

**Hays Trinity Groundwater Conservation District**



**A: Brief History of Organization and Description of Existing Services**

**District Mission**

Given the critical importance of water to life, and of that part of the water cycle called groundwater to local families, agriculture, commerce, and wildlife habitat, the Hays Trinity Groundwater Conservation District (District) works to conserve, preserve, recharge and prevent waste of groundwater within western Hays County. To help accomplish these goals, the District is charged to: gather information needed for sound decisions, to provide that information to citizens and local agencies, and to insure that groundwater is used efficiently and at sustainable rates.

**General Description of the District**

The District is a political subdivision of the State of Texas. It was created in Chapter 1331, Acts of the 76<sup>th</sup> Legislature, Regular Session, 1999 and in Act of May 27, 2001, 77<sup>th</sup> Legislature, Regular Session, Chapter 966, Part 3, 2001 Texas General Laws 1880 (S.B.2) (collectively, enabling legislation). The District was confirmed by popular election on May 3, 2003. The enabling legislation and Texas Water Code Chapter 36 authorize the District to make and enforce rules that are reasonably consistent with the District Management Plan and its guiding principles including Special District Local Laws Code, Chapter 8843. The District encompasses the western 54.4 percent, approximately 370 square miles, of western Hays County. The District’s boundary is divided into five, single-member districts and serves approximately 36,500 residents according to the 2010 census.

When the District was created, insufficient funding alternatives were allowed; as a result the District has an “under-funded mandate” with an important mission. It attempts to manage the long-term availability of groundwater in order to keep water wells pumping, keep springs and streams flowing that will maintain the attractive quality of life in the area for managed economic growth. This challenge was brought into focus sharply during the 2011 drought when Hays County wells and streams were running dry and local residents were concerned about future water supply. The groundwater district, with locally elected directors, is charged by the State to work with Regional Planning Groups and Groundwater Management Area 9 to address water supply issues. The HTGCD requires ongoing financial assistance from Hays County to meet these obligations.

## Current Programs

- 1) The District has an ongoing educational outreach program with local schools, business groups and the general public to provide an awareness of groundwater basics including: the District's role in the community; the benefits of water conservation; the hydrogeology of the Hill Country Trinity Aquifer System; and groundwater management. The HTGCD maintains an information-rich website providing, among other subjects, data on drought-awareness, drought trigger updates, local rainfall, water level monitoring, on-line well registration and electronic application forms. These readily accessible files act as an information resource for home owners, drilling contractors, local businesses and District residents.
- 2) Gather and maintain a district data base including: the production and use of groundwater; permit activity; financial records; drilled water wells; technical documents such as geophysical logs, aquifer test results and subsurface geological samples; and hydrographs derived from monitor wells. This data is made available to both the public and to other government entities in report form, on the district website and at regularly scheduled meetings.
- 3) Joint planning for achieving the Desired Future Condition (DFC) of the Hill Country Trinity Aquifer over the next 50 year period (2060) in Groundwater Management Area 9 (GMA 9), in accordance with the Texas Water Code 36.108 and 36.1071. In July, 2010 the GMA 9 adopted a 30 foot DCF draw-down of the Trinity Aquifer. The Texas Water Development Board (TWDB) calculated a Modeled Available Groundwater (MAG) based on the DFC and provided District and Aquifer totals for Trinity Aquifer groundwater management. The TWDB Board of Directors re-affirmed the GMA 9 decision of the 30 foot DFC on March 1, 2012.
- 4) District staff monitors and collects water levels in 34 local wells on a monthly basis. In addition, data is collected from 9 district-maintained "transducer-wells" each quarter. Further, data is also collected and downloaded using 3 telemetry satellite system wells. This data set is transcribed into hydrographs for each well and entered on the district website. Historically and during the recent Central Texas drought, these graphs provided valuable information to the public and to groundwater management groups.
- 5) District staff monitors and records drought conditions from the National Weather Service-Climate Prediction Center website. In addition, the district monitors websites that record daily flow from United States Geological Survey (USGS) gauging stations on the Blanco and Pedernales Rivers. This information is used to identify and classify drought stages within the county and is made available to the Board of Directors and posted on the district website. Drought conditions and water conservation strategies are provided to the public via the website, drought signs and at regular Board meetings.
- 6) Hydrogeological projects including geophysical log correlation, field work and cuttings sample descriptions are ongoing. Cooperative technical projects including data exchange with adjoining groundwater districts provide the district with the opportunity to evaluate the Trinity Aquifer beyond local boundaries. Geotechnical meetings and literature studies keep the District staff current with groundwater activity. Lectures and reviews of the "Hydrogeologic Atlas of the Hill Country Trinity Aquifer" are provided to aid the general public and elected officials better understand the aquifer in Hays County.
- 7) Lower Trinity Project: An ongoing specific hydrogeological project designed to evaluate the groundwater quality and availability of the Lower Trinity Aquifer in western Hays County. The majority of District groundwater pumping emanates from the Middle Trinity Aquifer. With a yearly increase in pumping discharge and a reduction of recharge during dry periods, the Middle Trinity aquifer has ceased to produce water in parts of the county. The Lower Trinity Aquifer has been under-utilized in the past and requires additional evaluation.
- 8) HTGCD Rules Committee: During 2011 the Board of Directors established a Rules Committee to review, update and revise the District's Rules. The committee consisted of Directors, staff and volunteers. It met

