



## State of the District - Staff's Annual Report to the Board for FY 2022 – 2023

### COW CREEK GROUNDWATER CONSERVATION DISTRICT

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This report will summarize the Cow Creek Groundwater Conservation District's activities, water well information and management goals for FY 2022-2023 (October 1st, 2022 - September 30th, 2023).

### Well Registrations and Completions

**222** well registrations were filed with the District in **FY 22-23**. That number is down from **259** registrations filed in **FY 21-22** and up from 217 registrations filed in **FY 20-21**.

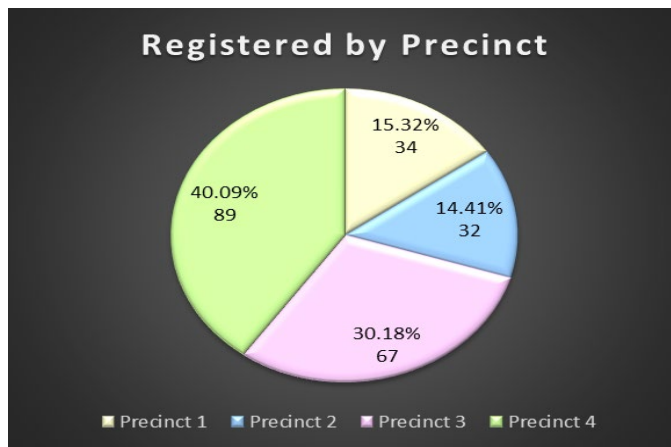


Chart depicts FY 22-23 registered wells by precinct.

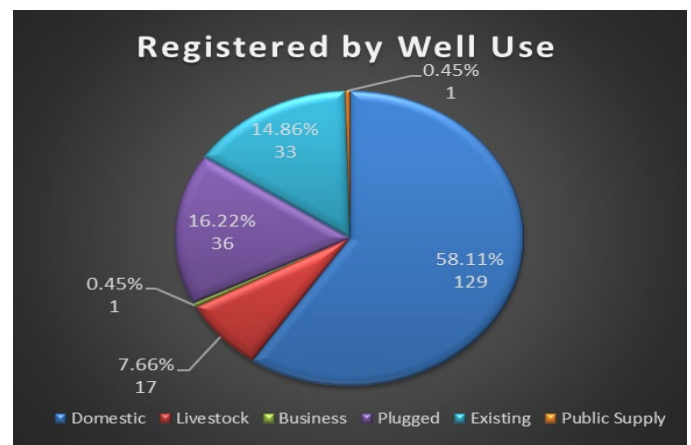


Chart depicts FY 22-23 registered wells by use.

The total number of wells completed in **FY 22-23** was **170**. This is down from the previous **FY 21-22** total of **179** and greater than the **FY 20-21** total of **146**. On average, **14** wells were completed monthly in **FY 22-23** compared to about **15** per month in **FY 21-22** and **12** in **FY 20-21**.

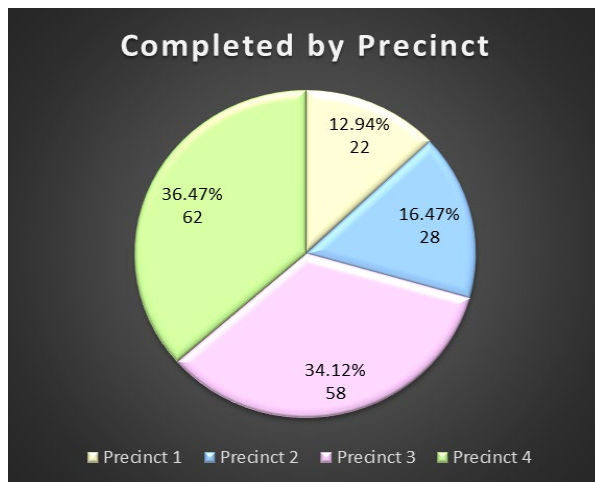


Chart depicts FY 22-23 completed wells by precinct.

