

HEADWATERS GROUNDWATER CONSERVATION DISTRICT
ANNUAL REPORT
METHODOLOGY TO TRACK DISTRICT PROGRESS IN ACHIEVING
MANAGEMENT GOALS January 2024 Through December-2024

This report is created to; "Comply with the District Management Plan", "Provide an Annual Review for the GMA 9 committee for joint planning", and "Provide the Headwaters Groundwater Conservation District (the District) Board of Directors", information as to the District's performance standards in *achieving the Management Plan goals and objectives*. The current District Groundwater Management Plan was revised December 2021 and amended September 2023. The District's next five-year Management Plan is due on January 11, 2027.

Goal 1 - Provide the most efficient use of groundwater

The mission of the District is to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater in the County by developing and implementing rules that protect property rights, balance the conservation and development of groundwater to meet the needs of the County, and use the best available science in the conservation and development of groundwater. As specified in Section 36.101 (a), the District's rules (1) consider all groundwater uses and needs, (2) are fair and impartial, (3) recognize the landowner's ownership of and rights associated with groundwater as described in Section 36.002, and (4) consider the public interest in conservation, preservation, and protection of groundwater. To effectuate its purpose, the current District Rules regulate groundwater with a Production Cap per acre for Non-Exempt Wells; a Livable Minimum Standard per connection for new development and subdividing existing tracts of land; and minimum tract size requirements for drilling new Wells and subdividing tracts with existing Wells.

The District is committed to working with citizens, businesses, and other governmental entities to develop rules and policies that help provide for water conservation and management strategies to protect water resources for the benefit of the citizens, economy and environment of the County. The rules and procedures adopted by the District related to tracking the production of groundwater in Kerr County are pursuant to the Texas Water Code Chapter 36.

113-117; the best available science, technical evidence supplied by the Texas Water Development Board, and the *District's monitor Well program*.

The District requires an administratively complete application for all new Non-Exempt (Permit) Wells, and a registration form for all Exempt Wells drilled in Kerr County.

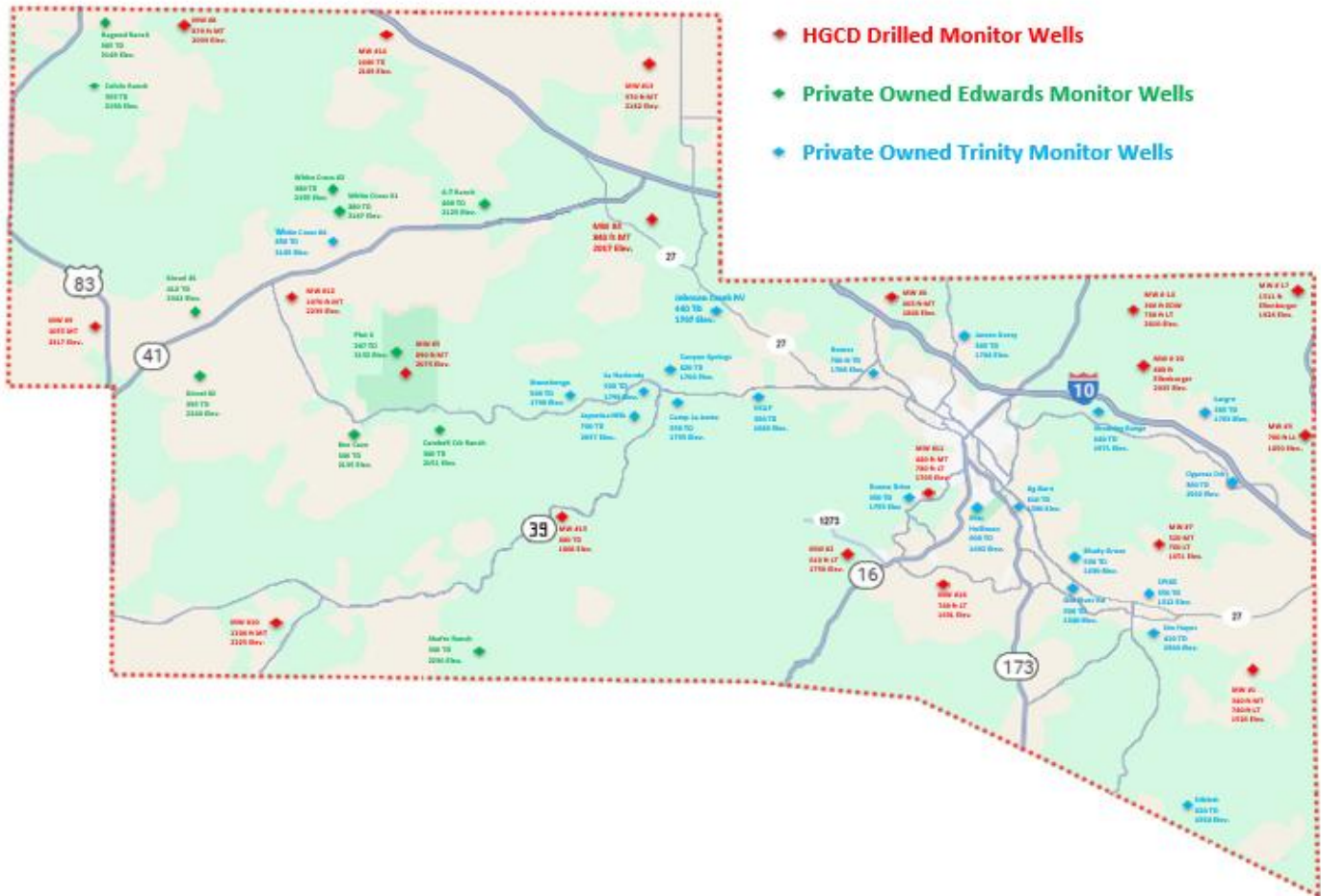
The District also has an ongoing program to register existing Wells not registered with the District as they are discovered to give a better understanding of the amount of groundwater being pumped in the County. For the year January 2024 through December 2024, 134 applications for new water Wells have been filed which includes 126 Exempt and 8 Permitted. Through December 2024, the District has record of 6,712 Exempt Wells and 357 Permitted Wells, a total of 7,069 Wells on file in Kerr County.