several times each month and often had guest contributors. Draft revisions were posted on the District website providing ample time for the public to review and submit comments. The Board of Directors has also met during public hearings to review and discuss draft revisions. The District, after a period of over one-year, approved the rules on April 3, 2013. A copy of the revised rules can be found on the District's website. Revision and review of the District's Rules is an on-going project.

- 9) Hydrogeologic Atlas of the Hill Country Trinity Aquifer – Part 2: A Hydrogeologic project conducted jointly with neighboring groundwater districts – BSEACD, BPGCD, EAA, TP&WL and independent consultants. The project is a natural adjunct to the “**Hydrogeologic Atlas**” published by the group in July 2010. The goals of the project include: a detailed Hydrogeologic interpretation of the Blanco River Valley and correlation to Cypress Creek, including structural geology, lithostratigraphy, hydrologic assessment of stream flow data, water levels, geochemical analysis and spring evaluation (identification and description of the major artesian Pleasant Valley Spring located in the bed of Blanco River, Hays County); and an analysis of Middle Trinity dewatering and Lower Trinity groundwater production in northeastern Hays County. Fieldwork and data collection for the Project began in 2013; analyses, interpretation and plate construction continues through 2014. Peer review, final draft and publication anticipated for early 2015.

### **Recent Accomplishments**

- 1) Education and Community Outreach: The District produced two important educational videos in 2011, “Exploring the Trinity Aquifer” and “HTGCD Background”. Both videos were produced locally and are specific to Hays County groundwater issues. These short documentaries provide insight on the inner workings of the District and outline some basic hydrogeological concepts of the Trinity Aquifer System. They are intended for public use and can be found easily on the District's home page and on the Hays County website.
- 2) The Austin Geological Society “Guidebook 33”, published November 2011, was presented to a group of professional geoscientists during a field trip to eastern Blanco and northern Hays County. The HTGCD participated in the presentation and contributed to the publication. The guidebook provides an in depth study of local geology and discusses the hydrogeology of the Trinity. It is available through the Bureau of Economic Geology, University of Texas. The guidebook also includes a copy of the entire publication, “Hydrogeologic Atlas of the Hill Country Trinity Aquifer”, published July 2010.
- 3) A number of important changes and improvements have been made to the District website which now includes current data from: 3 telemetry systems using the latest satellite technology; hydrographs from 8 transducer-wells; additional monitoring wells and transducer sites; the information collected also includes precipitation levels. The public can access more specific well data by scrolling over the hydrograph to read both elevation and surface to top of water table measurements. Other website additions include sections such as: “Agendas / Meeting Minutes”, which allows for easier access to the District's meeting documents; “Permit Pending Applications”, which displays submitted applications; “Drought Stage History”, which displays the different stages of drought including the current May 1<sup>st</sup> Critical drought stage; an update to the District's application submittal process under “Forms” which allows applicants to electronically submit forms; and an update to the District's “Water Level Monitoring” map including a user friendly legend.
- 4) Negotiated groundwater permit renewals, permit amendments and new operating permits. This critical, basic function of the groundwater district often requires onsite inspection, data base research and meetings with applicants. New District Rules further aid the process and allow the public further information and

avenues to submit comments. District staff has been successful in streamlining routine renewals and works closely with the permittee on resolving administrative issues.