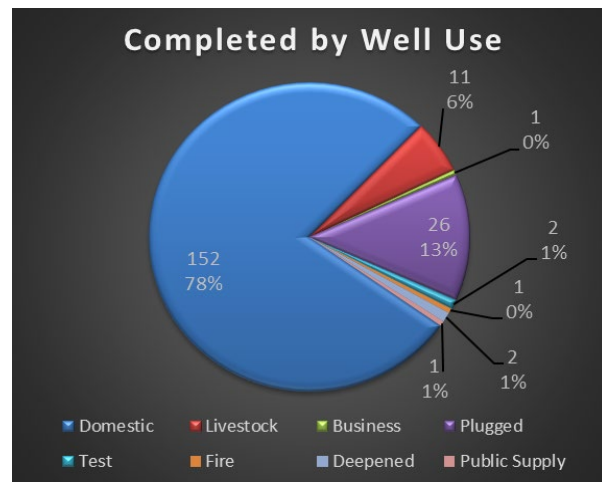


Chart depicts FY 22-23 completed wells by use.

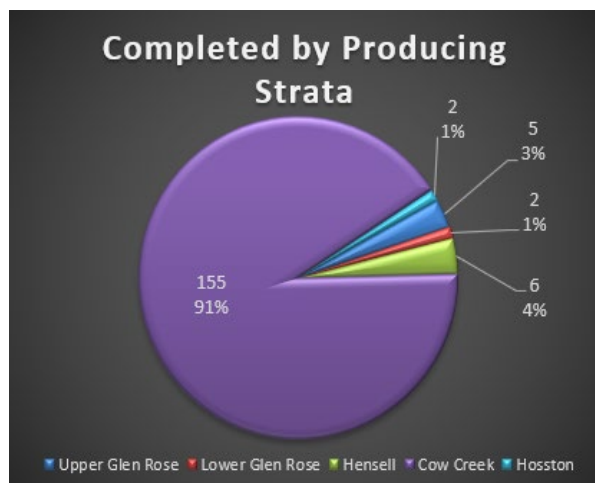


Chart depicts FY 22-23 completed wells by strata.

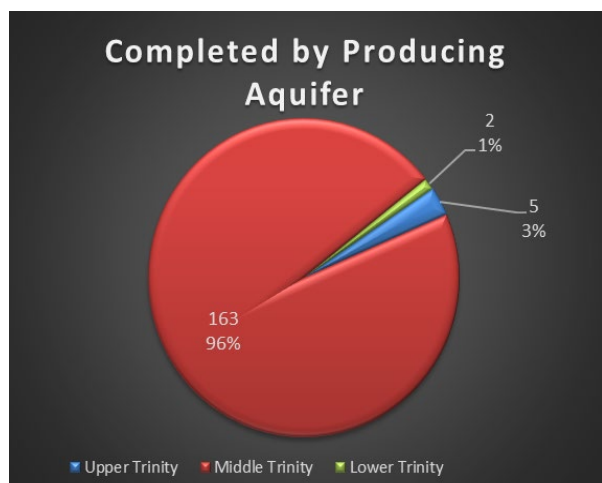
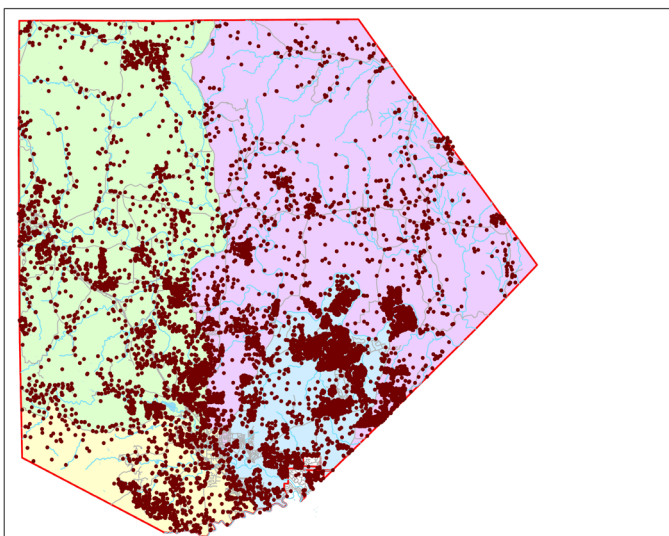


Chart depicts FY 22-23 completed wells by aquifer.

13 replacement well registrations were filed with the District in FY 22-23. They are accounted for on the above charts based on their use type and not as a separate category.

