded PDSI maps and Situation Reports will be included in the District Annual Report to the Board of Directors".* Brazos Valley GCD went beyond monitoring the Palmer Drought Severity Index (PDSI) and stated that the District would *"Require 100 percent of water producers that are required by the state of Texas to have drought contingency plans, to submit those plans to the District when applying for a permit for well production from the District."* Further, the coinciding performance standard stated "*Review 100 percent of the drought contingency plans submitted as a result of permit requirements whenever a severe drought condition is reached as determined by the PDSI. The number of drought contingency plans required to be submitted by water producers to the District as part of the well permitting process and the number of drought contingency plans actually submitted to the District will be reports in the annual report to the District Board of Directors."* Though methodologies vary, districts have committed to monitoring drought conditions and report the findings at least annually to the public. One observation is that more timely dissemination of current drought information to district residents would be a beneficial service for the districts to provide.

Precipitation and climate vary from east to west in the state as do the hydrologic and hydrogeological characteristics. Generally prolonged droughts in Texas are perceived as a threat to the environment, human welfare, and to the economy of the state. According to our evaluation, six of the Carrizo-Wilcox GCD's called for development of Drought Contingency Plans or Drought Management Strategy Plans when "addressing drought conditions", including Brazos Valley GCD, Neches & Trinity Valleys GCD, Pineywoods GCD, Plum Creek CD, Post Oak Savannah GCD and Rusk County GCD. Drought Contingency Plans are designed to be the preferred course of action to fulfill the need of each district. For instance, the Guadalupe County GCD established a *"Drought Management Plan to cope with the effects of water supply deficits due to climatic or other conditions will be adopted by the Board after notice and hearing. In developing the contingency plan, the District will consider the economic effect of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydrogeologic conditions of the aquifers within the District and the appropriate conditions under which to implement the contingency plan."* Therefore, after a thorough review of the District management plans it appears that more may have to be done at the local level of government to ensure that strategic groundwater resources important to the environment and economy are more adequately monitored during drought conditions. For example, Fayette County GCD management objective stated *"The annual*

amount of groundwater permitted by the District for withdrawal from the portion of the aquifers located within the District may be curtailed during periods of extreme drought in the recharge zones of the aquifers or because of other conditions that cause significant declines in groundwater surface elevations. Such curtailment may be triggered by the District's Board based on the groundwater elevation measured in the District's monitoring well(s)" and the coinciding performance standard stated *"The District shall monitor at least one well each year. Annually report to the Board of Directors the number of measurements obtained from the water level monitoring network. A summary report of the water level measurement results and an analysis of any situations that may require curtailment of groundwater withdrawal will be included in the report."*

Another observation is that certain Carrizo-Wilcox GCD management plans could benefit from the utilization of more than just one well as a drought monitor well, considering that some districts have expansive jurisdictions. Further, districts including Gonzales Underground Water Conservation District state that "*The General Manager will access the National Weather Service–Climate Prediction Center website (http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/drought.shtml) monthly to determine the Palmer Drought Severity Index and will submit a report to the Board of Directors monthly. The District will, 100 percent of the time when under extreme drought conditions, as defined by the Palmer Drought Severity Index, provide information to and coordinate with local water users and water managers regarding drought response activities."* Los Pines GCD management objective stated that "*Drought conditions are to be addressed on an ongoing basis by tracking rainfall records available from nearby weather stations as compared to hydrographs for LPGCD monitoring wells. At least once per month, the General Manager will update rainfall and water level records maintained by the LPGCD. Based on GAM modeling and an understanding of the outcrop areas of the principal aquifers – Simsboro, Carrizo, Queen City, and Sparta – in the LPGCD, recharge appears to be relatively constant under the current climatic regime and little affected by drought conditions. It is anticipated, though that drought conditions will result in increased pumpage and decreased natural discharge, thereby affecting water levels in the aquifers."* Lost Pines GCD's performance standard is a positive example of the amount of transparency and reporting of drought conditions to the public. The District's performance standard stated "*At least annually, the General Manager shall prepare a report for the LPGCD board on precipitation amounts as compared to water levels within the District and a description of apparent trends. Once this report is reviewed and accepted by the LPGCD Board, it shall be made available to the public at the District's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. The summary may be published in conjunction with the publication of the summary of natural resource issues. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.*" Public information and awareness of drought conditions is an important step to managing groundwater resources in times of need.

Carrizo-Wilcox GCDs are addressing drought conditions by varied means. From Live Oak GCD participation in the South Texas Weather Modification Program and attendance of the South Texas Weather Modification Association to Neches & Trinity Valleys GCD's multi-pronged approach to addressing drought conditions. Simply stated, drought conditions impact groundwater resources differently from region to region and this is recognized from this review.

#	Table 5 Addressing Drought Conditions MOB= Management Objective PS=Performance Standard
1	**Anderson County Groundwater Conservation District** **MOB:** Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report posted on the Texas Water. **PS:** Each year, the downloaded PDSI maps and Situation Reports will be included in the District Annual Report to the Board of Directors.
2	**Bluebonnet Groundwater Conservation District** **MOB:** Each month, the District will download available drought information, for the counties in the District, from available websites on the internet. **PS:** Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing for the Board of Directors. The downloaded maps, reports and information will be included with copies of the quarterly briefings, in the District Annual Report to the Board of Directors.
3	**Bee Groundwater Conservation District** **MOB:** The District will monitor the Palmer Drought Severity Index (PDSI). **PS:** A report of the Palmer Drought Severity Index will be presented to the District board on an annual basis.
4	**Brazos Valley Groundwater Conservation District** **MOB:** A report of the Palmer Drought Severity Index will be presented to the District board on an annual basis. **PS:** The District will make an assessment of drought conditions in the District and will prepare an annual briefing to the Board of Directors. **MOB:** Require 100 percent of water producers that are required by the state of Texas to have drought contingency plans, to submit those plans to the District when applying for a permit for well production from the District. **PS:** Review 100 percent of the drought contingency plans submitted as a result of permit requirements whenever a severe drought condition is reached as determined by the PDSI. The number of drought contingency plans required to be submitted by water producers to the District as part of the well permitting process and the number of drought contingency plans actually submitted to the District will be reports in the annual report to the District Board of Directors. **MOB:** Develop a District drought contingency plan. The target goal for developing the plan is June 2010. The drought contingency plan will be reviewed for effectiveness and needed updates once annually. **PS:** A report summarizing the findings of the annual review of the District drought contingency plan will be included in the annual report of the District Board of Directors.
5	**Evergreen Groundwater Conservation District** **MOB:** Each month, the District will download at least one updated Palmer Drought Severity Index (PDSI) map posted on the National Weather Service - Climate Prediction Center website (http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/drought.shtml) and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Department of Public Safety website (http://www.txdps.state.tx.us/dem/sitrepindex.html). **PS:** Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to

	the Board of Directors.
6	**Fayette Groundwater Conservation District** **MOB:** ***Curtailment of Groundwater Withdrawal:*** The annual amount of groundwater permitted by the District for withdrawal from the portion of the aquifers located within the District may be curtailed during periods of extreme drought in the recharge zones of the aquifers or because of other conditions that cause significant declines in groundwater surface elevations. Such curtailment may be triggered by the District's Board based on the groundwater elevation measured in the District's monitoring well(s). **PS:** The District shall monitor at least one well each year. Annually report to the Board of Directors the number of measurements obtained from the water level monitoring network. A summary report of the water level measurement results and an analysis of any situations that may require curtailment of groundwater withdrawal will be included in the report.
7	**Gonzales Underground Water Conservation District** **MOB:** The General Manager will access the National Weather Service – Climate Prediction Center website (http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/drought.shtml) monthly to determine the Palmer Drought Severity Index and will submit a report to the Board of Directors monthly. The District will, 100 percent of the time when under extreme drought conditions, as defined by the Palmer Drought Severity Index, provide information to and coordinate with local water users and water managers regarding drought response activities. **PS:** Record the date and number of monthly reports made to the District Board of Directors. Record the date and number of times when the District was under extreme drought conditions and the number of times letters were sent to public water suppliers.
8	**Guadalupe County Groundwater Conservation District** **MOB:** The District developed and adopted a Drought Management Plan in 2007. The District will obtain the Palmers Drought Severity Index (PDSI), as per the District's Drought Management Plan. **PS:** Number of reports made to the board each year on the PDSI.
9	**Live Oak Groundwater Conservation District** **MOB:** 1) Participate in the South Texas Weather Modification Program. 2) Evaluate the performance of the weather modification program. **PS:** District representative will attend 1 meeting of the South Texas Weather Modification Assn. Annually.
10	**Lost Pines Groundwater Conservation District** **MOB:** Drought conditions are to be addressed on an ongoing basis by tracking rainfall records available from nearby weather stations as compared to hydrographs for LPGCD monitoring wells. At least once per month, the General Manager will update rainfall and water level records maintained by the LPGCD. Based on GAM modeling and an understanding of the outcrop areas of the principal aquifers – Simsboro, Carrizo, Queen City, and Sparta – in the LPGCD, recharge appears to be relatively constant under the current climatic regime and little affected by drought conditions. It is anticipated, though that drought conditions will result in increased pumpage and decreased natural discharge, thereby affecting water levels in the aquifers. **PS:** At least annually, the General Manager shall prepare a report for the LPGCD board on precipitation amounts as compared to water levels within the District and a description of apparent trends. Once this report is reviewed and accepted by the LPGCD Board, it shall be made available to the public at the District's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. The summary may be published in conjunction with the publication of the summary of natural resource issues. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.

11	**McMullen Groundwater Conservation District** **MOB:** The District will monitor the Palmer Drought Severity Index (PDSI). **PS:** A report of the Palmer Drought Severity Index will be presented to the District board on an annual basis.
12	**Medina County Groundwater Conservation District** **MOB:** Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Water Information Network Web site www.txwin.net. **PS:** Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to the Board of Directors.
13	**Mid-East Groundwater Conservation District** **MOB:** The District shall call for the most efficient use of groundwater by all users in the District to maintain sufficient groundwater aquifer resources during periods of drought and for future resources by preventing waste and by regulation of users, if necessary to prevent depletion of the aquifers. The District will review the Texas Palmer Drought Index and the Texas Drought Preparedness Report, and monitor the District's production figures annually. **PS:** The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.
14	**Neches & Trinity Valleys Groundwater Conservation District** **MOB:** The Board has adopted a contingency plan to cope with the effects of water supply shortages due to climatic or other conditions. The plan is reviewed at least annually by the Board. In developing the contingency plan, the District considered the economic effects of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro-geologic conditions of the aquifer and the appropriate conditions under which to implement the contingency plan. During extreme drought conditions within the District as measured by the Palmer Drought Index, all efforts will be made to see that all municipalities and public water supply companies follow their drought contingency plans. During extreme drought conditions that materially affects the aquifer levels, the District staff will closely monitor the aquifer levels through establishment of a District monitoring plan of static levels in selected monitoring wells or by obtaining well water levels from selected water supply companies who have such data available to ensure that adequate quantities of water are available to the District and will coordinate with the Region C and I Water Planning Groups. **PS:** A drought contingency plan developed by the District and approved by the Board will be reviewed by the Board every year and revised as necessary. During extreme drought conditions within the District, efforts will be made through contact by District staff to see that municipalities and public water supply companies follow their drought contingency plans.
15	**Panola County Groundwater Conservation District** **MOB:** The District will download at least one updated Palmer Drought Severity Index ("PDSI") map each month and will check for the regular updates to the Drought Preparedness Council Situation Report ("Situation Report") posted on the following website: http://www.txdps.state.tx.us/dem/sitrepindex.html. **PS:** The District will include the 12 monthly downloaded PDSI maps and Situation Reports in the Annual Report for each fiscal year.
16	**Pineywoods Groundwater Conservation District** **MOB:** The District shall call for the most efficient use of groundwater by all users in the District to maintain sufficient groundwater aquifer resources during periods of drought and for

	future resources by preventing waste and by regulation of users, if necessary, to prevent depletion of the aquifers. To work closely with groundwater users and provide assistance where it is possible to control customer usage as it is outlined in their Drought Contingency Plans. **PS:** Periodically review the Texas Palmer Drought Index and the Texas Drought Preparedness Report, and monitor production figures quarterly. A summary of any drought conditions will be given to the Board of Directors in the annual report along with any recommendations and make necessary changes, as needed.
17	**Plum Creek Conservation District** **MOB:** The District will develop and adopt a Drought Management Strategy Plan for groundwater under the authority of the District within five years of the adoption and certification of this plan, and thereafter review it annually, and revise it if necessary. The plan will be implemented when specified conditions require. After its adoption, the Board will periodically review and update the Plan based upon the availability of additional scientific data collected by or presented to the Board. **PS:** 1. Development and adoption of a Drought Management Strategy Plan within five years of the adoption and certification of this plan. 2. Review all of the conditions and requirements specified in the Drought Management Strategy Plan that would trigger implementation on an annual basis. 3. Determine the necessity of a program to monitor rainfall for timing of effects on groundwater availability during droughts.
18	**Post Oak Savannah Groundwater Conservation District** **MOB:** The District will develop and adopt a Drought Management Strategy Plan within five years of the adoption and certification of this plan, review it annually, and revise it if necessary. The plan will be implemented when specified conditions require. **PS:** Development and adoption of a Drought Management Strategy Plan within five years of the adoption and certification of this plan.
19	**Rusk County Groundwater Conservation District** **MOB:** The District will develop and adopt a Drought Contingency Plan for the Rusk County Groundwater Conservation District within one year of the adoption and certification of this plan, review it annually, and revise it if necessary. **PS:** A contingency plan to cope with the effects of water supply shortages due to climatic or other conditions will be developed by the District and will be adopted by the Board after notice and hearing. In developing the contingency plan, the District will consider the economic effects of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro geologic conditions of the aquifer and the appropriate conditions under which to implement the contingency plan. a) Development and adoption of a Drought Contingency Plan within one year of the adoption and certification of this plan. b) The Annual Report to the Board of Directors of the District will reflect any implementations of the Drought Contingency Plan in that year. The report will include an appraisal of the plans effectiveness and suggestions for revisions to the plan.
20	**Uvalde County Groundwater Conservation District** **MOB:** Each year the District will provide education materials concerning waste, which is prohibited under the District rule, to the newspapers and to the general public on at least six occasions **PS:** (a) The District will provide to a newspaper of general circulation within the District at least six newspaper articles and/or public service announcements on an annual basis, including those that may be posted on the District's Web site.(b) The District will investigate all written reports of waste of groundwater within five working days from the date the report is filed with the District.
21	**Wintergarden Groundwater Conservation District**

	MOB: Each month the District will download the Palmer Drought Severity Index (PDSI) map and check the updates to the Drought Preparedness Council Situation Report posted on the Texas Water Information Network website www.txwin.net. **PS:** As required, the staff will assess the status of drought in the District and when needed, prepare a briefing with maps and situation reports for the Board of Directors. Monthly downloads will be filed for future use.