- 5) Updated the entire set of 2007 District Rules. As previously stated, over a year of rule committee meetings and posted public hearing meetings have shaped the revised 2013 Rules. Input collected included: legal review, public comments, District staff comments, rule committee members, volunteers and Board of Directors comments. A copy of the rules is on the District website and is available to the public, drilling contractors and interested parties.
- 6) GMA 9: HTGCD participated in numerous meetings, hearings and work sessions during the approval process for the GMA 9, Desired Future Conditions for the Trinity Aquifer System. After public hearings and considerable comment and debate, the Board on July 15, 2010 adopted the recommended GMA 9 DCF of a 0' to 40' average regional drawdown of the Trinity Aquifer over a 50 year period. With the subsequent TWDB Modeled Available Groundwater (MAG) and the TWDB approval of the adopted DCF, the GMA 9 member districts have completed the initial phase of the process. The HTGCD participated with financial support, \$2,500, and technical review of the GMA9 commissioned 2014 report "Comparison of Groundwater Monitoring Data with Groundwater Model Results" by Dr. William Hutchinson. The report compared actual water level measurements to TWDB modeled water levels used in the GMA9 Trinity Aquifer MAG. One of the conclusions was that the water table had declined less than the predicted, modeled drawdown. The various possibilities for the discrepancy are still to be evaluated.
- 7) Continued efforts in subsurface mapping and cooperation with the Blanco Pedernales Groundwater Conservation District and the Barton Springs Edwards Aquifer Conservation District to extend the detailed hydrogeological model of the Trinity beyond the political boundaries of each district.
- 8) Transportation: The District purchased and completed payments in 2012 for a field vehicle as a requirement for well monitoring, site inspection, field work and public awareness. For the past ten years the District has used personal vehicles for field work which has proved to be unreliable.

#### **Current Number of Staff**

- Rick Broun, General Manager- Salary
- Tressy Gumbert, Administrative Assistant- Salary

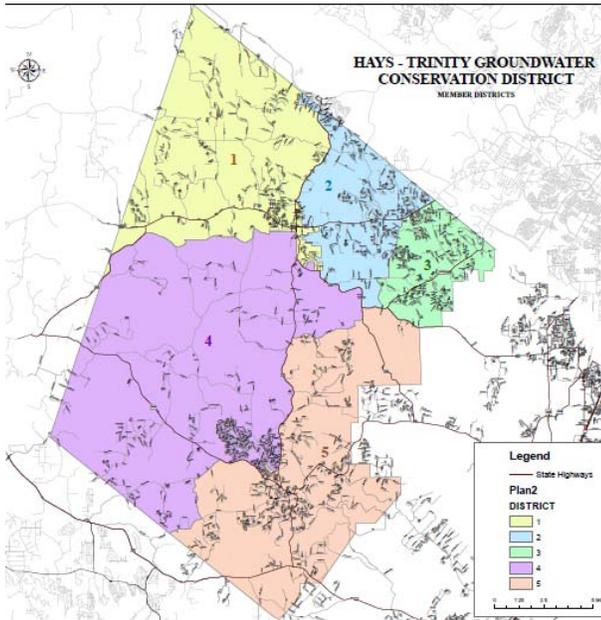
#### **Volunteers**

- Al Broun, P.G. 4845, District Geologist: Licensed professional Geologist, 50+ years of experience: 30+ hours per week
- Elected Board of Directors who contribute a minimum of 15 hours a month
- District Hydrogeological Projects: Several local, professional geoscientist volunteers have made themselves available for consultation on specific geotechnical projects