The District has distance requirements from water Wells to property line spacing guidelines in the District Rules to help prevent interference between Wells and recognize property owners' ownership of groundwater, Water Code 36.002.

The District staff performs Well site visits during drilling, cementing and completion operations. Well Drillers are required to file a "Certified Statement of Completion" for all new completed Wells. To collect data for all new Well pump installations, the District requires a "Certified Statement of Completion" for all new Well pump installations. Permit Wells are required to install a meter and report the annual production to the District. The total annual Permitted volume for all Permit Wells added to the estimated exempt pumping from Exempt Wells is the Districts current demand and is recorded in the District's Annual Groundwater Report.

The District's monitor Well program continues to gather data to provide a better understanding to be used in future planning for the District, Groundwater Management Area 9, and the Regional Water Planning Group (Region J). The District has drilled and completed 19 monitor Wells The District currently monitors approximately 41 Trinity, 1 Ellenburger, and 12 Edwards Wells. Well levels are provided to the Board of Directors, TWDB, and posted on the District website <https://www.hgcd.org/water-data> each month.

HEADWATERS GROUNDWATER CONSERVATION DISTRICT MONITOR WELL MAP



Goal 2 - Controlling and preventing waste of water.

The District issues authorization for the drilling of Wells to be used for a beneficial purpose as described in Water Code 36 001(9), that does not fall under the definition of waste, Water Code 36.001(8). Exempt Wells are regulated by pump capacity and use as stated in Water Code 36.117. Permit Wells are issued Operating Permits and are allocated an annual water use within the District's Production Cap of 80,000 gallons per acre per year, or 65,000 gallons per acre per year in the East Kerr Management Zone, for new Operating Permits. The District monitors and investigates reported occurrences of waste of groundwater. An article was published in a local newspaper discouraging wasteful practices.

Goal 3 - Addressing conjunctive surface water management issues.

A representative from the District is a voting member of the regional water planning group (Region J), and participates in the planning group's meetings regarding surface water supplies in the region. The District acknowledges conjunctive use in the District Rules and Permitting process.

Goal 4 - Address Natural Resources Issues.

Registration to drill is required for water Wells drilled that are associated with any natural resources project.

- Annual production from these Wells must be reported to the District.
- The District has rules that require all license drillers to monitor the total dissolved solids (TDS) during the drilling process to be able to seal off and report any injurious water encountered.
- Allowing spillage of any fluids, tailings or cuttings into any body of surface water or adjoining property is prohibited.
- A water quality analysis is required from all new Wells. Well owners are notified by the District when e-coli, total coliforms or injurious water is detected in the lab report.
- The District Rules provide a guide to proper Well spacing to maintain the required distance from any concentrated sources of pollution (TDLR 76.100) and property lines, if the Well is to be permanent.

Goal 5 - Addressing Drought Conditions.

For 2024, the District has monitored the water level in four Middle Trinity Drought Index Wells monthly; the levels in these Wells are used as drought stage triggers. The District has also initiated a Lower Trinity Drought Index Chart to be considered, along with the Palmer Drought Severity Index and the flow rate of the Guadalupe River at Kerrville, when drought stages are initiated. Notice of initiation or termination of drought stages are mailed to all permit Well/system operators, posted on the District website, and published in a local newspaper. The District has remained in Drought Stage 3 the entire year of 2024. Although it is not required, the plan encourages Exempt Well owners to conserve and restrict non-essential use during periods of drought. The District Drought

Contingency Plan is available on the District website <https://hgcd.org/helpful-links/drought-stage/>.

Goal 6 - Addressing Conservation.