2.7 Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control, Where Appropriate and Cost-Effective

All 21 GCDs addressed goal seven "*Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control, Where Appropriate and Cost-Effective."*

We found that the Carrizo-Wilcox GCDs are not uniformly addressing this goal due to the varied conditions and aquifer characteristics in regions from northeast to southwest. For instance, according to the Pineywoods GCD, "*A small part of the northeast portion of Nacogdoches County is the outcrop of the Carrizo-Wilcox aquifer. This area of the county is rural and is the only recharge site for the Carrizo-Wilcox in the District. The main recharge areas lie in counties in the north and east of the Pineywoods GCD. From the information contained in the above report, the District has determined that for the reasons listed, recharge, natural or artificial, including precipitation enhancement, rainwater harvesting or brush control is not an appropriate management goal of the District at this time."* The Brazos Valley GCD stated their management objective was to *"Determine if there are any natural spring flows within the District that may be impacted by increased groundwater pumping*" and the coinciding performance standard stated ***"****Annually monitor water levels in at least 2 wells near natural spring flows, if found, for potential impact from groundwater production. Prepare an annual assessment statement and include in annual report to the District Board of Directors."* The Neches & Trinity Valleys Groundwater Conservation District management objective stated ***"****Each year, on four or more occasions, the District will disseminate educational information relating to conservation practices for the efficient use of water resource,"* and the coinciding performance standard stated *"Number of occasions, annually, the District disseminated educational information relating to the conservation practices for the efficient use of water resources."*

To present the diversity of these objectives presented in the management plans Table 6 was created to document the management objectives and performance standards. On a whole recharge enhancement and brush management were not generally supported objectives of the Carrizo-Wilcox GCDs. Only a few districts specifically stated they would participate in rain harvesting or precipitation modification programs.

#	**Table 6 Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control, Where Appropriate and Cost-Effective.** **MOB= Management Objective PS=Performance Standard**
1	**Anderson County Underground Water Conservation District** MOB: Each year, the District will require permits for all non-exempt use of groundwater in the

	District as defined in the District rules, in accordance with adopted procedures. PS: Each year, the downloaded PDSI maps and Situation Reports will be included in the District Annual Report to the Board of Directors.
2	**Bluebonnet Groundwater Conservation District** MOB: Conservation- The District will post an article or a link to an article annually, regarding water conservation on the District website www.bluebonnetgroundwater.org . PS: A copy of the article linked or posted on the District website regarding water conservation will be included in the Annual Report to the Board of Directors. MOB: Rainwater Harvesting- The District will post an article or a link to an article annually, regarding rainwater harvesting on the District website. PS:–A copy of the article posted on the District website regarding rainwater harvesting will be included in the Annual Report to the Board of Directors.
3	**Bee Groundwater Conservation District** MOB: The District will cooperate with other interested parties and appropriate agencies to develop additional information on aquifer recharge. PS: A representative of the District will attend a meeting annually with interested parties and appropriate agencies.
4	**Brazos Valley Groundwater Conservation District** MOB: Determine if there are any natural spring flows within the District that may be impacted by increased groundwater pumping. PS: Annually monitor water levels in at least 2 wells near natural spring flows, if found, for potential impact from groundwater production. Prepare an annual assessment statement and include in annual report to the District Board of Directors.
5	**Evergreen Underground Water Conservation District** MOB: Each year the District will sample at least 40 water wells in the District for chemical analysis of water quality. PS: A table giving the results of the chemical analyses of the water quality samples taken by the District each year will be included in the Annual Report on District Activities made to the Board of Directors. A discussion of whether any instances of groundwater contamination or issues of concern were noted in the water quality sample analyses will be included in the Annual Report on District Activities made to the Board of Directors
6	**Fayette County Groundwater Conservation District** MOB: The District will develop and sponsor a water conservation education curriculum, available upon request for all schools within the District. The District will utilize the methodologies listed under Goal 5 in order to raise public awareness of the necessity and importance of a water conservation program. PS: Annually report to the Board of Directors on: ♦ the number of schools where water conservation education curriculums are presented each year. ♦ the number of water conservation articles presented to the public via the various methodologies outlined in Goal 5. Promote and/or implement groundwater banking, recharge projects, rainwater harvesting and aquifer storage and recovery projects, where appropriate and cost-effective, to address areas with declining groundwater levels. Promotion of these projects may be accomplished through articles published in at least one of the District's quarterly newsletters.
7	**Gonzales Underground Water Conservation District** MOB: The District will meet with Natural Resources Conservation Service representatives to exchange information on wells and water levels at least once annually. PS: Record the date and number of meetings with the Natural Resources Conservation Service representatives annually.

	MOB: The District will meet with the local Texas Railroad Commission engineering technician at least once annually to review oil well permits and oil related activity that could endanger the aquifers. PS: Record the date and number of meetings with the Railroad Commission engineering technician annually.
8	**Guadalupe County Groundwater Conservation District** MOB: Each year the District will evaluate all proposed new wells prior to drilling. Information submitted by the applicant will be evaluated in order assess water level impacts within the District. PS: A monthly report to the Board will be made on the results of all water level impact studies and number of wells evaluated each month
9	**Live Oak Groundwater Conservation District** MOB: Participate in the South Texas Weather Modification Program MOB: Evaluate the performance of the weather modification program PS: District representative will attend 1 meeting of the South Texas Weather Modification Assn. Annually
10	**Lost Pines Groundwater Conservation District** MOB: To provide information to the public about the status of groundwater use, availability, and water levels and a description of natural resource issues, e.g., mining, out of District transport of groundwater, protection of endangered species, or the spread of phreatophytic vegetation, that impact the use and availability of groundwater or which are affected by the use and availability of groundwater. PS: At least annually, the General Manager shall prepare a report for the LPGCD board on precipitation amounts as compared to water levels within the District and a description of apparent trends. Once this report is reviewed and accepted by the LPGCD Board, it shall be made available to the public at the District's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. The summary may be published in conjunction with the publication of the summary of natural resource issues. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
11	**McMullen Groundwater Conservation District** MOB: The District will cooperate with other interested parties and appropriate agencies to develop additional information on aquifer recharge. PS: A representative of the District will attend a meeting annually with interested parties and appropriate agencies.
12	**Medina County Groundwater Conservation District** MOB: The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in Medina County. PS: A copy of the article submitted by the District for publication to a newspaper of general circulation in Medina County regarding water conservation will be included in the Annual Report to the Board of Directors.
13	**Mid-East Groundwater Conservation District** MOB: The District will at least annually conduct a least one program to provide public information and education to promote the conservation of water. Such programs may include newspaper publication, open meetings, handout brochures and mail-out brochures. PS: The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.
14	**Neches & Trinity Valleys Groundwater Conservation District** MOB: Each year, on four or more occasions, the District will disseminate educational information relating to conservation practices for the efficient use of water resources.

	PS: Number of occasions, annually, the District disseminated educational information relating to the conservation practices for the efficient use of water resources.
15	**Panola County Groundwater Conservation District** MOB: The District will promote conservation at least once during each fiscal year by one of the following methods: a. distribute literature packets or brochures; b. conduct public presentations; c. sponsor an educational program/curriculum; d. provide information on the District's web site; e. submit newspaper articles to local newspaper for publication; f. present displays at local public events; g. annually conduct a local contest on water conservation; or h. conduct classroom presentations on conservation. PS: The District's Annual Report will provide a summary of the District efforts and a copy of any information provided by the District to the public during the previous fiscal year to promote conservation. MOB: The District will provide information relating to recharge enhancement on the District web site at least one time each fiscal year. PS: Each year, the District's Annual Report will include a copy of the information that has been provided on the District web site relating to recharge enhancement. MOB: The District will advocate rainwater harvesting each year by providing updated information about rainwater harvesting on the District web site at least once each fiscal year. PS: The Annual Report for the District will include a copy of the information on rainwater harvesting which has been provided on the District web site within the previous fiscal year.
16	**Pineywoods Groundwater Conservation District** Management Goal: Prevent unnecessary waste of the groundwater and encourage MOB: Maintain a constant review of all projects to ensure that they are using the best available technology. Publish a newsletter at least quarterly and include some educational information to promote conservation. Provide public education at any opportunity to promote conservation. PS: Annually review all projects to determine if they are using best available technology and if educational materials are benefiting the conservation program. This review will be included in the annual report to the Board of Directors.
17	**Plum Creek Conservation District** MOB: 1. Each year the District will confer at least once with a representative of the Texas Railroad Commission (RRC) on the impact of oil and gas production or waste and disposal operations associated with oil and gas production on groundwater availability and quality, as well as the impact of groundwater production on the production of oil and gas in the District. 2. Also, during each year the District will evaluate all permit applications for new production injection or disposal wells permitted by the Railroad Commission, if any are filed, and the information submitted by the applicants on those wells prior to drilling, in order to assess the impact of these wells on the groundwater resources in the District. PS: 1. The number of conferences with a representative of the Texas RRC each year; 2. The addition of available RRC well data to the District's database; 3. Monthly reports to the PCCD Board of Directors on the number of new well permit applications filed, and the possible impacts of those new wells on the groundwater resources in the District; and 4. Annual reports to the Board about consumption and use of groundwater for commercial purposes, including irrigation uses and enhanced oil and gas production when information is available.
18	**Post Oak Savannah Groundwater Conservation District** MOB: The District will develop and adopt a Drought Management Strategy Plan within five years

	of the adoption and certification of this plan, review it annually, and revise it if necessary. The plan will be implemented when specified conditions require. PS: Development and adoption of a Drought Management Strategy Plan within five years of the adoption and certification of this plan.
19	**Rusk County Groundwater Conservation District** MOB: Public education on groundwater conservation. PS: The District will issue at least two articles per year in Rusk County newspapers and on the District internet website regarding water conservation issues applicable to the residence of Rusk County. Tracking Method: Copies of the articles posted on the District website regarding groundwater conservation will be included in the Annual Report to the Board of Directors.
20	**Uvalde County Underground Water Conservation District** MOB: The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in Uvalde County. PS: A copy of the article submitted by the District for publication to a newspaper of general circulation in Uvalde County regarding water conservation will be included in the Annual Report to the Board of Directors.
21	**Wintergarden Groundwater Conservation District** MOB: Each year the District will insure that all new wells permitted for construction within the District, comply with the District construction standards through monitoring of the State of Texas water well report required to be provided to the District by water well drillers. PS: The number of newly permitted water wells within the District monitored for compliance will be reported to the Board annually.

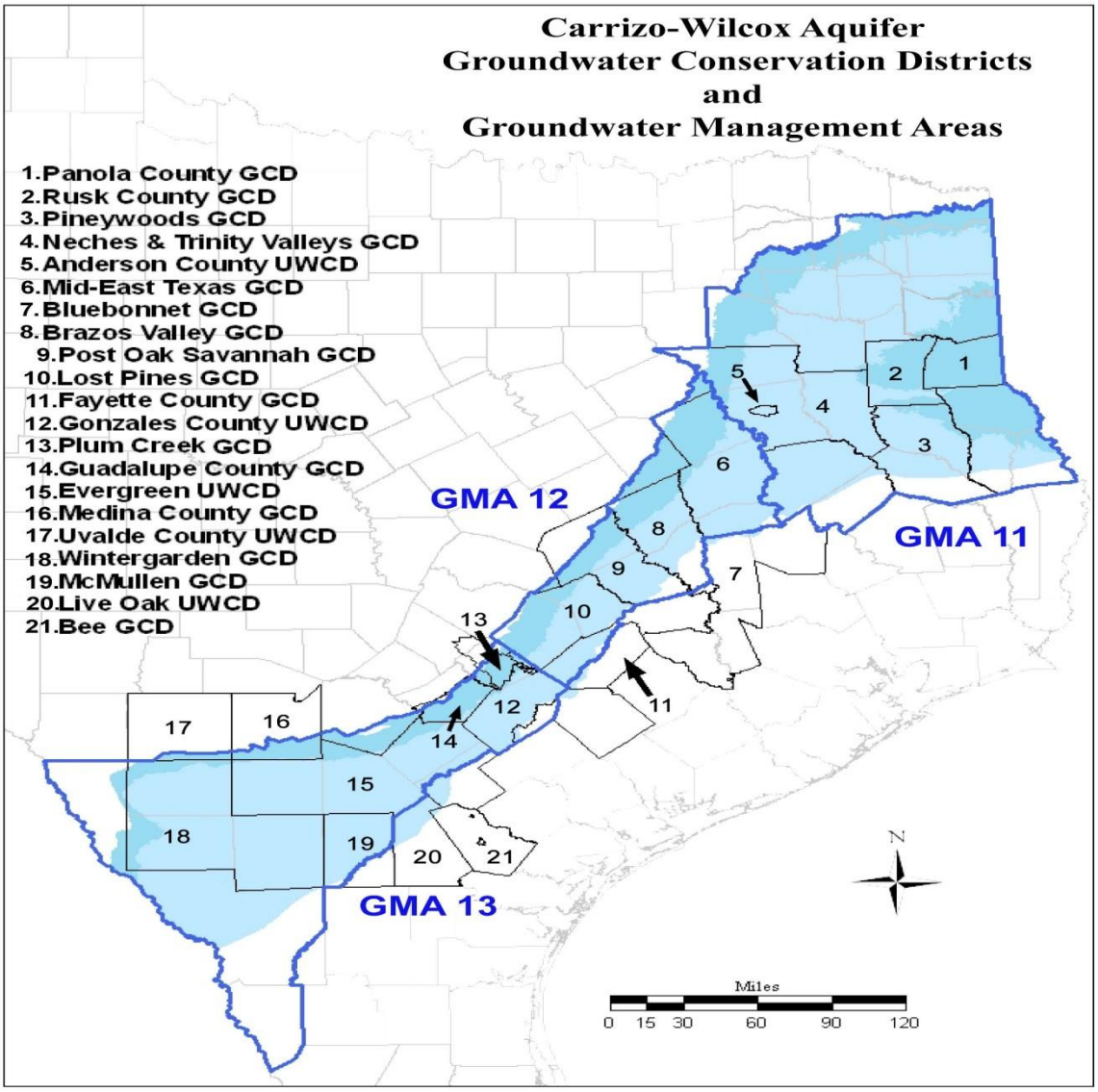

Figure 1. Carrizo-Wilcox Aquifer Groundwater Conservation Districts and Groundwater Management Areas