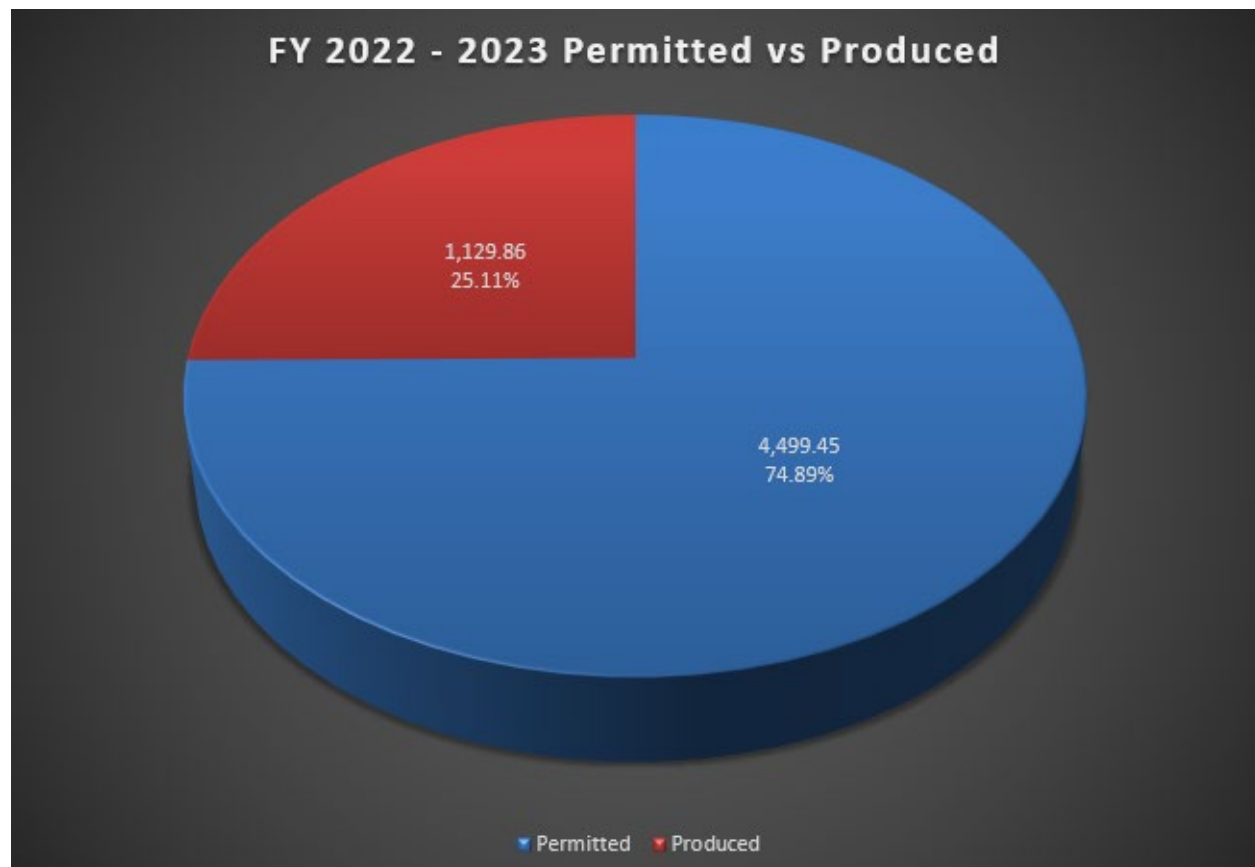


As of September 30th, 2023, the District had registered **9,162** wells. About **8,600** of those are active.

### Operating Permits for Non-exempt wells

The CCGCD currently has **113** wells with active operating permits issued by the District. As a combined total they are permitted for **4,499.45 acre feet**. The total **actual** production from these permitted wells was about **25.11%** of what the wells are currently permitted to produce. In FY 21-22, **1,407** Ac/Ft was produced and in FY 20-21, **1,225** Ac/Ft was produced. The wells used in these calculations are the data set of active wells available for FY 2022 – 2023.