The District Rules were revised May 10, 2023 to require a minimum of ten (10) acres to drill a well on a tract of land in Kerr County that was subdivided or platted on or after August 10, 2023. The District's mission is to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater in the County by developing and implementing rules that protect property rights, balance the conservation and development of groundwater to meet the needs of the County, and use the best available science in the conservation and development of groundwater. There are several conservation tips and links on the District website, <https://www.hgcd.org/links-to-water-information>. In 2024, the District has published a minimum of one newspaper article during the year to encourage conservation including not wasting and keeping non-essential use to a minimum. Operating Permits are issued for beneficial purpose and actual service need up to the maximum allowed by the District Production Cap.

Goal 7- Addressing Rainwater Harvesting.

Links are provided on the District Website to the Texas Manual on Rainwater Harvesting – 3rd edition, and sites that discuss rainwater basics, and provides contractors, landowners, and other rainwater harvesting system planning material to be able to capture, store, and use rainwater for landscaping. In 2024, the District mentioned the benefits of rainwater harvesting in at least one newspaper article annually.

Goal 8 - Addressing in a Quantitative Manner the Desired Future Conditions of the Groundwater Resources.

The District completes an annual desired future conditions (DFC) tracking report comparing current DFC Monitor Well levels to the 2008 base line levels. This report is provided to the HGCD Board of Directors and the GMA9 committee, and, is published on the District website. An annual groundwater report is also completed and provided to the HGCD Board of Directors. This report compares the annual operating permitted volume and the estimated exempt pumping volume provided by the Texas Water Development Board to the Modeled Available Groundwater (MAG) assigned to the District in GAM Run 21-014 MAG December 8, 2022 and compare the total volume to

the MAG, to achieve the adopted DFC. An HGCD District Representative is a voting member of the GMA9 Committee

HGCD DESIRED FUTURE CONDITIONS TRACKING REPORT 2008 THRU 2024										
DFC WELL LEVELS (DRAWDOWN COMPARED TO 2008) Middle and Lower Trinity Monitor Wells Drilled by HGCD							Current Available MAG			
Year	DFC Wells Middle Trinity Average	MT Drawdown from Baseline 2008	Gam Task 10-005 Scenario 6 DFC for MT	DFC Wells Lower Trinity Average	LT Drawdown from Baseline 2008	Gam Task 10-005 Scenario 6 DFC for LT	Year	Modeled Available Groundwater (MAG)*	Total **Current Demand - Permitted plus Exempt	Acre Feet left to Permit
2008	1537	0	56.8	1396	0	58.2	2008	15952	-11470	4482
2009	1529	-8	56.8	1369	-27	58.2	2009	15952	-11441	4511
2010	1542	5	56.8	1388	-8	58.2	2010	16435	-11554	4881
2011	1533	-4	56.8	1367	-29	58.2	2011	16435	-10672	5763
2012	1525	-12	56.8	1361	-35	58.2	2012	16435	-10730	5705
2013	1540	3	56.8	1360	-36	58.2	2013	16435	-11125	5310
2014	1537	0	56.8	1356	-40	58.2	2014	16435	-11650	4785
2015	1539	2	56.8	1357	-39	58.2	2015	14918	-11458	3460
2016	1542	5	56.8	1403	7	58.2	2016	14918	-11553	3365
2017	1541	4	56.8	1406	10	58.2	2017	14918	-11737	3181
2018	1541	4	56.8	1400	4	58.2	2018	14918	-10937	3981
2019	1547	10	56.8	1394	-2	58.2	2019	14918	-11244	3674
2020	1534	-3	56.8	1382	-14	58.2	2020	14918	-11669	3249
2021	1540	3	56.8	1390	-6	58.2	2021	14918	-11884	3034
2022	1539	2	56.8	1372	-24	58.2	2022	14918	-12211	2707
2023	1533	-4	56.8	1369	-27	58.2	2023	14918	-12775	2143
2024	1534	-3	56.8	1371	-25	58.2	2024	14918	-12615	2303
Lower Trinity Levels are influenced by the City of Kerrville ASR Wells					(*Updated GAM Run 21-014 MAG: **12/8/2022)			**Totals Provided from the HGCD Annual Groundwater Report		

Headwaters GCD

Total Estimated Exempt Use (by aquifer)

Aquifer	2020	2030	2040	2050	2060	2070	2080
Edwards-Trinity (Plateau)	1,180	1,368	1,562	1,761	1,979	2,197	2,220
Other	84	100	117	134	152	171	173
Trinity	1,551	1,844	2,145	2,455	2,794	3,134	3,170
Total	2,815	3,312	3,824	4,350	4,925	5,502	5,563

There are four management goals not applicable to the District.

- 1) Recharge Enhancement
- 2) Precipitation Enhancement
- 3) Brush Control
- 4) Controlling and Preventing Subsidence, the District has reviewed the Final Report: Identification of the Vulnerability of the Major and Minor Aquifers of Texas to Subsidence with regard to Groundwater Pumping, TWDB Contract Number 1648302062.

**The HGCD District Management Plan may be viewed on the District Website;
<https://hgcd.org/wp-content/uploads/2023/10/Adopted-HGCD-MAG-Amended-Management-Plan-091323.pdf>**