Appendix 1. Anderson Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	*Providing the Most Efficient Use of Groundwater*	The District will begin a process to register all wells within the District's jurisdiction.	Each year, beginning in FY09, the number of new and existing wells registered with the District will be presented in the District's annual report
A2	*Controlling and Preventing Waste of Groundwater*	Each year the District will disseminate educational information on eliminating and reducing the wasteful use of groundwater focusing on water quality protection. This may be accomplished annually by two of the following methods: a. Conduct an annual contest on water quality protection b. Compile literature packets for distribution to schools in Anderson County c. Conduct classroom presentations d. Sponsor an educational program/curriculum e. Post information on the District's website f. Provide newspaper articles for publication g. Publish District newsletter h. Conduct public presentations i. Set up displays at public events j. Distribute brochures/literature	The annual report will include a summary of the District activities during the year to disseminate educational information on eliminating and reducing the wasteful use of groundwater focusing on water quality protection.
A3	*Addressing Conjunctive Surface Water Management Issues*	Each year, the District will participate in the regional planning process by attending at least one meeting of the regional water-planning group per fiscal year.	Each year, attendance at Region I meetings by a representative of the District will be reflected in the District's annual report and will include the number of meetings attended and the dates.
B1	*Controlling and preventing Subsidence*	Each year, the District will manage the withdrawal of groundwater.	Each year, attendance at GMA 11 meetings by a representative of the District will be reflected in the District's annual report and will include the number of meetings attended and the dates.

B2	*Addressing natural resource issues which impact the use and availability of groundwater, and which are impacted by the use of groundwater*	Each year, the District will require permits for all non-exempt use of groundwater in the District as defined in the District rules, in accordance with adopted procedures.	Each year, a summary of the number of applications for the drilling of non-exempt wells, the number of applications for the permitted use of groundwater and the disposition of the applications will be presented in the District's annual report
C1	*Addressing Drought Conditions*	Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report posted on the Texas Water.	Each year, the downloaded PDSI maps and Situation Reports will be included in the District Annual Report to the Board of Directors.
D1	*Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control, Where Appropriate and Cost Effective*	Each year, the District will promote conservation by one of the following methods: a. Conduct an annual contest on water conservation b. Distribute conservation literature packets to schools in Anderson County c. Conduct classroom conservation presentations d. Sponsor and educational conservation program/curriculum e. Post conservation information on the District's website f. Provide a newspaper article on conservation for publication g. Publish an article on conservation in the District newsletter h. Conduct a public conservation presentation i. Set up a conservation display at a public event j. Distribute conservation brochures/literature to the public Each year, the District will provide information relating to recharge enhancement and brush control on the District's website. Performance Standard: Each year, the District annual report will include a copy of the information that has been provided on the District's website relating to recharge enhancement and brush control	Each year, the annual report will include a copy of the information on rainwater harvesting that is provided on the District's website.
	Addressing in a Quantitative Manner the Desired Future Conditions of the Groundwater Resources	This category of management goal is not applicable to the District because the desired future condition of the groundwater resources in GMA 11 has not been defined. The District intends to coordinate with other groundwater conservation districts in GMA 11 to define the desired future conditions of the aquifers, as	

		required by TWC 36.108. The District also intends to review and evaluate the GAM simulation results and other available data by September 1, 2010 to determine if revisions are needed regarding the total aquifer storage and groundwater availability.	

Appendix 1. Bee Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Providing the most efficient use of groundwater**	Each year the District will provide education materials concerning the efficient use of groundwater.	Provide educational materials to at least one school annually
B1	**Controlling and preventing waste of groundwater**	Measure water levels from the land surface on strategic wells on an annual basis and report waste to the District Board.	(a) Report to the District Board annually the number of water level measurements. (b) The District will investigate all reports of waste of groundwater within five working days. The number of reports of waste as well as the investigation findings will be reported to the District Board in the annual report.
C1	**Natural Resource Issues**	The District will cooperate with other interested parties and appropriate agencies to develop additional information on aquifer recharge.	A representative of the District will attend a meeting annually with interested parties and appropriate agencies.
D1	**Drought Conditions**	The District will monitor the Palmer Drought Severity Index (PDSI).	A report of the Palmer Drought Severity Index will be presented to the District board on an annual basis.
E1	**Conservation**	Each year the District will make educational material to the public promoting conservation methods and concepts.	The District will make at least one educational brochure available per year through service organizations, and on a continuing basis at the District office.
F1	**Precipitation Enhancement**	The District will participate in the South Texas Weather Modification Program.	A district representative will attend a meeting of the South Texas Weather Modification Assn. annually.

Appendix 1. Bluebonnet Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Providing for the Most Efficient Use of Groundwater in the District**	Each year, the District will require all new exempt or non-exempt wells that are constructed within the boundaries of the District to be registered with the District in accordance with the District rules.	Each Year the number of exempt and non-exempt wells registered by the District for the year will be incorporated into the Annual Report submitted to the Board of Directors of the District.
B1	**Controlling and Preventing the Waste of Groundwater in the District**	Each year, the District will make an evaluation of the District Rules to determine whether any amendments are recommended to decrease the amount of waste of groundwater within the District.	The District will include a discussion of the annual evaluation of the District Rules and the determination of whether any amendments to the rules are recommended to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.
B2		Each year, the District will provide information to the public on eliminating and reducing wasteful practices in the use of groundwater posting information or a link to information on groundwater waste reduction on the District's website.	Each year, a copy of the information provided on groundwater waste reduction on the District's website will be included in the District's Annual Report provided to the District Board of Directors.
C1	**Conjunctive Surface Water Management Issues**	year, the District will participate in the regional planning process by being represented at the Region G and Region H Regional Water Planning Group meetings.	The attendance of a District representative to at least 50 percent of the Region G and Region H Regional Water Planning Group meetings will be noted in the Annual Report presented to the District Board of Directors.
D1	**Addressing Drought Conditions**	Each month, the District will download available drought information, for the counties in the District, from available websites on the internet.	Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing for the Board of Directors. The downloaded maps, reports and information will be included with copies of the quarterly briefings, in the District Annual Report to the Board of Directors.

E1	**Addressing Conservation**	The District will post an article or a link to an article annually, regarding water conservation on the District website www.bluebonnetgroundwater.org .	A copy of the article linked or posted on the District website regarding water conservation will be included in the Annual Report to the Board of Directors.
F1	**Rainwater Harvesting**	The District will post an article or a link to an article annually, regarding rainwater harvesting on the District website www.bluebonnetgroundwater.org.	A copy of the article posted on the District website regarding rainwater harvesting will be included in the Annual Report to the Board of Directors.

Appendix 1. Brazos Valley Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Implement Strategies Providing For the Most Efficient Use of Groundwater**	Require all existing and new non-exempt wells constructed within the boundaries of the District to be permitted by the District and operated in accordance with District Rules. In addition, the District will encourage all exempt wells constructed within the District boundaries to be registered with the District.	The number of exempt and permitted wells registered within the District will be reported annually in the District's Annual Report submitted to the Board of Directors of the District.
A2		Regulate the production of groundwater by permitting wells within the District's boundaries based on beneficial use and in accordance with District Rules. Each year the District will accept and process applications for the permitted use of groundwater in the District, in accordance with the permitting process established by District Rules. The District will regulate the production of groundwater from permitted wells by verification of pumpage volumes using meters, if meters are required under the District Rule and/or permit for the wells.	The number and type of applications made for the permitted use of groundwater in the District, the number and type of permits issued by the District, and the amount of groundwater permitted, will be included in the Annual Report given to the Board of Directors. The actual annual pumpage from each metered well within the District will be reported annually and compared to the amount permitted for that well. This information will be included in the District's Annual Report submitted to the Board of Directors of the District.
A3		Conduct ongoing monitoring of the aquifers underlying the District and the current groundwater production within the District, and then assess the available groundwater that can be produced from each aquifer within the District after sufficient data are	The District will conduct the appropriate studies to identify the issues and criteria needed to address groundwater management needs within the District's boundaries. Groundwater availability goals will take into consideration the GMA-12 Planning and research

		collected and evaluated. Using this data and information developed for GMA-12 the District will re-evaluate availability goals as necessary and will permit wells in accordance with the appropriate production goals.	of the hydro-geologic and geologic characteristics of the aquifers, which may include, but not necessarily be limited to, the amount of water use, water quality, and water level declines. A progress report on the work of the District regarding the groundwater availability will be written annually, as substantial additional data are developed. The progress report will be included in the annual report to the District Board of Directors.
B1	**Implement Strategies to Control and Prevent Waste of Groundwater:**	Apply a water use fee to the permitted use of groundwater in the District to encourage conservation-oriented use of the groundwater resources to eliminate or reduce waste.	Each year the District will apply a water use fee to the non-exempt permitted use of groundwater produced within the District pursuant to District rules. The amount of fees generated and the amount of water produced for each type of permitted use will be a part of the Annual Report presented to the District Board of Directors.
B2		Evaluate District rules annually to determine whether any amendments are necessary to decrease the amount of waste within the District.	The District will include a discussion of the annual evaluation of the District rules, and the determination of whether any amendments to the rules are necessary to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.
B3		Provide information to the public and the schools within the District on the wise use of water to eliminate and reduce wasteful practices.	The District will include a page on the Districts web-site devoted to the wise use of water and providing tips to help eliminate and reduce wasteful use of groundwater annually. The District will provide information to local school Districts including providing book covers to encourage wise use of water.
C1	**Implement Strategies to Address Conjunctive Surface Water Management Issues:**	Encourage the use of surface water supplies where available, to meet the needs of specific user groups within the District.	The District will participate in the Region G - Regional Water Planning process by attending at least one RWPG meeting annually and will encourage the development of surface water supplies where appropriate. This activity will be noted in the Annual Report presented to the District Board of Directors.
D1	**Implement Strategies to Address Natural Resource Issues which Impact the Use and Availability of groundwater, and which are**	Determine if there are any natural spring flows within the District that may be impacted by increased groundwater pumping.	Annually monitor water levels in at least 2 wells near natural spring flows, if found, for potential impact from groundwater production. Prepare an annual assessment statement and include in annual report to the District Board of Directors.

	Impacted by the Use of Groundwater		
E1	**Implement Strategies to Address Drought Conditions:**	A District staff member will download at least one Palmer Drought Severity Index (PDSI) map monthly. The Palmer Drought Severity Index map will be used to monitor drought conditions and notify permit holders of severe drought conditions when the PDSI is at 3.0 or below (Severe Drought) for more than 2 consecutive months.	The District will make an assessment of drought conditions in the District and will prepare an annual briefing to the Board of Directors.
E2		Require 100 percent of water producers that are required by the state of Texas to have drought contingency plans, to submit those plans to the District when applying for a permit for well production from the District.	Review 100 percent of the drought contingency plans submitted as a result of permit requirements whenever a severe drought condition is reached as determined by the PDSI. The number of drought contingency plans required to be submitted by water producers to the District as part of the well permitting process and the number of drought contingency plans actually submitted to the District will be reports in the annual report to the District Board of Directors.
E3		Develop a District drought contingency plan. The target goal for developing the plan is June 2010. The drought contingency plan will be reviewed for effectiveness and needed updates once annually.	A report summarizing the findings of the annual review of the District drought contingency plan will be included in the annual report of the District Board of Directors.
F1	**Implement Strategies to Promote Water Conservation:**	Require 100 percent of the water producers requesting a permit for water production within the District to submit a water conservation plan unless one is already on file wit the District at the time of the permit application, or agree to comply with the District's adopted Water Conservation guidelines.	Review 100 percent of the water conservation plans submitted as a result of permit requirements to ensure compliance with permit conditions. The number of water conservation plans required to be submitted by water producer to the District as part of the well permitting process and the number of water conservation plans actually submitted to the District will be reported in the annual report to the District Board of Directors. If the a water producer chooses to agree to follow the District's adopted Water Conservation guidelines in lieu of submitting a Water Conservation Plan, then that number will be indicated in the annual report to the District Board of Directors.
F2		Develop a system for measurement and evaluation of groundwater supplies.	Water level monitoring wells will be identified for and the Brazos River Alluvium, the Yegua-Jackson, Sparta, Queen City, Carrizo, Calvert Bluff, Simsboro and

			Hooper aquifers at least 2 wells per aquifer will be monitored on an annual basis to track changes in static water levels.
F3		Assist in obtaining grant funds for the implementation of water conservation methods. Work with the appropriate state and federal agencies to facilitate bringing grant funds to various groups within the District boundaries to develop and implement water conservation methods. The District will meet with at least one state or federal agency annually in order to discuss bringing water conservation methods grant funds into the District.	The number of meetings held annually with at least one state or federal agency and the number of grants for water conservation methods applied for and obtained will be included in the annual report to the District Board of Directors.
G1	**Implement Strategies to Protect Water Quality:**	Develop baseline water quality data and a system for continued evaluation of groundwater quality.	Develop general understanding of water quality within aquifers in the District based on TCEQ and TWDB data. Develop response plan for potential water quality issues.
G2		Require all water producers that are required by the TCEQ to have well vulnerability studies prior to constructing a well, to provide evidence of the study to the District prior to construction of a well within the District.	Review all vulnerability studies submitted as result of permit requirements to help ensure water quality protection.
G3		Provide information to the public and the schools within the District on the importance of protecting water quality.	The District will include a page on the Districts web-site devoted to water quality issues and will provide information to water producers on wellhead protection programs.
H1	**Desired Future Conditions**	The desired future conditions of the groundwater within the District have not yet been established in accordance with Chapter 36.108 of the Texas Water Code. The District is actively participating in the joint planning process and the development of desired future conditions for the parts of the aquifers within the District. Therefore, this goal is not applicable to the District at this time.	

