

# **Groundwater Management through Groundwater Conservation Districts**

Texas Alliance of Groundwater Districts

## **New Frontiers in Texas Water Policy**

In 1997, the Texas Legislature enacted Senate Bill 1, landmark legislation that instituted a bottom-up approach to state water planning through 16 regional groups representing the diversity of stakeholders. Senate Bill 1 confirmed that groundwater conservation districts “are the state’s preferred method of groundwater management” but prevented districts from prohibiting the export of groundwater. Senate Bill 1 also placed additional restrictions on exporting surface water from one river basin to another.

As a result, there is new interest in potential profit to be made from “water ranching” or groundwater marketing. Developments on this front raise the question of how to balance the private property rights of all landowners, ensuring that all benefit equitably from the groundwater resources beneath their land.

The first groundwater conservation district in Texas was established in 1951. Over the next 50 years, another 49 districts were created. Currently, 84 groundwater conservation districts have been created and confirmed by local voters and 5 districts are pending confirmation. With the new groundwater conservation districts formed in the last few years, some 89 percent of Texas’ groundwater resources are now being managed by districts (Figure 20-1). However, many of the newer districts are still in the process of developing and implementing their management plans. At the same time, most carry out their responsibilities with limited financial resources. In addition, they face real challenges in communicating their roles and responsibilities to landowners. In a November 2003 survey, members of the Texas Alliance of Groundwater Districts almost unanimously singled out “misinformation” as one of the largest problems facing new groundwater conservation districts.

In that same survey, members overwhelmingly agreed that “water marketing is one of the most serious issues facing Texas today” and that groundwater conservation districts offer a number of different management options that create a balance to the Rule of Capture. The critical issues surrounding the use and sale of groundwater in Texas demand careful and thorough attention.

## **Local Management of Local Groundwater Resources**

Texas is unique in the diversity of its aquifers. Recharge rates and features, depth of water tables, storage capacity, and water quality differ widely across this great state. Because of this, Texas has chosen to put management of groundwater resources in the hands of local stakeholders through groundwater conservation districts. The laws governing groundwater conservation

- Confirmed Groundwater Conservation Districts**
1. Anderson County UWCD
  2. Bandera County River Authority and Groundwater District
  3. Barton Springs/Edwards Aquifer CD
  4. Bee GCD
  5. Blanco-Pedernales GCD
  6. Blanco-Perdrie GCD
  7. Brazoria County GCD
  8. Brazos County GCD
  9. Brewster County GCD
  10. Central Texas GCD
  11. Clear Fork GCD
  12. Clearwater UWCD
  13. Coastal Bend GCD
  14. Coastal Plains GCD
  15. Coke County UWCD
  16. Collingworth County UWCD
  17. Corpus Christi GCD
  18. Cullbertson County GCD
  19. Edwards Aquifer Authority
  20. Emerald UWCD
  21. Evergreen UWCD
  22. Fayette County GCD
  23. Fox Crossing Water District
  24. Garza County Underground And Fresh WCD
  25. Garza County GCD
  26. Garza County GCD
  27. Goliad County GCD
  28. Goliad County GCD
  29. Guadalupe County GCD
  30. Hays Trinity GCD
  31. Headwaters GCD
  32. Hemphill County UWCD
  33. Hickory UWCD No. 1
  34. High Plains UWCD No. 1
  35. Hill County UWCD
  36. Hood County UWCD #1
  37. Horn County UWCD
  38. Kennedy County GCD
  39. Kinney County GCD
  40. Kinney County GCD
  41. Kinney County GCD
  42. Lipan-Kidapoo WCD
  43. Live Oak UWCD
  44. Llano Estacado UWCD
  45. Lone Star GCD
  46. Lone Wolf GCD
  47. Lost Pines GCD
  48. Madeline County GCD
  49. Madeline County GCD
  50. Menard County UWCD
  51. Mesa UWCD
  52. Mid-East Texas GCD
  53. Middle Pecos GCD
  54. Middle Trinity GCD
  55. Neches & Trinity Valleys GCD
  56. North Plains GCD
  57. North Plains GCD
  58. North Plains GCD
  59. Pecos GCD
  60. Pecos GCD
  61. Pecos GCD
  62. Pecos GCD
  63. Pecos GCD
  64. Pecos GCD
  65. Pecos GCD
  66. Pecos GCD
  67. Pecos GCD
  68. Pecos GCD
  69. Pecos GCD
  70. Pecos GCD
  71. Pecos GCD
  72. Pecos GCD
  73. Pecos GCD
  74. Pecos GCD
  75. Pecos GCD
  76. Pecos GCD
  77. Pecos GCD
  78. Pecos GCD
  79. Pecos GCD
  80. Pecos GCD
  81. Pecos GCD
  82. Pecos GCD
  83. Pecos GCD
  84. Pecos GCD