In FY 22-23 the District issued **3** new operating permits and renewed **2** existing permits.  
(management objective 1.1)



Numbers in the chart are in Acre feet. (management objective 1.2)

### Public Education and Outreach

The District provided water efficient literature and handouts, attended local speaking engagements, and provided articles that are run in local papers. The District's website houses many of these resources in addition to various reports, educational videos, and helpful links. Visit us at [WWW.CCGCD.ORG](http://WWW.CCGCD.ORG).

**Water efficient, Drought-oriented, and Conservation related literature provided by CCGCD at speaking engagements and in the District office:** (management objective 2.2, 6.2, 7.2, 7.5):

- Water - Yours, Mine & Ours (CCGCD)
- The Texas Manual on Rainwater Harvesting (TWDB)
- Water Conservation Tips (TWDB)
- Conserving Water Outdoors (TWDB)
- Conserving Water Indoors (TWDB)

Rainwater Harvesting in Texas (Dr. Krishna)  
Texas Lawn Watering Guide (TWDB)  
Water Conscious Landscaping Tips (Bob Webster)  
Water Conservation – Landscape and Drought (Milan Michalec)

**Newspaper articles** (management objective 2.1, 4.2, 7.1):

**Staff:**

Aquifer Watch (Bi-monthly)  
Changes in Drought Stage are posted when they happen.

**Directors:**

**Milan Michalec**

Hill Country Weekly Articles:

October 20<sup>th</sup>, 2022, An evening with the Cordillera Nature Club .

November 20<sup>th</sup>, 2022, An Innovative Water Supply — Rainwater Harvesting.

December 15<sup>th</sup>, 2022, Boerne water planning: More water without buying it from somewhere else.

**Speaking engagements** (management objective 2.3):

**Staff:**

**General Manager, Micah Voulgaris**

Presented module about GCD's, groundwater, and well construction on September 30, 2023 at the Hydro-Geo Workshop. There were 15 people in attendance and it was held at the Cave Without a Name.

Spoke with approximately 800 4th graders at Kendall County Farm Bureau Ag Day on September 20<sup>th</sup>, 2023, KYAEC.

Spoke with the Crossing HOA on August 19th, 2023. There were about 20 people in attendance at the Crossing HOA Pavilion

Gave Presentation at TAGD conference on February 1<sup>st</sup>, 2023 about District well construction standards. The conference was held in Pflugerville.

Spoke to the Noon Rotary Club on November 22<sup>nd</sup>, 2022. About 50 people attended the meeting held at the Kronkosky Center in Boerne.

**Directors:**

**Milan Michalec**

Spoke on October 11<sup>th</sup>, 2023, with the Cordillera Nature Club.

Received the Heart of The Hill Country Award for 2023 presented by Hill Country Alliance.

**Bob Webster**

Spoke with The Board of Directors of the Cibolo Conservancy (12-14 people) about aquifers and groundwater management on three occasions this year.

**Curt Campbell**

Spoke at the Hill Country Leadership Institute as part of a Panel with Director Eldredge on May 18<sup>th</sup>, 2023.

**Ben Eldredge**

Spoke at the Hill Country Leadership Institute as part of a Panel with Director Campbell on May 18<sup>th</sup>, 2023.

**Conjunctive water management**

The District meets regularly with representatives from the Guadalupe Blanco River Authority, the City of Boerne, and Kendall County. (management objective 4.3)

**Curt Campbell**

Met quarterly with Region L for regional water planning.