Appendix 1. Evergreen Underground Water Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	ADDRESSING THE EFFICIENT USE OF GROUNDWATER	Each month the District will monitor the volume of water produced from nine irrigation wells and make note of the crops irrigated by the wells to promote water conservation in irrigation practices.	A table of the monthly meter readings from the nine irrigation wells and a discussion of the irrigation application rates for each type of crop irrigated by the nine wells monitored by the District will be included in the Annual Report on District Activities made to the Board of Directors each year.
A2		Each month the District will monitor the volume of water produced 35 municipal and Rural water suppliers in the District.	A table showing the monthly production volumes reported to the District by the Municipal and Rural water suppliers in the District will be included in the Annual Report on District Activities made to the Board of Directors each year.
A3		Each year the District will request production reports from the operators 800 agricultural irrigation wells in the District.	A copy of the request for production reports sent to the operators of agricultural irrigation wells will be included in the Annual Report on District Activities made to the Board of Directors each year. A table showing the production volumes reported to the District from the agricultural irrigation well operators in the District will be included in the Annual Report on District Activities made to the Board of Directors each year.
A4		Each month the District will measure the water levels in 45 water wells and will measure the water level of an additional 126 wells on an annual basis each year.	A table showing the monthly and a table showing the annual water level measurements made by the District will be included in the Annual Report on District Activities made to the Board of Directors each year.
B1	**ADDRESSING THE CONTROL AND PREVENTION OF THE WASTE OF GROUNDWATER**	Each year the District will conduct an on-site investigation of any reports of waste of groundwater within two working days of the time of the receipt of the report to the District.	A discussion of the waste of groundwater observed by the District each year, including the number of reports of the waste of groundwater received by the District and the District response to the report will be included in the Annual Report on District Activities made to the Board of Directors each year.
C1	**ADDRESS THE CONJUNCTIVE USE OF SURFACE AND GROUNDWATER**	Each year the District will use the Southern Carrizo-Wilcox Groundwater Availability Model to predict the potential effects of different groundwater pumping scenarios on both groundwater and surface water. In addition, each year the District will arrange to meet with the appropriate surface water management entities.	A summary of the discussion(s) with the surface water management entities for status on surface water conditions will be relayed in a memorandum to the Board of Directors each year.
D1	**Addressing natural**	Each year the District will sample at least	A table giving the results of the chemical analyses of the water quality

	resource issues which impact the use oand availability of groundwater, and which are impacted by the use of groundwater	40 water wells in the District for chemical analysis of water quality.	samples taken by the District each year will be included in the Annual Report on District Activities made to the Board of Directors. A discussion of whether any instances of groundwater contamination or issues of concern were noted in the water quality sample analyses will be included in the Annual Report on District Activities made to the Board of Directors.
E1	**Addressing conservation**	Each year, the District will submit an article for publication regarding water conservation to one newspaper of general circulation in the District.	A copy of the article regarding water conservation submitted by the District for publication to a newspaper of general circulation in the District will be included in the Annual Report to the Board of Directors.
E2		Each year, the District will include an informative flier on water conservation with at least one mail-out distributed in the normal course of business to groundwater use permit holders in the District.	The Annual Report to the Board of Directors will include a copy of the informative flier regarding water conservation that was distributed to groundwater use permit holders in the District and the number of fliers distributed.
F1	**Addressing drought conditions**	Each month, the District will download at least one updated Palmer Drought Severity Index (PDSI) map posted on the National Weather Service - Climate Prediction Center website (http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/drought.shtml) and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Department of Public Safety website (http://www.txdps.state.tx.us/dem/sitrepindex.html).	Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to the Board of Directors.
G1	**Addressing in a quantitative manner the desired future conditions**	The development of DFCs is also considered to be a goal for each GCD, in accordance with chapter 36 of the water code. Since coordination with GMA 13 and GMA 15 is ongoing but not yet complete, the district has determined this goal to not be applicable at this time.	

Appendix 1. Fayette Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Management Strategies to Protect and Enhance the Quantity of Useable Groundwater by Encouraging the Most Efficient Use**	***Establish a Water Level Monitoring Program***: Establish a water level monitoring network by first, identifying the wells to be monitored, and secondly, by annually measuring the depth to water in those wells; record all measurements and/or observations; enter all measurements into District's computer data base; file specific locations of wells in the District's filing system. Establish a baseline by using existing wells, preferably those for which the District already has some historical data, in all major and minor aquifers where wells are available.	Annually report to the Board of Directors on: ♦ the percent of water level monitoring wells for which measurements were recorded each year. ♦ the number of data records entered into District's data base each year. ♦ the number of wells in the water level measurement network each year. ♦ the number of wells added to the network, if required, each year.
A2		***Set and Enforce Maximum Allowable Production Limits***: Annually, the District will investigate all reports filed by District constituents, on forms provided by the District, regarding pumpage of groundwater in excess of the maximum production allowable under the District's rules. Investigation of each occurrence shall occur within 30 days of receiving the report. Each case will be remedied in accordance with District rules.	Annually report to the Board of Directors on: ♦ the number of reports investigated each year. ♦ the average amount of time taken to investigate reports each year. ♦ the number of incidences where violations occurred and violators were required to change operations to be in compliance with District rules each year.
A3		***Implement Well Permitting Process:*** Issue water well drilling permits for the drilling and completion of non-exempt water wells in the District within 30 days of application, or as soon thereafter as possible. Randomly inspect new well drilling sites to be assured that the District's completion and spacing standards are met. Send written notification to the well owner if the well fails to meet standards within 30 days of inspection. The Board will vote on final approval of the permit at the next scheduled meeting and insure that well completion standards have been met.	Annually report to the Board of Directors on: ♦ the number of permits issued each year in Fayette County. ♦ The number of on-site inspections performed of all wells for which District staff have reason to question compliance with District rules. ♦ the number of permits field checked each year. ♦ the number of letters mailed to permit applicants requesting applicant to provide additional information or make changes to comply with District rules. ♦ the number of these letters which result in changes to comply with District rules and the number of cases still open at year-end.

B1	**Management Strategies to Protect and Enhance the Quantity and Quality of Useable Groundwater by Controlling and Preventing Contamination and Waste**	***Establish a Water Quality Monitoring Program***: The District staff will obtain water quality samples for analysis from wells within the monitoring network in order to track water quality changes in the District, and will resample a representative group of the wells sampled the previous year. The results of the tests will be published and entered in to the District's computer data base, and will be made available to the public.	Annually report to the Board of Directors on: ♦ the number of samples collected and analyzed each year ♦ the percent of previously sampled wells that were sampled in the current testing year. ♦ the number of analyses entered into District's computer data base each year.
B2		***Assure Proper Closing, Destruction, or Re-Equipping of Wells:*** The District staff will inspect all sites reported as being open or improperly covered in a timely manner and follow through to assure proper closing or repair.	Annually report to the Board of Directors on: ♦ the number of open, improperly covered, or deteriorated wells reported and inspected each year. ♦ the number of letters of notification of an open hole or deteriorated well mailed to well owners and/or operators each year. ♦ the number of wells the District required to be closed each year.
B3		***Encourage Plugging of Abandoned Wells:*** Field inspect each reported well abandoned or replaced, and assure proper closing under Water Well Drillers' Rules or that the well is re-equipped in accordance with District rules.	Annually report to the Board of Directors on: ♦ the number of reported wells abandoned or replaced each year. ♦ the number of reported wells destroyed and noted on the topographic map each year. ♦ the number of reported wells re-equipped in accordance with the District's rules each year.
B4		***Control and Prevention of Water Waste:*** The District will investigate all identified wasteful practices within a reasonable number of working days of identification or complaint received, depending upon the magnitude of the wasteful practice.	Annually report to the Board of Directors on: ♦ the number of wasteful practices identified and the average number of days District personnel took to respond or investigate after identification or complaint received. ♦ the actions taken to resolve the identification or complaint received.
C1	**Management Strategies Under Drought Conditions**	***Curtailment of Groundwater Withdrawal:*** The annual amount of groundwater permitted by the District for withdrawal from the portion of the aquifers located within the District may be curtailed during periods of extreme drought in the recharge zones of the aquifers or because of other conditions that cause significant declines in groundwater surface	The District shall monitor at least one well each year. Annually report to the Board of Directors the number of measurements obtained from the water level monitoring network. A summary report of the water level measurement results and an analysis of any situations that may require curtailment of groundwater withdrawal will be included in the report.

		elevations. Such curtailment may be triggered by the District's Board based on the groundwater elevation measured in the District's monitoring well(s).	
D1	**Promote Water Conservation**	***Emphasize Water Conservation Program:*** The District will develop and sponsor a water conservation education curriculum, available upon request for all schools within the District. The District will utilize the methodologies listed under Goal 5 in order to raise public awareness of the necessity and importance of a water conservation program.	Annually report to the Board of Directors on: ♦ the number of schools where water conservation education curriculums are presented each year. ♦ the number of water conservation articles presented to the public via the various methodologies outlined in Goal 5. 4.1.b. Promote and/or implement groundwater banking, recharge projects, rainwater harvesting and aquifer storage and recovery projects, where appropriate and cost-effective, to address areas with declining groundwater levels. Promotion of these projects may be accomplished through articles published in at least one of the District's quarterly newsletters.
E1	**Implementation of Public Relations and Educational Programs to Assist in Accomplishing Goals 1 through 4**	***Produce and Disseminate Quarterly Newsletter:*** Each year, 4 quarterly newsletters are produced for distribution to District constituents who request a free subscription, and other interested parties. Articles will strive to discuss methods to enhance and protect the quantity of usable quality ground water within the District.	Annually document number of newsletters published. Annually document the circulation of the newsletter during that year.
E2		***Provide News Releases to District Media:*** Each year, news releases discussing methods to enhance, conserve and protect the quantity of usable quality ground water are written and distributed to all print and electronic media within the District. This may also include radio public service announcements discussing methods to enhance, conserve and protect the groundwater.	Annually document number of news releases prepared and distributed to local and regional media detailing methods to enhance and protect the quantity and quality of usable ground water within the District.
E3		***Provide Public Information Boards at District Office:*** Each year, the District makes well information, technical reports, brochures, and other printed information available to the public in the District office	Annually document the number of publications made available to the public via the information boards. Annually document the number of the items printed and/or photocopied for public distribution.
E4		***Provide Public Information Displays at Fairs/Meetings:*** Each year, the District will place	Annually document the number of the displays placed at regional fairs, farm shows, and professional

		informative displays at regional fairs, farm shows, and professional meetings to address the protection and enhancement of usable quality groundwater in the District.	meetings within the District's service area.
E5		***Offer Public Information Access via Internet:*** The District will make information about water and water conservation available to the public via its home page on the Internet. This information will be continuously updated.	Annually document the number of "hits" the District web site receives.
E6		***Provide Classroom Presentations:*** Upon request by instructors, District staff or Board members will assist area classrooms in presenting information about ground water quality, quantity, and water conservation to public school students. The District will make films and videos on a wide-range of water-related subjects available through the District office. Eventually, the District will develop a conservation education program and its accompanying curriculum in public and/or private schools within its service area.	Annually document the number of classroom presentations made or classroom and audio-visual materials provided. Annually document the names of participating schools and any feedback from students/teachers.
F1	**Desired Future Conditions of the Aquifers within the Boundaries of the Fayette County Groundwater Conservation District**	***Desired Future Conditions:*** The Fayette County Groundwater Conservation District actively participates in developing the desired future conditions for the aquifers within the District's boundaries and within the boundaries of Groundwater Management Areas (GMAs) 12 and 15. The desired future conditions for the aquifers within GMAs 12 and 15 have not yet been established. Consequently, there are no Managed Available Groundwater estimates available to include in this Management Plan at this time. Therefore, this goal is not applicable to the District at this time. Once the desired future conditions are established, an estimate of the managed available groundwater will be determined. The District will amend the management plan at that time.	