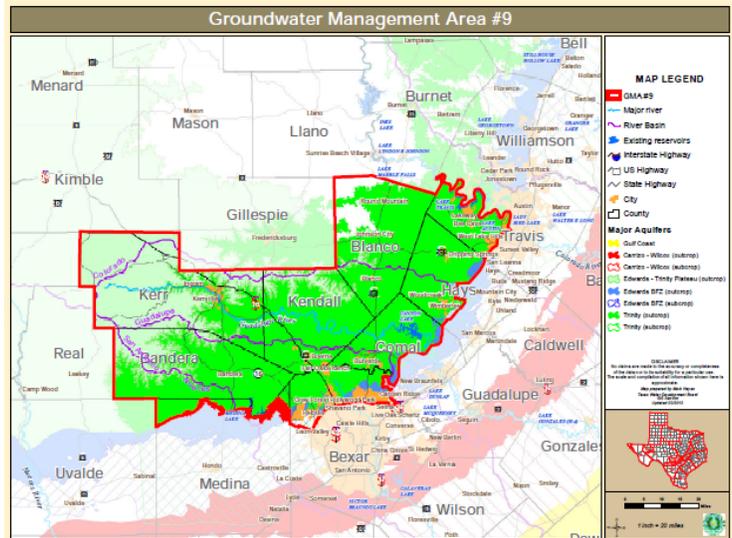
#### **Current Population Served per Year**

Using the latest 2010 census there are 36,519 residents within the District boundaries. In addition to being the Recharge Zone for the Trinity Aquifer, most of the District's area is classified by the TCEQ as the "Edwards Aquifer Contributing Zone". Therefore, all of the District's efforts, both technical and administrative, have a direct bearing on the health and sustainability of groundwater for residents in all of Hays County.

### Geographic Location Served



Map 1: HTGCD District Boundaries



Map 2: GMA 9 Boundaries

State Well Number 5764705 is 114.16 feet below land surface on 2014-05-18

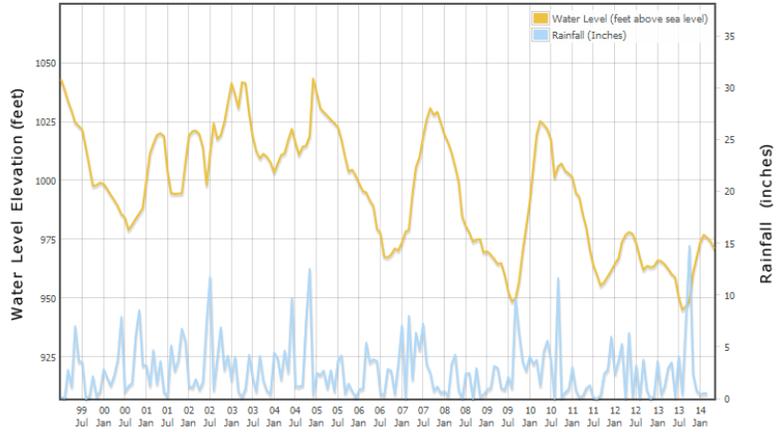


Map 3: Hydrograph of Mount Baldy Well: 2006 - 2014

# Henly Church

30° 11' 46" NORTH  
98° 12' 45" WEST

Total Well Depth: 460  
Elevation: 1325.8920



Map 4: Hydrograph of Henly Church Monitoring Well: 1999 - 2014



Map 5: HTGCD Location Map of Monitored Wells: Henly and Mount Baldy circled in RED

## B: Description of Need for Funding

The District was created without sufficient means to fund itself making it unique compared to neighboring groundwater Districts who tax their constituents or charge production fees. In 2013, revised legislation 8843 specifically addressed HTGCD's financial needs allowing the District to charge up to \$1,000 as a fee for each new well or connection within its boundaries. On August 21, 2013, the District Board voted to establish the following fee schedule of \$600 per new well or connection effective November 1, 2013. Given the new fee schedule and estimating that the number of new wells (78) and connections (57) will remain constant, HTGCD income is expected to reach \$81,000 by 2015. With anticipated 2015 expenditures of \$214,000, the District continues to be challenged to complete its mandated tasks without financial assistance from grants. The District remains steadfast in its goal to accomplish its responsibilities for the public good.

Ongoing financial support from the County will allow the District to continue its efforts to: manage the Trinity Aquifer; work with GMA 9, Region K and Region L on groundwater supply planning; and to educate the public and elected officials on groundwater issues within western Hays County. The District also has a critical role in contributing to the stewardship of both the Edward's and the "deep" Trinity Aquifers in all of Hays County. Our educational outreach includes implementing new ideas to reach different age groups and groundwater users.