**Drought Planning/Management**

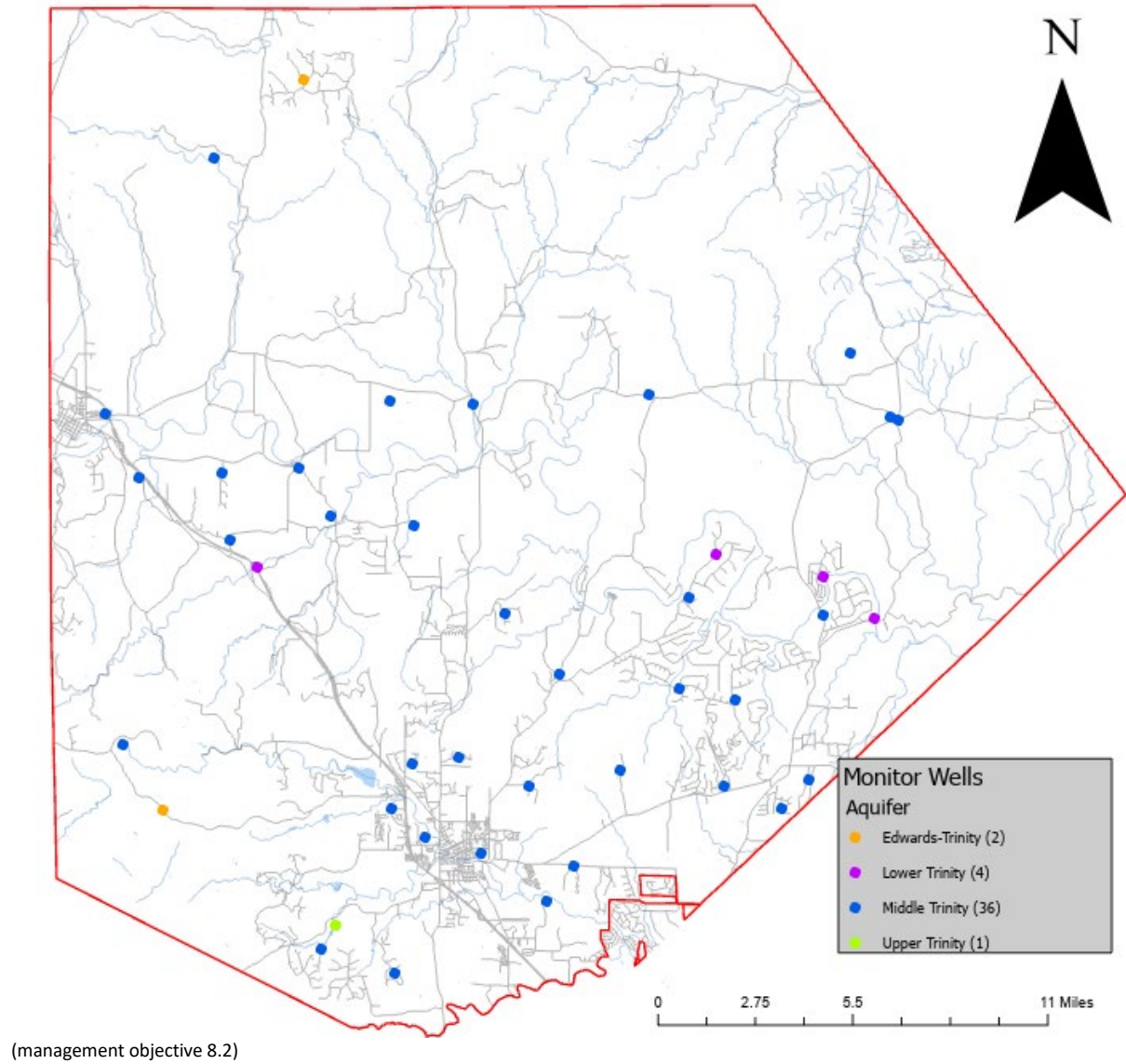
The District continues to gather more valuable data on water levels and rainfall. District Operations Manager, Heath Hoffman, correlates stream flows readings from the USGS Comfort and Spring Branch gauges on the Guadalupe with cumulative local rainfall and groundwater levels in the District's 43 monitor wells. (management objective 4.2, 6.1)

Meeting Date	Drought Stage
January 12, 2015	Stage 2
May 12, 2015	Stage 1
September 14, 2015	Stage 2
December 15 <sup>th</sup> , 2015	Stage 1
June 14, 2016	Stage 0
August 9, 2016	Stage 1
September 13, 2016	Stage 0
June 12, 2017	Stage 1
September 12, 2017	Stage 2
July 10, 2018	Stage 3
November 14, 2018	Stage 1
February 11, 2019	Stage 0
August 12, 2019	Stage 1
July 14, 2020	Stage 2
July 12, 2021	Stage 1
April 11, 2022	Stage 2
June 13, 2022	Stage 3
July 18, 2023	Stage 4

The Board currently reviews the drought stage at each regular monthly meeting and makes a determination based on analysis of the District's network of 43 monitor wells, stream flow in the Guadalupe River, cumulative rainfall and/or other factors as deemed appropriate by the Board. (management objective 6.1).