Appendix 1. Gonzales Underground Water Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Providing the Most Efficient Use of Groundwater**	The District will register at least 20 exempt wells annually and will compile 100 percent of the data in a database within 30 working days.	Record the date and number of exempt wells registered annually, the percentage of exempt wells that were entered into the database, and the number of days before the data was entered.
A2		The District will measure water levels in 20 wells three times a year in western Gonzales County within the same 60 day period and will compile 100 percent of the water level data into a database within 30 working days.	Record the date and number of wells measured, the percent of collected water level data that was entered into the database, and the number of days before the data was entered.
A3		The District will measure water levels in 20 wells three times a year in eastern Gonzales County within the same 60 day period and will compile 100 percent of the water level data into a database within 30 working days.	Record the date and number of wells measured, the percent of collected water level data that was entered into the database, and the number of days before the data was entered.
A4		The District will meet with the cities of Gonzales, Nixon, Smiley and Waelder, at least once a year, to inform the cities on water availability for economic development. The District will provide input on 100 percent of requests for information within 30 days of the request.	Record the date and number of meetings with each city. Record number of requests for information from each city, the number of responses to each city, and the number of days required to respond to each request for information.
A5		The District will attend all Groundwater Management Area (GMA) 13 meetings annually. The District will provide input on 100 percent of the requests for information within 30 days.	Record the number of GMA meetings posted annually, the number of GMA 13 meetings attended annually, the number of requests for information made by GMA 13, the number of responses to requests for information by GMA 13, the number of days required for each response to GMA 13 requests for information.
A6		The District will meet with the Gonzales Area Development Corporation (GADC), at least once a year, to inform the GADC on water availability for economic development. The District will provide input on 100 percent of requests for information within 30 days of the request.	Record the date and number of meetings with the GADC. Record the number of requests for information from the GADC, the number of responses given to the GADC, and the number of days required to respond to each request for information.
A7		The District will gather water production data from at	Record the number of public suppliers from which

		least 4 public water suppliers annually and will compile 100 percent of these figures into a database of groundwater usage within 30 working days of receipt in order to better project the needs of the District.	water production data was collected annually, the percent of collected water production data that was entered into the database, and the number of days before the data was entered.
A8		The District will gather water production data from at least 10 irrigation wells and 5 livestock production facilities annually and will compile 100 percent of these figures into a database of groundwater usage within 30 working days of receipt in order to project future water use.	Record the number of irrigation wells and number livestock production facilities from which water production data was collected annually, the percent of collected water production data that was entered into the database, and the number of days before the data was entered.
B1	**Controlling and Preventing Waste of Groundwater**	The District will collect samples for water quality data in 20 wells annually at locations throughout the District during the same period every year and will compile 100 percent of this data into a water quality database within 30 working days of receipt. In selecting wells the District will emphasize the wells at or near the zone of bad water or potential pollution sources based on best available data.	Record the date and number of wells sampled annually, the location of the wells sampled, the percent of water quality data that was entered into the database, and the number of days before the data was entered.
B1		The District will monitor new facilities and activities on the recharge zones of the Carrizo/Wilcox, Queen City and Sparta aquifers on at least an annual basis for point source and non-point source pollution and compile 100 percent of this data into a pollution database within 30 working days from completion of the survey.	Record the date and results of visual survey of all recharge zones for point source and nonpoint source activities and facilities, the percent of available information that was entered into the database, and the number of days before the data was entered.
B3		The District will meet with the Railroad Commission at least once annually and coordinate its efforts with this agency in locating abandoned or deteriorated oil wells. The District will act on local complaints of abandoned or deteriorated oil wells within 30 days and compile 100 percent of the complaints and resulting District action in a database.	Record the date and number of meetings with the Railroad Commission annually. Record the date and number of complaints filed with the District annually, the time required to respond to each complaint, and the percentage of complaints entered into the database.
C1	**Conjunctive Surface Water Management**	The District will meet with the staff of the Guadalupe Blanco River Authority, at least once a year, to share information updates about conjunctive use potential.	Record the date and number of meetings with GBRA representatives annually.

D1	**Addressing Natural Resource Issues**	The District will meet with Natural Resources Conservation Service representatives to exchange information on wells and water levels at least once annually.	Record the date and number of meetings with the Natural Resources Conservation Service representatives annually.
D2		The District will meet with the local Texas Railroad Commission engineering technician at least once annually to review oil well permits and oil related activity that could endanger the aquifers.	Record the date and number of meetings with the Railroad Commission engineering technician annually.
E1	**Addressing Drought Conditions**	The General Manager will access the National Weather Service – Climate Prediction Center website (http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/drought.shtml) monthly to determine the Palmer Drought Severity Index and will submit a report to the Board of Directors monthly. The District will, 100 percent of the time when under extreme drought conditions, as defined by the Palmer Drought Severity Index, provide information to and coordinate with local water users and water managers regarding drought response activities.	Record the date and number of monthly reports made to the District Board of Directors. Record the date and number of times when the District was under extreme drought conditions and the number of times letters were sent to public water suppliers.
F1	**Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, Brush Control**	The District will publish an information article in a publication of wide circulation in the District, at least annually, describing conservation measures that can be taken by water users within the District.	Record date and number of conservation articles published annually.
F2		The District will publish an information article in a publication of wide circulation in the District, at least annually, describing recharge enhancement measures.	Record date and number of recharge enhancement articles published annually.
F3		The District will publish an information article in a publication of wide circulation in the District, at least annually, describing rainwater harvesting measures that can be taken by water users within the District.	Record date and number of rain water harvesting articles published annually.
F4		The District will publish an information article in a publication of wide circulation in the District, at least annually, describing current precipitation enhancement measures.	Record date and number of precipitation enhancement articles published annually.

F5		The District will publish an information article in a publication of wide circulation in the District, at least annually, describing brush control measures that can be used by landowners within the District.	Record date and number of brush control articles published annually.
G1	**Transportation of Water from the District**	The District will obtain monthly usage reports from individuals or entities that transport groundwater out of the District and will compile 100 percent of this data into a database within 30 working days of receipt.	Record the date and number of usage reports received from each individual or entity that transports groundwater out of the District, the percent of usage data that was entered into the database each month, and the number of days before the data was entered each month.

Appendix 1. Guadalupe County Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	***Efficient Use of Groundwater***	District will establish a Carrizo-Wilcox aquifer water-level observation well program with a minimum of nine (9) observation wells. The nine observation wells will be measured twice annually, in January and September.	Number of times the wells are measured per year. The water level database will be maintained by the District office.
B1	***Controlling & Preventing Waste of Groundwater***	The District will once a year provide public information on closure of abandoned water wells and uncontrolled flowing wells through articles in local newspapers or the District's newsletter and website.	Number of times a year the District will address the proper closure of abandoned water wells and uncontrolled flowing wells in the local newspaper or the District's newsletter and website.
C1	***Conjunctive Use of Surface and Groundwater***	Each year the District will confer at least on one occasion with the Guadalupe-Blanco River Authority (GBRA) on cooperative opportunities for conjunctive resource management.	Number of meetings per year with GBRA on conjunctive resource management. A memo to document the meeting will be on file in the District's office.
D1	***Address Natural Resource Issues that Impact the Use and Availability of Groundwater***	Each year the District will evaluate all proposed new wells prior to drilling. Information submitted by the applicant will be evaluated in order assess water level impacts within the District.	A monthly report to the Board will be made on the results of all water level impact studies and number of wells evaluated each month.
E1	***Develop a Management Strategy to Address Drought Conditions***	District representative will attend 1 meeting of the South Texas Weather Modification Assn. Annually	Number of reports made to the board each year on the PDSI.
F1	***Conservation of Groundwater***	The District once a year will provide public information on water conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, and brush control through articles published in local newspapers or the	Number of articles published in local newspapers or the District's newsletter and website each year. The articles will be on a five year rotating basis, so that at least one topic is

		District's newsletter and website.	covered each year.
G1	***Accurate Measurement of Rainfall***	The District has established a rainfall measurement system in the Guadalupe County Carrizo-Wilcox recharge area to obtain specific data on annual rainfall amounts.	The rainfall data will be saved and made public, and used in making management decisions. Data from the seven rainfall gauges will be reported to the Board each month. Number of times the data is reported to the board each year.
H1	***Desired Future Conditions***	The desired future conditions of the groundwater within the District have not yet been established in accordance with Chapter 36.108 of the Texas Water Code. The District is actively participating in the joint planning process and the development of a desired future condition for the portion of the aquifer within the District and the GMA area	
I1	***Methodology***	The District Manager will prepare an annual report on the District performances in achieving the management goals. The annual report will be presented to the Board of Directors during the first quarter of the calendar year. The report will include the number of instances each management activity was engaged in during the year. The annual report will be maintained on file at the District Office and made available to the public upon adoption by the Board.	

Appendix 1. Live Oak Underground Water Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	***Collection and maintenance of data on water quantity and quality***	a. Take measurements of depth to water level below the land surface on strategic wells on annual basis b. Take water samples for chemical analysis on strategic on an annual basis c. Reports annually, water quality and quantity data	Measure depth of water on 1 well annually measure chemical analysis of 4 wells annually.
A2		Measurement of pollution sources as wells: a. Identify wells that are polluted and take appropriate action b. Identify sources of pollution and take appropriate action c. Provide information to the public about wells that are polluted and the sources of pollution	Investigate 100% of complaints of well pollution annually
B1	***Efficient use of groundwater***	School education: a. Provide speakers to address water topics b. Distribute water resource education packets for use in the classroom	Contact teacher or principle of 1 school annually
B2		Farm education: a. Provide speakers to address water topics at farm meetings b. Distribute water resource education packets to farm leaders and farmers	Contact 1 farm group annually
B3		Home Education: a. Provide speakers to address water topics b. Distribute water resource education packets to community people	Contact 1 civic group annually
C1	***Conjunctive water management issues***	4. Attend meeting with surface water entities in the district, to include but not limited to; conjunctive use, emergency response, drought contingency planning 5. Evaluate existing historical data and data derived from new monitoring programs to enhance understanding of aquifer/surface-water relationships 6. Evaluate the impact of surface-water usage on	District representative will attend 1 meeting with surface water entities annually. District representative will attend 1 meeting concerning regional water planning annually

		groundwater resources within the District as needed. Provide comments regarding surface-water rights requests for those requests effecting the groundwater resources of the district 7. Coordinate with other entities on regional planning efforts	
D1	***Drought Conditions***	1. Participate in the South Texas Weather Modification Program 2. Evaluate the performance of the weather modification program	District representative will attend 1 meeting of the South Texas Weather Modification Assn. Annually
E1	***Conservation***	1. Provide Information to area residents about water conservation 2. Provide information to agriculture users about water conservation	Provide water conservation pamphlet to 1 district resident annually

Appendix 1. Lost Pines Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Provide the most efficient use of groundwater.**	To inform the residents of Bastrop and Lee counties about the efficient use of groundwater. Such information may be related to irrigation efficiency, transmission losses, xeriscaping, or any other related subject deemed appropriate by the LPGCD board. The information on efficient use of groundwater may be disseminated in conjunction with information on controlling and preventing waste of groundwater and/or water conservation.	At least annually, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article on efficient use of groundwater. The article on efficient use of groundwater may be published in conjunction with an article on controlling and preventing waste of groundwater and/or water conservation. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
B1	**Controlling and preventing waste of groundwater.**	To inform the residents of Bastrop and Lee counties about the waste of groundwater. Such information may be related to leaky or poorly functioning plumbing, transmission losses, xeriscaping, or any other related subject deemed appropriate by the LPGCD Board. The information on waste of groundwater may be disseminated in conjunction with information on efficient use of groundwater and/or water conservation.	At least annually, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article on waste of groundwater. The article on waste of groundwater may be published in conjunction with an article on efficient use of groundwater and/or water conservation. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
C1	**Address natural resource issues**	To provide information to the public about the status	At least annually, the General Manager shall prepare a

	that impact the use and availability of ground- water and which are impacted by the use of groundwater.	of groundwater use, availability, and water levels and a description of natural resource issues, e.g., mining, out of District transport of groundwater, protection of endangered species, or the spread of phreatophytic vegetation, that impact the use and availability of groundwater or which are affected by the use and availability of groundwater.	report for the LPGCD board on the status of groundwater use, availability, and water levels within the District and a description of natural resource issues. Once this report is reviewed and accepted by the LPGCD Board, it shall be made available to the public at the District's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. To the extent practical, the LPGCD also will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
D1	**Address drought conditions.**	Drought conditions are to be addressed on an ongoing basis by tracking rainfall records available from nearby weather stations as compared to hydrographs for LPGCD monitoring wells. At least once per month, the General Manager will update rainfall and water level records maintained by the LPGCD. Based on GAM modeling and an understanding of the outcrop areas of the principal aquifers – Simsboro, Carrizo, Queen City, and Sparta – in the LPGCD, recharge appears to be relatively constant under the current climatic regime and little affected by drought conditions. It is anticipated, though that drought conditions will result in increased pumpage and decreased natural discharge, thereby affecting water levels in the aquifers.	At least annually, the General Manager shall prepare a report for the LPGCD board on precipitation amounts as compared to water levels within the District and a description of apparent trends. Once this report is reviewed and accepted by the LPGCD Board, it shall be made available to the public at the District's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. The summary may be published in conjunction with the publication of the summary of natural resource issues. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.
E1	**Address conservation of groundwater resources.**	To educate the public within the District concerning water conservation. One or more articles related to advances in plumbing fixtures that conserve water and comparative cost savings of installing such fixtures, xeriscaping, or any other related subject deemed appropriate by the LPGCD board will be prepared for publication.	At least annually, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article on conservation of groundwater. The article on water conservation may be published in conjunction with an article on efficient use of groundwater and controlling and preventing waste of groundwater. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.