- Pending Groundwater Conservation Districts**
85. Duval County GCD + 6
  86. Lawaca County GCD + 6
  87. Lower Trinity GCD + 6
  88. Lower Trinity GCD + 6
  89. Starr County GCD + 6
- Substance Districts**
- Harris-Galveston Substance District
  - Fort Bend Substance District
- Other Districts**
- 1. No District
  - 2. Created by the 79th Legislature
  - 3. No District
- Disclaimers**
- Districts that have, in whole or part, authority as assigned by Chapter 36 of the Texas Water Code.
  - These substance districts are not Groundwater Conservation Districts as defined under Chapter 36 of the Texas Water Code, but have the ability to provide to someone else (not from the 79th Legislature Session)

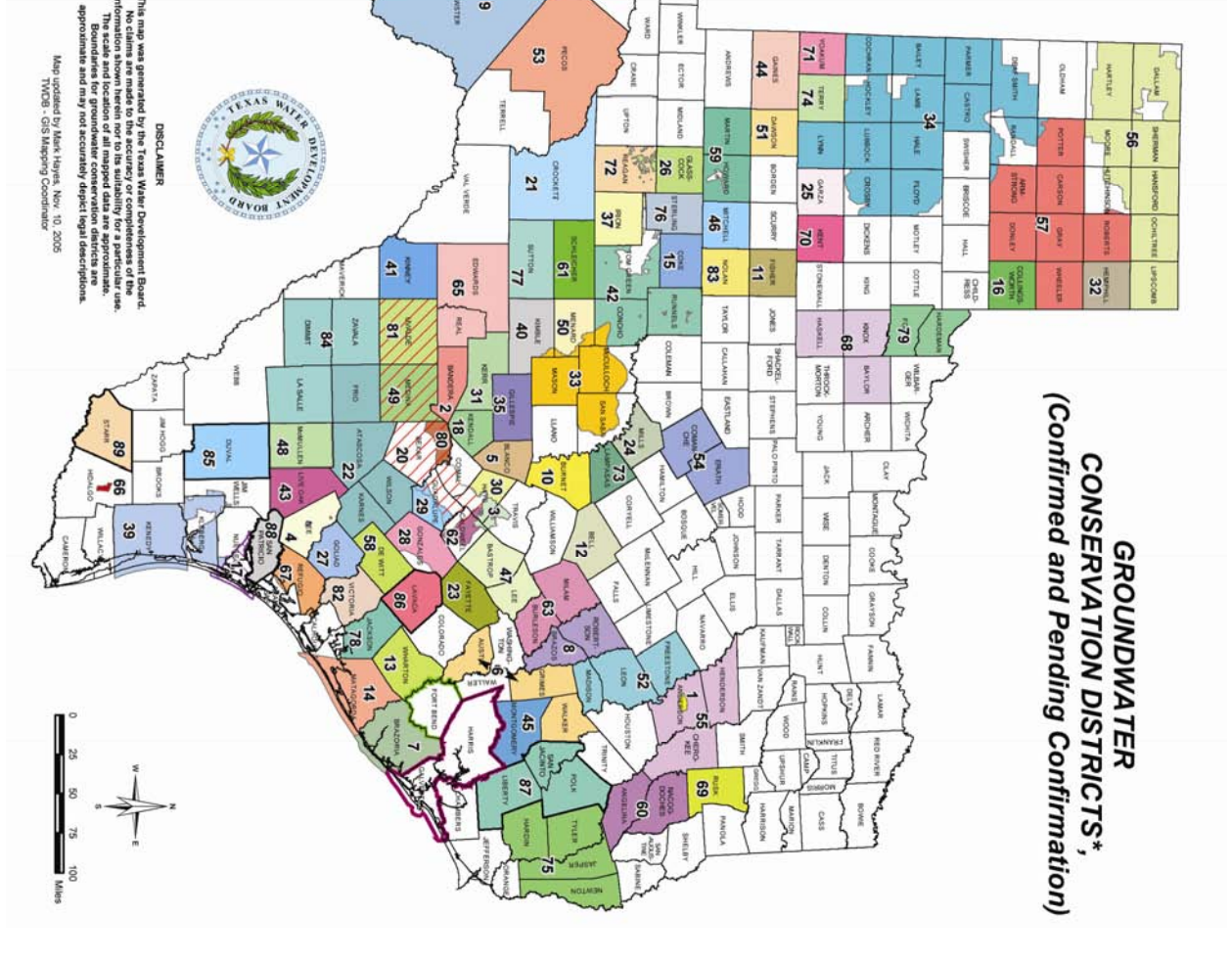


Figure 20-1. The locations of groundwater conservation districts throughout Texas.

districts are properly constructed to provide districts with flexibility to respond to the unique conditions of their particular geology and local circumstances.

Local groundwater conservation districts can set well-spacing requirements and pumping limits to ensure that pumping on one property minimizes draw-down of the water table on another. These rules can be modified as needed due to changes in population, water demand, and water table. Through these rules, districts help protect private water rights.