The District currently takes manual readings in 24 of the monitor wells on a bimonthly basis (about 576 readings annually). The remaining 19 monitor wells are TWDB recorders that take hourly readings that are uploaded every 24hs. Most of these recorder sites are installed and maintained by the District with the TWDB providing telemetry, data collection, and technical assistance. (management objective 6.3)

## 2022 - 2023 Monitor Well Locations



Monthly average Middle Trinity levels compared against previous 10 years.

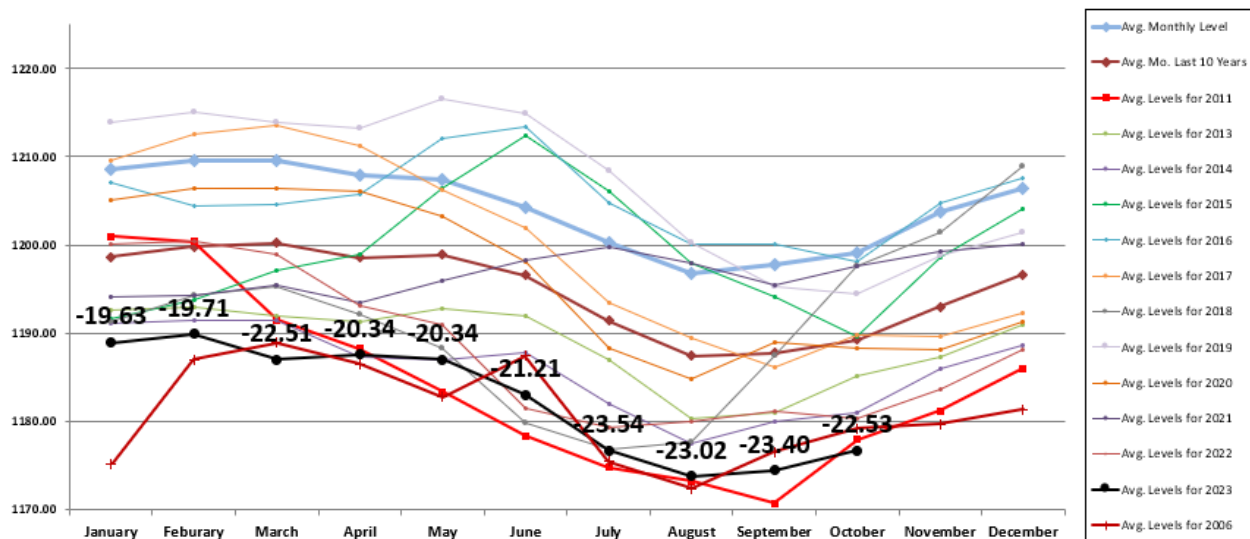


Chart consist of data from Middle Trinity wells being monitored. The levels from 2006 are shown to compare those levels, 2011 levels and 2023 levels.

## Other Management Objectives/Strategies

### **Recharge Enhancement** (management objective 7.3 & 7.4)

The District has initiated an effort to establish a regional dialogue about recharge features, how to best catalog them, and how to best protect these features. As of this report, several new recharge features have been located within the District.

Currently the District has a moratorium on the filling, destruction, and removal of caves, sinkholes, swallet holes and critical environmental features, see District Order 2006-021, adopted in May of 2006.

The Board also adopted rules related to the protection of sensitive recharge features (SRF) in FY12-13.

To date, 7 SRFs have been identified and the property owners where these features are located have been notified of their presence and the importance of protecting these features.