F1	**Public Education**	To inform the public about any and all matters related to the occurrence, distribution, behavior, and use of groundwater. To a degree, this management objective overlaps with all the required goals and management objectives described above; however, the focus of this management objective is on children.	At least once each year in each county of the LPGCD, the General Manager, assisted by other staff and consultants, as necessary, will present a program dealing with the above matters at a public school. The particular timing and age-level of such a program will be coordinated with the local school systems.
G1	**Drilling Permits**	To review and evaluate all applications for drilling permits for exempt and non-exempt wells, not otherwise excluded and not existing prior to the date the District rules became effective.	At least once per year, notify all known water-well drillers operating in the District of the requirement for the prospective non-excluded well owner to obtain a drilling permit and the requirement that the driller insure that no new non-excluded well is drilled in the District without a permit. In addition, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article related to the requirement to obtain drilling permits for non-excluded wells. Such an article may be combined with articles on other subjects published by the District.
H1	**Register all wells within the LPGCD boundaries**	To register all exempt wells drilled since the LPGCD Rules became effective and attempt to register all pre-existing exempt wells.	Registration of newly drilled exempt wells is accomplished by refunding the drilling permit fee upon submittal of completion reports, well logs, and well registration materials. The number of newly drilled wells will be documented in the annual report by the General Manager and in the LPGCD's database. Registration of pre-existing exempt wells is a more difficult issue, because registration of such wells is voluntary. Nevertheless, at least annually, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article on registration of exempt wells. The article on registration of exempt wells may be published in conjunction with an article on controlling and preventing waste of groundwater, water use efficiency, and/or water conservation. In addition, the General Manager or his designated representative will note the existence of unregistered wells, spot the location of such wells on a map as best possible, and visit with the landowner, if possible, to encourage

			registration of the wells. Documentation of attempts to encourage registration of wells that were in existence prior to the effective date of the LPGCD Rules will be though notes made and kept on file at the District offices.
I1	**Operating Permits**	To review and evaluate all applications for operating permits for non-exempt wells, not otherwise excluded, within the LPGCD. In addition, the LPGCD will notify operating permit holders of the need to renew their operating permit at least sixty days prior to expiration.	At least once per year, notify all known water-well drillers and pump installers operating in the District of the requirement for the owner of a non-exempt well, not otherwise excluded, to obtain an operating permit and the requirement that the driller and/or pump installer insure that no non-exempt well, not otherwise excluded, is placed into service within the District without an operating permit. In addition, the General Manager shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties an article related to the requirement to obtain operating permits for non-exempt wells, not otherwise excluded. Such an article may be combined with articles on other subjects published by the District.
J1	**Transfer Permits**	To review and evaluate all applications for transfer permits. Notify holders of transfer permits of the need to renew their transfer permit prior to expiration.	To complete administrative review of all permit applications and schedule for LPGCD consideration within sixty days of receipt.
K1	**Timely processing of all drilling permits, operating permits and transfer permits**	To complete administrative review of all permit applications and schedule for LPGCD consideration within sixty days of receipt	On an annual basis track the dates on which applications are received, the dates on which administrative review is completed, and the date on which the board considered applications. For any permit application taking longer than sixty days to process, record a brief comment in the files as to the reason for the delay. Provide an annual summary of the permit application tracking to the LPGCD board. Upon review and approval of the report, make it available for public review at the District office.
L1	**Maintain a Database.**	To maintain a database of each drilling permit and registration of an exempt well, each drilling and operating permit for a non- exempt well, and each transfer permit. The LPGCD's intent is to be able to generate plots of the locations of each registered and permitted well, available completion information for	The database will be constantly changing and evolving, as new data are acquired and entered into the database and as new or updated software and hardware become available. The overall performance standard is; Does it do what the LPGCD needs done? The measurable standard is an annual report prepared by the General

		the well, and to compute distances between the wells based on the most detailed coordinates in the data base.	Manager to the Board describing changes made to the structure and the content of the database and containing recommendations for additional changes and improvements. Once reviewed and accepted by the Board it shall be made available to the public at the LPGCD's office. In addition, the General Manager will cause a summary of the annual report to be published in one or more newspapers of general circulation in Bastrop and Lee counties. The summary may be published in conjunction with the publication of the summary of natural resource issues and drought conditions. In addition, to the extent practical, the LPGCD will sponsor or co-sponsor workshops open to the public that address this issue and similar issues.

Appendix 1. McMullen Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Providing the most efficient use of groundwater**	Each year the District will provide education materials concerning the efficient use of groundwater.	Provide educational materials to at least one school annually.
B1	**Controlling and preventing waste of groundwater**	Measure water levels from the land surface on strategic wells on an annual basis and report waste to the District Board.	(a) Report to the District Board annually the number of water level measurements. (b) The District will investigate all reports of waste of groundwater within five working days. The number of reports of waste as well as the investigation findings will be reported to the District Board in the annual report.
C1	**Natural Resource Issues**	The District will cooperate with other interested parties and appropriate agencies to develop additional information on aquifer recharge.	A representative of the District will attend a meeting annually with interested parties and appropriate agencies.
D1	**Drought Conditions**	The District will monitor the Palmer Drought Severity	A report of the Palmer Drought Severity Index will be

		Index (PDSI).	presented to the District board on an annual basis.
E1	**Conservation**	Each year the District will make available educational material to the public promoting conservation methods and concepts. The District will make at least one educational brochure available per year through service organizations, and on a continuing basis at the District office.	
F1	**Precipitation Enhancement**	The District will participate in the South Texas Weather Modification Program.	A district representative will attend a meeting of the South Texas Weather Modification Assn. annually.

Appendix 1. Medina County Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**To Control and Prevent the Waste of Groundwater**	Each year the District will provide at least one public service announcement concerning waste, which is prohibited under the District rule, to the newspapers and to the general public on at least six occasions.	(a) The District will furnish at least six newspaper articles and/or public service announcements on an annual basis. (b) The District will investigate all written reports of waste of groundwater within 24 hours.
B1	**Addressing Natural Resource Issues That Impact the Use and Availability of Groundwater and Are Impacted by the Use of Groundwater**	Each year the District will work with various interest groups and appropriate agencies, such as the San Antonio River Authority, to provide information on aquifer storage and recovery projects and will require permits for all aquifer storage and recovery projects.	(a) The District will require permits for all aquifer and storage projects within the District and report the number of applications submitted annually. (b) The District will provide one article to a newspaper of general circulation in the District regarding the San Antonio River Authority's Aquifer Storage and Recovery project.
B2		Each year the District will require issuance of a well construction permit prior to drilling all new wells.	Each year all well construction permits in compliance with the District rules will be issued within **15** working days. Well construction permits not in compliance will be considered at the next regular board meeting.
C1	**Providing for the Efficient Use of Groundwater within the District**	Each year, the District will provide informative speakers to schools and civic groups to raise public awareness of practices which ensure the efficient use of groundwater.	The District will make at least 2 public speaking appearances to promote the efficient use groundwater per year.
D1	**Addressing Conjunctive Surface Water Management Issues**	The District will attend 50% 0f the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management entities	The District will attend at least 50% of the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management

		within the District.	entities within the District. The District will report these activities annual in the District annual report to the Board of Directors.
E1	**Addressing Conservation**	The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in Medina County.	A copy of the article submitted by the District for publication to a newspaper of general circulation in Medina County regarding water conservation will be included in the Annual Report to the Board of Directors.
F1	**Addressing Drought Conditions**	Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Water Information Network Web site www.txwin.net.	Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to the Board of Directors.

Appendix 1. Mid-East Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Providing the most efficient use of groundwater.**	The District will at least once annually conduct at least one program to provide public information and education to promote the efficient use of groundwater. Such programs may include newspaper publication, open meetings, handout brochures and mail-out brochures.	The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.
B1	**Controlling and preventing the waste of groundwater.**	The District will at least annually conduct at least one program to provide public information and education of the prevention of the waste of groundwater. Such programs may include newspaper publications, open meetings, handout brochures and mail-out brochures.	The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.
C1	**Addressing drought conditions.**	The District shall call for the most efficient use of groundwater by all users in the District to maintain sufficient groundwater aquifer resources during periods of drought and for future resources by preventing waste and by regulation of users, if necessary to prevent depletion of the aquifers. The District will review the Texas Palmer Drought Index and the Texas Drought Preparedness Report, and	The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.

		monitor the District's production figures annually.	
D1	**Conservation.**	The District will at least annually conduct a least one program to provide public information and education to promote the conservation of water. Such programs may include newspaper publication, open meetings, handout brochures and mail-out brochures.	The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.

Appendix 1. Neches & Trinity Valleys Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	***PROVIDING FOR THE MOST EFFICIENT USE OF GROUNDWATER WITHIN***	Each year the District will require the registration of all new wells drilled within the District's jurisdiction and the District will require a permit for drilling all non-exempt wells.	At all regularly scheduled Board meetings, the General Manager reports to the Board of Directors on the number of new wells registered with the District and the number of permit applications received and approved for new wells within the District.
A2		Each year the District will provide informative speakers to schools, civic groups, social clubs, and other organizations for presentations to inform a minimum of 50 citizens on the activities and programs, the geology and hydrology of groundwater, and the principles of water conservation relating to the best management practices for the efficient use of groundwater.	The number of citizens in attendance annually at District presentations concerning the principals of water conservation relating to the best practices for the efficient use of groundwater.
A3		Each year, on four or more occasions, the District will disseminate educational information relating to the conservation practices for the efficient use of water resources.	Number of occasions, annually, the District disseminated educational information relating to the conservation practices for the efficient use of water resources.

B1	***CONTROLLING AND PREVENTING WASTE OF GROUNDWATER***	100 percent of complete permit applications will be reviewed by the District within 90 days to ensure all procedures are followed to control and prevent the waste of groundwater. The District will report annually to the Board the number of permit application requests that met the District's rules and requirements for approval within 90 days of the receipt of the completed application.	1. Number of permits issued each year by the District for new non-exempt wells in compliance with District rules and procedures. 2. Percent of completed applications reviewed within 90 days of receipt of application.	
B2		The District will maintain procedures for the receipt of well permit applications. Annual reports will be made to the Board on the number and type of well permits approved. If no applications are received by the District during a reporting period, this will annually be reported to the Board.	The procedures for the receipt of well permit applications will be maintained in District files. An annual report will be made by the District to the Board on the number and type of well permits approved. If no well permit applications are filed and completed during the year, this will be reported to the Board.	
C1	***ADDRESSING DROUGHT CONDITIONS***	The Board has adopted a contingency plan to cope with the effects of water supply shortages due to climatic or other conditions. The plan is reviewed at least annually by the Board. In developing the contingency plan, the District considered the economic effects of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro-geologic conditions of the aquifer and the appropriate conditions under which to implement the contingency plan. During extreme drought conditions within the District as measured by the Palmer Drought Index, all efforts will be made to see that all municipalities and public water supply companies follow their drought contingency plans. During extreme drought conditions that materially affects the aquifer levels, the District staff will closely monitor the aquifer levels through establishment of a District monitoring plan of static levels in selected monitoring wells or by obtaining well water levels from selected water supply companies who have such data available to ensure that adequate quantities of water are available to the District and will coordinate with the Region C	A drought contingency plan developed by the District and approved by the Board will be reviewed by the Board every year and revised as necessary. During extreme drought conditions within the District, efforts will be made through contact by District staff to see that municipalities and public water supply companies follow their drought contingency plans.	

		and I Water Planning Groups.	
D1	***ADDRESSING CONSERVATION, RECHARGE ENHANCEMENT, RAINWATER HARVESTING, PRECIPITATION ENHANCEMENT, OR BRUSH CONTROL***	Each year, on four or more occasions, the District will disseminate educational information relating to the conservation practices for the efficient use of water resources.	Number of occasions, annually, the District disseminated educational information relating to the conservation practices for the efficient use of water resources.

Appendix 1. Panola County Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Providing the Most Efficient Use of Groundwater**	Beginning in 2008, the District will require the registration of all wells within the District's boundaries each year.	The number of new and existing wells registered with the District will be provided in the Annual Report for each fiscal year.
A2		The District will require permits for all non-exempt groundwater use within District boundaries pursuant to the District Rules each year.	The District will accept and process applications for permits for all non-exempt groundwater use pursuant to the permitting process described in the District Rules each year. The Annual Report for each fiscal year will contain a summary of the number of applications for the permitted use of groundwater and the number and type of permits issued.
B1	**Preventing Waste of Groundwater**	The District will provide information on an annual basis to the public on the elimination, reduction, and prevention of the waste of groundwater and information focused on water quality protection each year. The District will use one of the following methods to provide information to the public at least once during each fiscal year: a. distribute literature packets or brochures within Panola County and the surrounding areas; b. provide public presentations on groundwater and water issues, including waste prevention; c. sponsor an educational program/course; d. provide information on the District's web site; e. submit newspaper articles to local paper for publication;	The District's Annual Report will include a summary of the District's efforts during the fiscal year to provide educational information to the public on the elimination, reduction and prevention of the waste of groundwater.

		f. present displays at local public events; or g. become involved in the distribution of information, such as brochures, in schools in Panola County.	
B2		The District will make an annual evaluation of its Rules to determine whether any amendments are necessary to facilitate prevention of waste of the groundwater within District boundaries.	The District's Annual Report will include a summary of the evaluation of the District Rules and will provide a recommendation as to whether any amendments to the Rules are needed to facilitate prevention of waste.
C1	**Addressing Conjunctive Surface Water Management Issues**	The District will participate in the regional planning process by sending a representative to attend at least one meeting of the East Texas Regional Water Planning Group (Region I) each fiscal year.	The attendance at any Region I meeting by a representative of the District will be included in the District's Annual Report and will indicate the dates of attendance.
D1	**Addressing Natural Resource Issues**	The District will monitor water-levels within District boundaries on an annual basis by measuring the water level of at least 5 wells.	The District's Annual Report will include a description of the number of wells measured and the monitoring results of the measured well for each year.
E1	**Addressing Drought Conditions**	The District will download at least one updated Palmer Drought Severity Index ("PDSI") map each month and will check for the regular updates to the Drought Preparedness Council Situation Report ("Situation Report") posted on the following website: http://www.txdps.state.tx.us/dem/sitrepindex.html.	The District will include the 12 monthly downloaded PDSI maps and Situation Reports in the Annual Report for each fiscal year.
F1	**Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control, Where Appropriate and Cost Effective**	The District will promote conservation at least once during each fiscal year by one of the following methods: a. distribute literature packets or brochures; b. conduct public presentations; c. sponsor an educational program/curriculum; d. provide information on the District's web site; e. submit newspaper articles to local newspaper for publication; f. present displays at local public events; g. annually conduct a local contest on water conservation; or h. conduct classroom presentations on conservation.	The District's Annual Report will provide a summary of the District efforts and a copy of any information provided by the District to the public during the previous fiscal year to promote conservation.

F2		The District will provide information relating to recharge enhancement on the District web site at least one time each fiscal year.	Each year, the District's Annual Report will include a copy of the information that has been provided on the District web site relating to recharge enhancement.
F3		The District will advocate rainwater harvesting each year by providing updated information about rainwater harvesting on the District web site at least once each fiscal year.	The Annual Report for the District will include a copy of the information on rainwater harvesting which has been provided on the District web site within the previous fiscal year.