In areas where there is no groundwater conservation district, the “Rule of Capture” prevails. In such areas, groundwater pumping is basically unregulated. Landowners can pump as much water as they choose, without liability or regard for wells on adjacent properties.

## **Groundwater Conservation Districts Form Regional Alliances to Better Manage Groundwater Resources**

The geological formations that contain aquifers stretch beyond the political boundaries that frame individual groundwater conservation districts. A single aquifer may supply users who are separated by hundreds of miles and represented by distinct districts.

Groundwater conservation districts have recognized the real need for coordinating activities of districts that rely on the same aquifer. Many have teamed up to share staff and other resources.

In a major initiative, groundwater conservation districts are establishing alliances that help coordinate a regional approach to groundwater management strategies.

*The West Texas Regional Groundwater Alliance* was among the first such regional partnerships. The forerunner of the alliance was created in 1988 by Coke County Underground Water Conservation District, Glasscock County Groundwater Conservation District, Irion County Water Conservation District, and Sterling County Underground Water Conservation District. As new districts were created in adjacent counties, they too adopted the “Cooperative Agreement” providing for continuity of groundwater monitoring and protection in the region. In 1996, the agreement was redrafted, and the West Texas Regional Groundwater Alliance formed. Currently, the alliance includes 12 districts that encompass some 17,800 square miles of West Texas that overlie the Edwards-Trinity (Plateau) aquifer, one of the state’s major aquifers. Joining the four original members are Emerald Underground Water Conservation District, Hickory Underground Water Conservation District #1, Lipan-Kickapoo Water Conservation District, Lone Wolf Groundwater Conservation District, Menard County Underground Water Conservation District, Plateau Underground Water Conservation and Supply District, Santa Rita Underground Water Conservation District, and Sutton County Underground Water Conservation District.

The West Texas Regional Groundwater Alliance coordinates activities among member districts to promote their common objective of conserving, preserving, and providing for the beneficial use of groundwater resources. Members enjoy economies of scale by collaborating on planning, educational activities, workshops, model rules, well plugging, and legal services. Districts coordinate services, such as water quality analyses, mapping needs, computer training, and field equipment.

Other districts have formed similar regional partnerships:

- *The Carrizo-Wilcox Aquifer Alliance* was established in 1999 to provide for coordinated management of groundwater in South Texas. Members include Medina County Groundwater Conservation District, Evergreen Underground Water Conservation District, Bee Groundwater Conservation District, Live Oak Underground Water Conservation District, Gonzales County Underground Water Conservation District, and Wintergarden Groundwater Conservation District.
- *The Hill Country Groundwater Conservation District Alliance*, also formed in 1999, includes the Hays Trinity Groundwater Conservation District, Barton Springs-Edwards Aquifer Conservation District, Blanco-Pedernales Groundwater Conservation District, Hill Country Underground Water Conservation District, Cow Creek Groundwater Conservation District, Trinity Glen Rose Groundwater Conservation District, Headwaters Groundwater Conservation District, Bandera County River Authority and Groundwater District, and Medina County Groundwater Conservation District.
- *The Far West Texas Alliance of Groundwater Districts*, established in January 2004, encompasses Brewster County Groundwater Conservation District, Culberson County Groundwater Conservation District, Hudspeth County Underground Water Conservation District #1, Jeff Davis County Underground Water Conservation District, Middle Pecos GCD, and Presidio County Underground Water Conservation District. These districts cover two major aquifers and eight minor aquifers.
- *The South Texas Regional Groundwater Alliance* also was formed in early 2004. Its members include Live Oak Underground Water Conservation District, Bee Groundwater Conservation District, Goliad County Groundwater Conservation District, Evergreen Underground Water Conservation District, Refugio Groundwater Conservation District, Pecan Valley Groundwater Conservation District, and Crossroads Groundwater Conservation District.

## **Groundwater Conservation District Roles & Responsibilities**

Most groundwater conservation districts are created through legislation, usually introduced by the local state senator or representative at the request of landowners or other stockholders. Landowners can petition the Texas Commission on Environmental Quality to form a groundwater conservation district or request annexation into an existing adjacent groundwater conservation district. The Texas Commission on Environmental Quality can also create a groundwater conservation district where there is proven need for a district.

Most groundwater conservation districts must be confirmed by local voters. Texas law guarantees local control by requiring that all districts be managed by locally elected or appointed directors who live within district boundaries. Districts may be funded by different mechanisms, including pumping fees, administrative fees, and ad valorem taxes.

Groundwater conservation districts are required by law to develop and submit a groundwater management plan for state certification. The plan must provide for the most efficient use of local groundwater resources, control of land subsidence, and prevention of water waste. In addition,

the plan must include provisions related to drought, conservation, natural resource issues, and conjunctive surface water issues.

Each district also must:

- adopt rules needed to implement the plan,
- keep records on water wells and the production and use of groundwater,
- permit and register certain wells, and
- adopt and follow administrative and financial procedures.

*This page intentionally blank.*