- The HTGCD has ongoing plans to get the district water-conservation message out to the public through the use of the recently completed videos, newspaper articles, meetings and technical presentations. Without public commitment and cooperation, water-conservation in western Hays County is not possible.
- District staff continues to develop ideas to provide a "Water Education Guide" with practical information to anyone interested in moving to, or currently living in, western Hays County. The intention is to work with local real estate and title companies, welcome centers and municipalities.
- The Lower Trinity Project: Hydrogeological work and data collection began in 2012 in re-evaluating the potential of the Lower Trinity Aquifer. A preliminary map was made in northern Hays County showing wells completed in the Hosston and a cross section was constructed to show projected rock types. The following activities are ongoing:
  1. Telemetry instrumentation with the capabilities of transmitting real time water level data has been purchased and has been installed in a "deep" Hosston borehole along Ranch Road 12 in northern Hays County. TWDB installed the transducer and equipment for the District. The well has been logged (geophysical log) and the cuttings samples described to create a completion log. Other Lower Trinity wells are currently being reviewed for possible additional transducer monitoring. Cost estimates for each new transducer well added to the system: \$1,200. The District will also pursue joint projects with other interested parties. The HTGCD estimates adding 3 telemetry systems over the next three years at a cost of \$5,500 each.
  2. Data from the completed Aqua Texas Lower Trinity, Woodcreek test well has been evaluated and incorporated into the regional lithostratigraphic framework. The Lower Trinity Project Committee worked closely with the operator to evaluate the geologic strata and the water availability test data. Poor reservoir performance was disappointing at this location but Hosston groundwater production is widespread in Hays County. The District continues in its evaluation of Lower Trinity groundwater potential.
- Professional hydrogeologists: The district would work with and contract licensed professional geoscientists to interpret aquifer test results, plan geochemical groundwater sampling and other hydrologic projects. Hydrogeology majors currently attending university may be hired part-time and used to aid in field work.
- Continue monitoring water levels and collecting data from key wells throughout the district. Staff will identify additional well locations for monthly, manual readings (e-line or sonic) and for the installation of new transducers - automatic water level recorders. New wells will be key to monitoring and recording DFC

water-level drawdown and, to better understand the Lower Trinity aquifer. This data base will be added to the district website and provided to GMA 9 member districts. It is only from synoptic water level interpretation and mapping that the DFC can be measured.

- Continue to acquire, interpret and record subsurface hydrogeologic data from new boreholes; Expand the current district data base with the addition of new well registrations, permits, pumping, public water supply connections and forecast groundwater supply based on historic usage and Modeled Available Groundwater. Update and revise the district website to provide readily accessible information to the public.
- Work closely with and provide data to GMA 9 member districts and with Region L and Region K as required by legislation. The District participated, with data and funding, in a GMA9 supported Trinity Aquifer analysis and technical report by a contract consultant in 2013-2014. The District anticipates additional funding requests from GMA9 in 2014-2015.
- District staff will continue to register new wells and to develop and update new forms for online application. They will evaluate non-exempt, pumping permit-renewals and work to ensure that all new applications are administratively complete and that they meet district and State of Texas drilling and well completion regulations. The analyses and recommendations of the Rules Committee was packaged and presented to the public and to the District Board for discussion and adoption.

The District's efforts to collect data, perform research, understand the aquifer, and educate the public are critical not only to its 36,500 constituents but to all of Hays County. Continued financial support will ensure that educational and scientific projects, mentioned above, will carry on and be available to the County and to the public. Maintaining an experienced District staff through the application of industry standard personnel policies (medical insurance) will provide stability and continuity to the District. Creating a more informed populace will result in a healthier and more sustainable aquifer.

### **C: Current and Projected (FY 2015) Sources of Grant Revenue or Income**

- 1) Hays County Commissioner's Court: 2013-2014 \$125,000 ( Current)
- 2) Hays County Commissioner's Court: 2014-2015 \$125,000 ( Proposed)

### **D: Plans for Funding after the Grant Period**

As stated earlier, the HTGCD was created in 2001 without sufficient means to fund itself. Over the past several years, grant assistance from Hays County has been the main source of funding. In 2013, new legislation, 8843, specifically designed to provide the District with added revenue was passed by the Texas Legislature. This new bill allows the HTGCD to charge up to a \$1,000 fee for new wells and connections. On August 21, 2013, the District Board approved a one-time fee schedule of \$600 (double the past amount) for all new wells and connections. Income therefore, is dependent on continued drilling of new water wells and added connections in western Hays County. This uncertainty makes budget forecasting difficult. Using past new well and connection records, it is estimated that the District could generate an income of \$81,000 in 2015. This would result in an estimated negative expenditure balance. In the future, with fee increases and resurgence in drilling, the HTGCD may be able to reduce its funding reliance on the County.