Appendix 1. Pineywoods Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**GROUNDWATER QUALITY PROTECTION MEASURES**	Maintain a constant awareness of activities which may be or become a threat to the quality of groundwater and be prepared to adopt rules, resolutions, orders and/or directives to address the issue.	Annually review the Minutes of Board Meetings to determine if all water quality issues considered by the Board were addressed. This review will be included in the annual report to the Board of Directors.
B1	**WASTE**	Determine waste as defined in the Rules of the District and the Water Code and respond to reports of waste within 4 days.	Annually review all reported sources of waste, and if corrective actions were taken when warranted. A summary that includes the number of reports of waste and the number of days the District took to respond to each report of waste will be included in the annual report to the District Board of Directors.
C1	**PROVIDING FOR THE MOST EFFICIENT USE OF GROUNDWATER**	Each year, beginning in FY2002, the District will require the registration of all new wells drilled within the District's jurisdiction and the District will require a permit for all non-exempt wells, new and existing.	Each month at regularly scheduled meetings the General Manager reports to the District Board of Directors the number of new and existing wells registered with the District and the number of applications received for new wells within the District.
D1	**DROUGHT CONDITIONS**	The District shall call for the most efficient use of groundwater by all users in the District to maintain sufficient groundwater aquifer resources during periods of drought and for future resources by preventing waste and by regulation of users, if necessary, to prevent depletion of the aquifers. To	Periodically review the Texas Palmer Drought Index and the Texas Drought Preparedness Report, and monitor production figures quarterly. A summary of any drought conditions will be given to the Board of Directors in the annual report along with any recommendations and make necessary changes, as

		work closely with groundwater users and provide assistance where it is possible to control customer usage as it is outlined in their Drought Contingency Plans.	needed.
E1	**WATER CONSERVATION PROGRAMS**	Maintain a constant review of all projects to ensure that they are using the best available technology. Publish a newsletter at least quarterly and include some educational information to promote conservation. Provide public education at any opportunity to promote conservation.	Annually review all projects to determine if they are using best available technology and if educational materials are benefiting the conservation program. This review will be included in the annual report to the Board of Directors.
F1	**INFORMATION**	Publish current information and or reports in the newsletter and other local news media as they become available.	Annually verify that each edition of the newsletter contains current information and or reports about water conservation and waste prevention. This review will be included in the annual report to the Board of Directors.
G1	**EDUCATION**	Inform people about the benefits, goals, programs, duties and responsibilities of the District.	Annually review programs the District has provided or helped to provide which inform people about the goals, programs, duties and responsibilities of the District**,** and determine if more is needed and can be done to promote the District and its benefits. This review will be included in the annual report to the Board of Directors.
G2		Inform the cities and rural areas of the District about the benefits of providing conservation education to the schools through the newsletters and other correspondence.	Periodically review school education programs that cities and rural areas have began. This review will be included in the annual report to the Board of Directors.

Appendix 1. Plum Creek Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Efficient Use of Groundwater**	1. The District will establish the PCCD Aquifer Water Level Observation Well Program with at least 6 observation wells located according to management zones within the District, and measure those wells at least once quarterly. 2. The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at least one printed publication, such as a brochure, and public speaking at service organizations and public schools as provided for in the District's Public Education Program. 3. The District will use its best efforts to obtain information on water being produced from areas in Caldwell County that are outside the boundaries of the District. 4. The District will use its best efforts to obtain information on groundwater being produced from groundwater aquifers in counties surrounding the District as well as in areas close to the District that are not in groundwater districts to develop information about impacts of such production on groundwater in the District.	1. Establish the PCCD Aquifer Water Level Observation Well Program and its criteria, and begin quarterly measurements of at least 6 of the observation wells within one year following the adoption and certification of this plan. 2. Water levels at these observation wells will be measured a minimum of once quarterly. 3. PCCD representatives will circulate at least one publication and notice speaking appearances each year. 4. PCCD representatives will attend and participate in GMA meetings appropriate to the District's regulatory authority. 5. PCCD will periodically seek information from nearby groundwater districts not in the same GMA but drawing from the same aquifers regulated by the District.
B1	**Controlling and Preventing Waste of Groundwater.**	The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at least one printed publication, such as a brochure.	A number of publications and speaking appearances by the District each year.
C1	**Control and Prevent Subsidence**	Subsidence is unlikely to occur in the Plum Creek Conservation District. The District historically has not experienced any subsidence. Accordingly, the District's Plan does not contain any "Management Objective" or related "Performance Standards" to address the issue of non-existent subsidence. Alluvium is poorly consolidated, but generally too thin to experience measurable (if any) subsidence due to groundwater withdrawals.	

D1	**Conjunctive Use of Surface and Groundwater**	Each year the District will confer at least once with the Guadalupe-Blanco River Authority (GBRA) and other local political subdivisions and water and wastewater utilities on cooperative opportunities for conjunctive resource management.	1. The number of conferences with the GBRA, other political subdivisions and water and wastewater utilities, on conjunctive resource management each year. 2. The District will continue to monitor progress of the Plum Creek Watershed Project.
E1	**Develop a Management Strategy to Address Drought Conditions**	The District will develop and adopt a Drought Management Strategy Plan for groundwater under the authority of the District within five years of the adoption and certification of this plan, and thereafter review it annually, and revise it if necessary. The plan will be implemented when specified conditions require. After its adoption, the Board will periodically review and update the Plan based upon the availability of additional scientific data collected by or presented to the Board.	1. Development and adoption of a Drought Management Strategy Plan within five years of the adoption and certification of this plan. 2. Review all of the conditions and requirements specified in the Drought Management Strategy Plan that would trigger implementation on an annual basis. 3. Determine the necessity of a program to monitor rainfall for timing of effects on groundwater availability during droughts.
F1	**Address Natural Resource Issues That Impact the Use and Availability of Groundwater and Which are Impacted By the Use of Groundwater**	1. Each year the District will confer at least once with a representative of the Texas Railroad Commission (RRC) on the impact of oil and gas production or waste and disposal operations associated with oil and gas production on groundwater availability and quality, as well as the impact of groundwater production on the production of oil and gas in the District. 2. Also, during each year the District will evaluate all permit applications for new production injection or disposal wells permitted by the Railroad Commission, if any are filed, and the information submitted by the applicants on those wells prior to drilling, in order to assess the impact of these wells on the groundwater resources in the District.	1. The number of conferences with a representative of the Texas RRC each year; 2. The addition of available RRC well data to the District's database; 3. Monthly reports to the PCCD Board of Directors on the number of new well permit applications filed, and the possible impacts of those new wells on the groundwater resources in the District; and 4. Annual reports to the Board about consumption and use of groundwater for commercial purposes, including irrigation uses and enhanced oil and gas production when information is available.
G1	**Conservation of Groundwater including Rainwater Harvesting, Brush Control, and/or Recharge Enhancement of Groundwater Resources in the District**	1. The District will provide educational leadership to citizens within the District concerning this subject. The educational efforts will be through at least one printed publication, such as a brochure produced either by the District or produced by others and made available by the	1. A number of publications by the District each year. 2. The District staff will complete its investigation of the feasibility of using Brush Control to enhance recharge within the District and report its findings and recommendations to the Board.

		District. Each of the following topics will be addressed in the publications: A. Conservation B. Rainwater Harvesting C. Brush Control 2. The District will encourage and support projects and programs to conserve and/or preserve groundwater, and/or enhance groundwater recharge by annually. 3. The District will evaluate the feasibility using Brush Control to enhance recharge within the District. 4. The District will continue to sponsor and monitor development of the Plum Creek Watershed Project.	**3.** The staff will consider recommendations from and report to the Board on any recommendations of the Plum Creek Watershed Project upon completion of the Project.
H1	**Mitigation & Desired Future Conditions of Groundwater Resources**	1. Once the Desired Future Conditions of Groundwater Resources in the District have been established, the staff will then assess the need and benefit of adopting a mitigation plan for the District on an annual basis, with the first study to be completed within one year of the adoption and certification of this plan. Upon determining the need for a mitigation plan, the District will prepare a draft plan, seek public comment, hold appropriate hearings and adopt a plan for mitigation within one year of the assessment that finds a need for a mitigation plan. The plan will be reviewed on an annual basis thereafter. Possible practices for mitigation within the District would include producers funding projects that are included in a natural or artificial recharge plan adopted under the following paragraph 11, establishing fees to fund infrastructure in areas of the District in which groundwater was but is no longer readily available, and producers contracting to provide water to such areas at or near their cost.	Review of groundwater resources in the District in comparison with the Desired Future Conditions of those resources once they are established and preparation of a recommendation for any mitigation actions within six (6) months following establishment of desired future conditions.
I1	**Precipitation Enhancement**	The District will assess the need and opportunity for precipitation enhancement in the District at	Annual evaluation and reports to the Board about the status of ongoing studies of the possibility

		least once every five years, with the first study to be completed within five years of the adoption and certification of this plan. Upon determining the need for precipitation enhancement, the District will adopt a plan for precipitation enhancement within two years of the assessment for the need for precipitation enhancement. The District will review that plan on an annual basis. Possible practices for precipitation enhancement in the District would be cloud seeding.	of precipitation enhancement actions within the District to increase groundwater resources available in the District.
J1	**Natural or Artificial Recharge Enhancement of Groundwater Within the District**	The District will gather data to further the scientific understanding of recharge of the groundwater supplies within the District. The District will then assess the need and opportunity for recharge enhancement in the District at least once every five years, with the first study to be completed within five years of the adoption and certification of this plan. Upon determining the need for recharge the District will adopt a plan for natural and/or artificial recharge within two years of the assessment for the need of that recharge. The plan will be reviewed on an annual basis. Possible practices for recharge in the District would be Brush Management or construction of surface ponds in key recharge areas.	1. Develop data relating to recharge, purifying and groundwater levels in the District. 2. Annually report to the Board on recharge data.

Appendix 1. Post Oak Savannah Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Efficient Use of Groundwater**	The District will establish the POSGCD Aquifer Water Level Observation Well Program with at least 10 observation wells located according to management zones within the District, and measure those wells at least once annually.	Establish the POSGCD Aquifer Water Level Observation Well Program and its criteria, and begin measurements of at least 10 of the observation wells within one year following the adoption and certification of this plan. Number of observation wells measured annually by the District. Water levels at these observation wells will be measured a minimum of once annually.
A2		The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at	The number of publications and speaking appearances by the District each year under the District's Public Education Program.

		least one printed publication, such as a brochure, and public speaking at service organizations and public schools as provided for in the District's Public Education Program.	
B1	**Controlling and Preventing Waste of Groundwater.**	The District will provide educational leadership to citizens within the District concerning this subject. The activity will be accomplished annually through at least one printed publication, such as a brochure, and public speaking at service organizations and public schools as provided for in the District's Public Education Program. The District will also offer at least one grant, during years when the District's revenues remain at a level sufficient to fund the program, to sponsor the attendance of students at summer camps/seminars that place emphasis on the conservation of water resources.	The number of publications and speaking appearances by the District each year, and the number of grants offered and students actually accepting and attending an educational summer camp or seminar.
C1	**Conservation of Groundwater including Rainwater Harvesting, Precipitation Enhancement, Brush Control, and/or Recharge Enhancement of Groundwater Resources in the District**	The District will provide educational leadership to citizens within the District concerning this subject. The educational efforts will be through at least one printed publication, such as a brochure, and at least one public speaking program at a service organization and/or public school as provided for in the District's Public Education Program. Each of the following topics will be addressed in that program: A. Conservation B. Rainwater Harvesting C. Brush Control	The number of publications and speaking appearances by the District each year under the District's Public Education Program.
C2		The District will offer to sponsor the attendance of at least one student at summer camps/seminars that place emphasis on the conservation of groundwater, groundwater recharge enhancement, or precipitation enhancement of water resources. The District will encourage and support projects and programs to conserve and/or preserve groundwater, and/or enhance groundwater recharge by annually funding the District's Groundwater Conservation and	The number of students sponsored to attend a summer camp/seminar emphasizing the conservation of water. Annual funding, when applicable, for the District's Groundwater Conservation and Enhancement Grant Program, and the number of projects and programs reviewed, approved, and funded under that program.

		Enhancement Grant Program, during years when the District's revenues remain at a level sufficient to fund the program. The objective of this program is to obtain the active participation and cooperation of local water utilities in the funding and successful completion of programs and projects that will result in the conservation of groundwater and the protection or enhancement of the aquifers in the District. The qualifying water conservation projects and programs will include, as appropriate, projects that: result in the conservation of groundwater, reduce the loss or waste of groundwater, recharge enhancement, rainwater harvesting, precipitation enhancement, brush control, or any combination thereof. The District's objective is to benefit the existing and future users of groundwater in the District by providing for the more efficient use of water, increasing recharge to aquifers, reducing waste, limiting groundwater level declines, and maintaining or increasing the amount of groundwater available, by awarding at least one grant under the program in each county annually.	
C3		The District will implement the POSGCD Well Closure Program. The objective of the well closure program is to obtain the closure and plugging of derelict and abandoned wells in a manner that is consistent with state law, for the protection of the aquifers, the environment, and the public safety. The District will conduct a program to identify, inspect, categorize and cause abandoned and derelict water, oil and gas wells to be closed and plugged, by annually funding the program or segments or phases of the program appropriate to be funded in such fiscal year. The District will fund the closure of at least one abandoned well during years when the District's	Annual funding, when applicable, for the District's Well Closure Program, and the number of wells closed and plugged as a result of the Well Closure Program.

		revenues remain at a level sufficient to fund the program.	
E1	**Conjunctive Use of Surface and Groundwater**	Each year the District will confer at least once with the Brazos River Authority (BRA) on cooperative opportunities for conjunctive resource management.	The number of conferences with the BRA on conjunctive resource management each year.
F1	**Develop a Management Strategy to Address Drought Conditions**	The District will develop and adopt a Drought Management Strategy Plan within five years of the adoption and certification of this plan, review it annually, and revise it if necessary. The plan will be implemented when specified conditions require.	Development and adoption of a Drought Management Strategy Plan within five years of the adoption and certification of this plan.
G1	**Address Natural Resource Issues That Impact the Use and Availability of Groundwater and Which are Impacted By the Use of Groundwater**	Each year the District will confer at least once with a representative of the Texas Railroad Commission (RRC) on the impact of oil and gas production on groundwater availability, as well as the impact of groundwater production on the production of oil and gas in the District.	The number of conferences with a representative of the Texas RRC each year.
G2		Also, during each year the District will evaluate all permit applications for new wells, if any are filed, and the information submitted by the applicants on those wells prior to drilling, in order to assess the impact of these wells on the groundwater resources in the District.	Monthly reports to the POSGCD Board of Directors on the number of new well permit applications filed, and the possible impacts of those new wells on the groundwater resources in the District.
H1	**Mitigation**	The District will assess the need and benefit of adopting a mitigation plan for the District on an annual basis, with the first study to be completed within one year of the adoption and certification of this plan. Upon determining the need for a mitigation plan, the District will prepare a draft plan, seek public comment, hold appropriate hearings and adopt a plan for mitigation within one year of the assessment that finds a need for a mitigation plan. The plan will be reviewed on an annual basis thereafter. Possible practices for mitigation within the District would include producers funding projects that are included in a natural or artificial recharge plan adopted under the following paragraph 11, establishing fees to fund infrastructure in areas of	

		the District in which groundwater was but is no longer readily available, and producers contracting to provide water to such areas at or near their cost.	
I1	**Precipitation Enhancement**	The District will assess the need and opportunity for precipitation enhancement in the District at least once every five years, with the first study to be completed within five years of the adoption and certification of this plan. Upon determining the need for precipitation enhancement, the District will adopt a plan for precipitation enhancement within two years of the assessment for the need for precipitation enhancement. The District will review that plan on an annual basis. Possible practices for precipitation enhancement in the District would be cloud seeding.	
J1	**Natural or artificial Recharge Enhancement of Groundwater Within the District**	The District will assess the need and opportunity for recharge enhancement in the District at least once every five years, with the first study to be completed within five years of the adoption and certification of this plan. Upon determining the need for recharge the District will adopt a plan for natural and/or artificial recharge within two years of the assessment for the need of that recharge. The plan will be reviewed on an annual basis. Possible practices for recharge in the District would be Brush Management or construction of surface ponds in key recharge areas.	