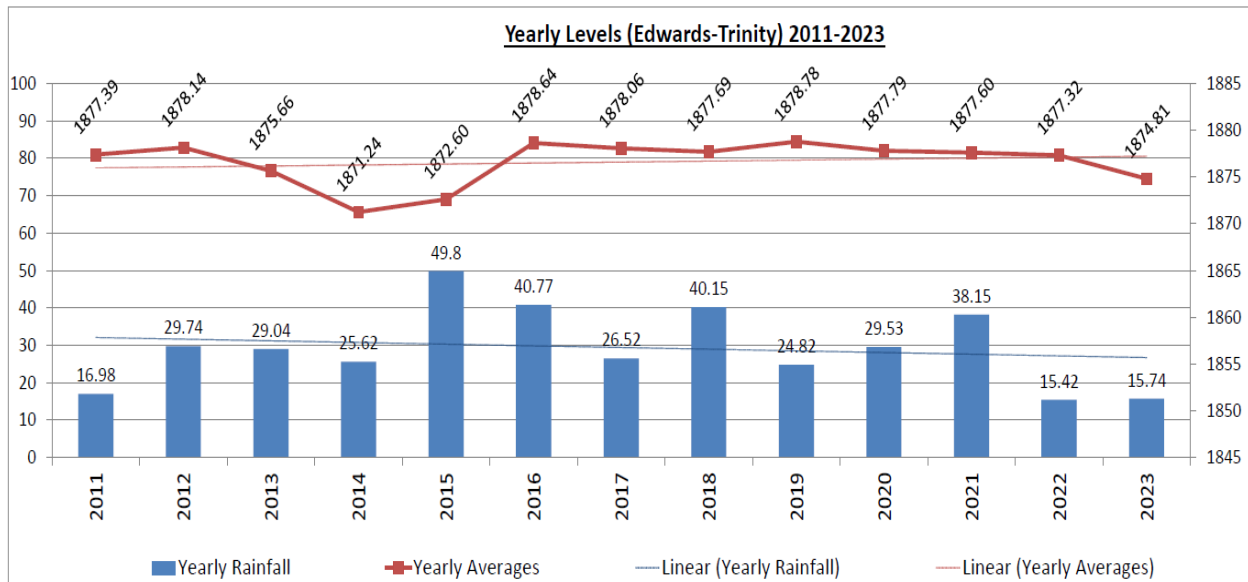
### **Brush Control** (management objective 7.7)

Currently the District has no adopted policies related to brush control/watershed enhancement. District staff believe that this is a valid management strategy that should be investigated further. The District attends the annual meetings about the Watershed Enhancement Project held by the local soil and water conservation District and the NRCS. Numerous studies and examples have shown that selective and ongoing brush management (i.e. removal of ashe juniper) has improved recharge and groundwater availability.



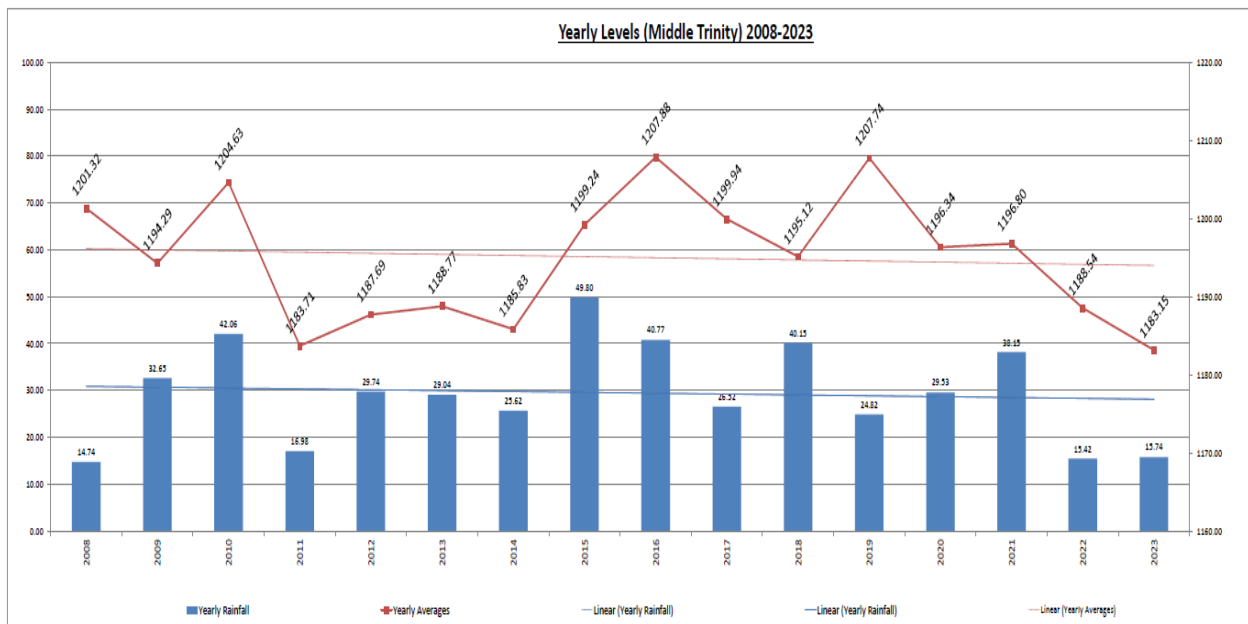
## Addressing Desired Future Conditions in a quantitative manner (management objective 8.1 & 8.2)