### **E. Plans for Evaluation**

In addition to mandatory, routine administration and operational practices and procedures, the HTGCD maintains two broadly defined, ongoing near-term objectives: "Educational outreach" and Geotechnical/Research". District staff is also

dedicated to maintaining a growing data base, updating Rules and Guidelines, and providing the Board of Directors with operational recommendations. The District Management Plan, the Annual Report, yearly Budget forecast and analysis, yearly audit, meeting minutes and the District website provide ample opportunity to evaluate plans and progress. Additional near-term funding and technical support for GMA9 projects is anticipated if the Region is to comply with its DFC obligations.

Educational Outreach:

- District staff and board members will work to improve contacts and to provide information to members of the local business community and to municipal and county government. This would include emphasis on water conservation, rain-water collection, the state of the aquifer and drought management practices.

Geotechnical/Research:

- Hydrogeologic Atlas of the Hill Country Trinity Aquifer-Part 2: The District is participating with neighboring groundwater districts, Texas Parks and Wildlife and independent contractors, on an extension to the “Hydrogeologic Atlas”, published 2010. The results of this basic research will provide an improved understanding of the hydrogeology of the Blanco River Valley and added information on both the Middle and Lower Trinity Aquifers in Hays County. Project publication is expected early 2015.
- Collect and analyze groundwater samples from local wells for geochemical analysis using the TWDB or other competitive laboratories. Generate a report.
- Contract a licensed professional hydrogeologist to review and analyze aquifer test data and to aide staff in planning technical projects.
- Contract a logging company to run appropriate geophysical logs in a minimum of two local wells. Collect and describe cuttings samples. Correlate subsurface data to infill and update district maps.
- Add new water-level monitor wells; purchase and install new transducers or telemetry instrumentation. Work with GMA 9 member districts to coordinate stewardship of the DFC process and monitor water table drawdown.
- Lower Trinity Aquifer Project: Evaluate aquifer potential of both Sligo and Hosston formations: focus on groundwater quality and producibility within HTGCD boundaries. Generate a report with conclusions and recommendations.
- Onion Creek Project: Exploratory project to evaluate the hydrogeology of the upper reaches of Onion Creek- RR 165 Blanco County to Driftwood, Hays County.

**F: See attached current 2014 budget and proposed 2015 budget “F”**

**G: See attached Year-to-Date Balance Sheet “G”**

**H: Income Statement**

All Hays Trinity Groundwater Conservation District funding for 2014-2015 is derived from District fee collection (see “F” Approved 2014 Budget / Hays County Awards / Exempt Wells / PWS Connections. Projected income is totaled (see “F” Total Income) and distributed against forecast expenditures (see “F” Total Expenses).

### **I: List of Board Members and Staff**

- Jimmy Skipton: President, District 1
- Greg Nesbitt: District 2
- Mark Hastings: Secretary / Treasurer, District 3
- Linda Kaye Rogers: District 4
- Mike Cox: Vice-President, District 5
- Rick Broun: General Manager, District Staff
- Tressy Gumbert: Administrative Assistant, District Staff
- Alex S. Broun P.G. 4845, District Geologist, Staff Volunteer

### **J. Documentation**

1) The District has attached the most recent certified audit (2012) from certified public accountants: Neffendorf, Knopp, Doss & Company, P.C. Audits for years 2013 shall be submitted to our C.P.A. for review.

2) The District has never filed an IRS 990 form.

3) The District is a political subdivision of the State of Texas. It was created in Chapter 1331, Acts of the 76<sup>th</sup> Legislature, Regular Session, 1999 and in Act of May 27, 2001, 77<sup>th</sup> Legislature, Regular Session, Chapter 966, Part 3, 2001 Texas General Laws 1880 (S.B.2) (collectively, enabling legislation), Special District Local Laws Code: Chapter 8843, September 1, 2013.

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