Appendix 1. Rusk County Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**Efficient Use of Groundwater**	The District will require all new exempt or non-exempt wells that are constructed within the boundaries of the District to be registered with the District in accordance with the District rules.	Issue permits within 20 days of application. Each Year the number of exempt and non-exempt wells registered by the District for the year and a list of any permits that were not issued within 20 days with the cause and corrective action taken, will be incorporated into the Annual Report submitted to the Board of Directors of the District.
A2		Establish a Groundwater Database for all water wells in the District. The database shall include information relating to well location, production volume, and other information deemed necessary by the District to enable effective monitoring of groundwater in Rusk County.	Document all new and existing wells by 2010. Each Year the number of new and existing groundwater wells added to the database will be presented in the Annual Report submitted to the Board of Directors of the District.
A3		Provide Public Education Opportunities.	Disseminate educational information regarding the hydro-geologic cycle and status of aquifers through at least two articles in Rusk County newspapers, posting on the District internet website, and as needed responses to public inquiries. The Annual Report to the Board of Directors of the District will reflect educational achievements through newspaper articles, the number of hits on the Districts web site, and the number of responses to public inquiries annually.
B1	**Minimize Waste of Groundwater**	Public Education	The District will provide educational leadership to the citizens of the District concerning this subject through at least one printed publication per year, public speaking at least once per year at service organizations or public schools, and wasteful practices posted on the Districts internet website. Each Year the number of publications and speaking appearances by the District each year will be presented in the Annual Report submitted to the Board of Directors of the District
B2		Identify wasteful practices.	a) Write and adopt rules to regulate wasteful practices by December 2008. b) Track Water Quality Issues. c) Initiate a District wide program to identify the location of all abandoned wells by January 2010. d) Develop and adopt guidelines, setting forth the period of time allowed, for abandoned well owners to insure voluntary compliance with Texas Water Code well plugging requirements by January 2010. e) Report unplugged abandoned water wells to the well

			owners and Board within thirty (30) days of discovery. a) Hold public hearing on proposed rules to regulate wasteful practices by December 2008. b) Report achievements in the District's Annual Report. c) Provide TECQ and TWDB an annual status report on unplugged abandoned water wells beginning in 2010.
C1	**Conjunctive Surface Water Management Issues.**	The District will actively participate with Municipal and County Governments to encourage the development of additional surface water sources for Rusk County.	Selected board members will attend at least one planning meeting per year with municipal and county government groups addressing surface water options. Each Year, the progress made by Municipal and County Governments will be submitted to the Board of Directors in the Annual Report on advancements made toward increasing surface water availability and reduction of demand on the aquifers in the county.
C2		Coordinate conjunctive surface water issues with the East Texas Regional Water Planning Group.	The District will participate in the regional planning process by attending at least 50% of the East Texas Regional Water Planning Group meetings per year. A report will be made by the board's representative at each board meeting of the Rusk County Groundwater Conservation District, updating the Board on conjunctive surface water issues being discussed by the ETRWPG.
D1	**Addressing Drought Conditions**	The District will develop and adopt a Drought Contingency Plan for the Rusk County Groundwater Conservation District within one year of the adoption and certification of this plan, review it annually, and revise it if necessary.	A contingency plan to cope with the effects of water supply shortages due to climatic or other conditions will be developed by the District and will be adopted by the Board after notice and hearing. In developing the contingency plan, the District will consider the economic effects of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro geologic conditions of the aquifer and the appropriate conditions under which to implement the contingency plan. a) Development and adoption of a Drought Contingency Plan within one year of the adoption and certification of this plan. b) The Annual Report to the Board of Directors of the District will reflect any implementations of the Drought Contingency Plan in that year. The report will include an appraisal of the plans effectiveness and suggestions for revisions to the plan.
E1	**Addressing Conservation**	Public education on groundwater conservation.	The District will issue at least two articles per year in Rusk

			County newspapers and on the District internet website regarding water conservation issues applicable to the residence of Rusk County. Copies of the articles posted on the District website regarding groundwater conservation will be included in the Annual Report to the Board of Directors.
F1	**Total Usable Amount of Groundwater**	The total usable amount of groundwater for the Carrizo-Wilcox Aquifer located in Rusk County shall be "Near Sustainability," which is a reasonable and attainable goal for the residents of Rusk and the surrounding counties. Near Sustainability is defined as allowing up to an average drawdown of the aquifer between 2010 and 2050 not to exceed 10 feet. This objective is based on the Texas Water Development Board's (TWDB) Groundwater Availability Model (GAM) and other applicable and available data analyzed by LBG-Guyton Associates and Hydrex Environmental, using the best available science. The District recognizes that the GAM is a model and may be based on inaccurate and/or out of date assumptions. The district reserves the right to adjust its total usable amount of groundwater based on new data, as it is available. By allowing up to an average drawdown of up to 10 feet, the aquifer will sustain increased groundwater withdrawal of up to 10,000 af/yr. Currently, the estimated amount of groundwater pumped within Rusk County annually is 7,963 acre-feet.	The RCGCD has contracted with Hydrex Environmental to increase the aquifer monitoring program from 15 sites within the county to approximately 100 sites. Aquifer levels will be monitored at least quarterly for all additional sites. Aquifer levels will be evaluated against recorded precipitation within the county. If the average drawdown of the aquifer in Rusk County exceeds 8 feet for more than two consecutive months the District will implement the Drought Contingency Plan (DCP). The DCP will be lifted after the average aquifer level drawdown is less then 8 Feet for two consecutive months. If the average drawdown of the aquifer in Rusk County exceeds 10 feet for more than two consecutive months, issuance of non exempt permits will be halted until the average aquifer drawdown is less than 8 feet for two consecutive months. a) Establish additional aquifer level monitoring sites by the end of 2008. b) Set the average aquifer level for the County from the data gathered by January 2010. c) Publish the data gathered on the districts web site quarterly beginning in 2009. d) Share this data with the TWDB annually. e) Report average quarterly aquifer levels in the annual report to the Board of Directors.

Appendix 1. Uvalde County Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	**To Control and Prevent the Waste of Groundwater**	Each year the District will provide education materials concerning waste, which is prohibited under the District rule, to the newspapers and to the general public on at least six occasions	(a) The District will provide to a newspaper of general circulation within the District at least six newspaper articles and/or public service announcements on an annual basis, including those that may be posted on the District's Web site. (b) The District will investigate all written reports of waste of

			groundwater within five working days from the date the report is filed with the District.
B1	**Addressing Natural Resource Issues that Impact the Use and Availability of Groundwater and Are Impacted by the Use of Groundwater**	Each year the District will cooperate with interested parties and appropriate agencies to develop additional information on aquifer recharge and weather modification projects.	(a) The District will establish terms for all aquifer recharge, transportation, or storage project permits. The District shall take into consideration all applicable factors and requirements of the District's rules and state law. (b) The District will make all information available to the District on such projects available to the general public and to permit applicants annually. (c) The District shall require owners or operators of all aquifer pumping, recharge, transportation, or storage projects affecting the district to obtain a permit amendment if the use, volume of groundwater pumped, location of, or means of transportation, recharge, or storage changes from the manner in which it was originally permitted.
B2		The District will require issuance of a well construction permit, or preregistration of exempt wells not requiring a construction permit, prior to the drilling of all new wells for all aquifers under the District's jurisdiction.	All well construction permits in compliance with the District rules will be issued within 20 days. Well construction permits not in compliance with the rules, as determined by the General Manager, will be considered at the next regular board meeting, but within 90 days of the General Manager's determination of the application's compliance with District rules.
C1	**Providing for the Efficient Use of Groundwater within the District**	Each year the District will make available educational brochures to the public promoting and explaining conservation methods and concepts, on at least one occasion.	The District will make educational material available at least one time per year through service organizations, and on a continuing basis at the District Office.
C2		Each year, the District will provide informative speakers to school and civic groups to raise public awareness of practices that ensure the efficient use of groundwater.	Each year, the District will make at least two public speaking appearances to promote the efficient use of groundwater.
D1	**The Control and Prevention of Subsidence**	The geologic framework of the District Area precludes any significant subsidence from occurring. This management goal is not applicable to the operations of the District.	

E1	**Addressing Conjunctive Surface Water Management Issues**	Except as provided in Chapter 36 of the Texas Water Code, the District has no jurisdiction over surface water. The District shall consider the effects of surface water resources as required by Section 36.113 and other state law.	
F1	**Addressing Conservation**	The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in Uvalde County.	A copy of the article submitted by the District for publication to a newspaper of general circulation in Uvalde County regarding water conservation will be included in the Annual Report to the Board of Directors.
G1	**Addressing Drought Conditions**	Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Water Information Network website www.txwin.net.	Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to the

Appendix 1. Wintergarden Groundwater Conservation District			
#	**Goal**	**Management Plan Objectives**	**Performance Standard**
A1	***Efficient Use of Ground Water.***	District will continue monitoring and recording data from the five (5) Carrizo Aquifer well/monitors.	The District will assimilate data from the aquifer water level monitors and present to the Board monthly.
B1	***Controlling and Preventing Waste of Groundwater.***	The District will at least on two (2) occasions each year provide public information on water conservation and waste prevention through public speaking appearances at public schools, and civic organizations or newspaper articles.	A. The number of speaking appearances made by the District each year. B. The number of newspaper articles published by the District each year.
C1	***Address Conjunctive Surface Water Management Issues.***	Each year the District will confer at least on one occasion with the Nueces River Authority on cooperative opportunities for conjunctive resource management.	The number of conferences on conjunctive resource management opportunities held with Nueces River Authority each year.
D1	***Address Natural Resource Issues that Impact the Use and Availability of Groundwater.***	Each year the District will insure that all new wells permitted for construction within the District, comply with the District construction standards through monitoring of the State of Texas water well report	The number of newly permitted water wells within the District monitored for compliance will be reported to the Board annually.

		required to be provided to the District by water well drillers.	
D2	***Address Natural Resource Issues that Impact the Use and Availability of Groundwater.***	Each year the District will insure that all new wells permitted for construction within the District, comply with the District construction standards through monitoring of the State of Texas water well report required to be provided to the District by water well drillers.	The number of newly permitted water wells within the District monitored for compliance will be reported to the Board annually.
E1	***Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, Brush Control, Where Appropriate and Effective.***	The District, in partnership with the Texas A & M Research Center, Uvalde, Texas, will maintain and provide a Weather Station centrally located in the District.	Hourly and average daily temperatures are available as a Precision Irrigation Network online at http://uvalde.tamu.edu/pet/ to prescribe daily irrigated crops use/need for precipitation.
E2		The District will monitor existing recharge structure and evaluate how natural or artificial recharge may be increased for the groundwater resources within the District via the existing structure and/or new sites.	The number of recharge sites monitored will be at least one site annually. The number of acre feet of captured rainwater in the recharge pit will be documented and reported to the Board of Directors annually.
E3		The District will participate in and manage the Southwest Texas Rain Enhancement Association cloud seeding project for eight months of each calendar year with five counties (Dimmit, La Salle, Uvalde, Webb, and Zavala Counties) in the target area. The project will be for precipitation increase and groundwater conservation. The project is also involved in hail suppression.	The Southwest Texas Rain Enhancement Association annual report will be provided to the Board as well as anyone interested by January 31 of the following year. The day-to-day (each mission) reports are also available next day to the Board of Directors and any interested individual.
E4		Brush Control – Recharge Enhancement and Conservation Project in partnership with the Texas A & M Research Center, Uvalde, Texas, in La Salle County.	Four (4) sites consisting of a control (no treatment – root plowed) freshly treated site – 5-year post treated, and 15-year post treated sites will be instrumented and data collected biweekly as to moisture depth and penetration and retention in relation to woody vegetation. Periodic updates will be forwarded to the Board of Directors and kept on file along with an annual report at the close of the project year. At the end of the project, data will be published in a scientific, peer-reviewed journal.
F1	Drought Contingency Plan	Each month the District will download the Palmer Drought Severity Index (PDSI) map and check the	As required, the staff will assess the status of drought in the District and when needed, prepare a briefing with maps and

		updates to the Drought Preparedness Council Situation Report posted on the Texas Water Information Network website www.txwin.net.	situation reports for the Board of Directors. Monthly downloads will be filed for future use.
G1	Desired Future Condition	The District in conjunction with neighboring districts within our Groundwater Management Area will utilize the planning committee to develop the Desired Future Conditions of the aquifer.	This goal is not applicable to the District at the time of plan adoption.