The current management plan addresses the DFC for the Edwards Group of the Edwards-Trinity (Plateau) Aquifer and the Trinity Aquifer. The District monitors the water levels in two Edwards (Kft) wells. One of the wells are located in the Northern portion of the District (Alamo Springs) and the other is in the Southwest portion of the District (Champee Springs). The current DFC adopted by the District allows for no net increase in average drawdown for the Edwards-Trinity through 2080.



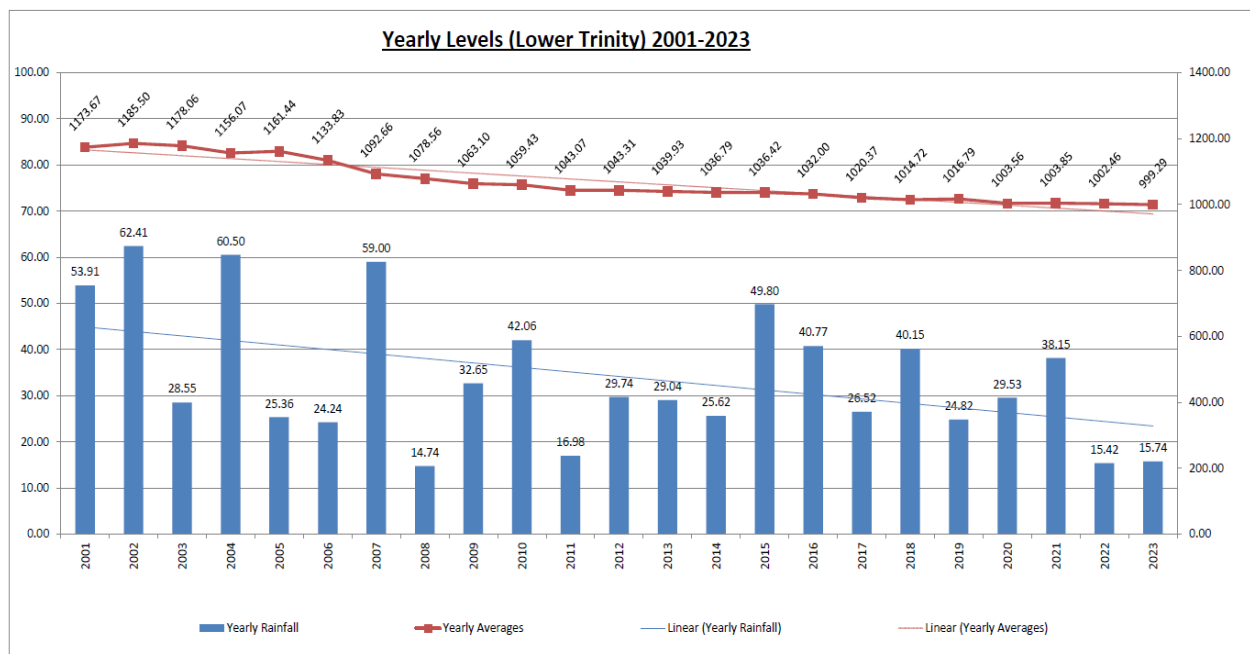
This chart depicts the average level on a yearly basis of all the wells completed in the Edwards-Trinity back to 2011.

The District also monitors water levels in 1 Upper Trinity, 36 Middle Trinity, and 4 Lower Trinity wells. These readings are collected via automated recorder and transmitted via telemetry or manual checked on a bi-monthly basis. The current DFC for the Trinity was adopted by the District allows for an increase in average drawdown of approximately 30 feet though 2060. Unlike the Edwards-Trinity DFC that is only used for Bandera and Kendall County, the Trinity DFC was adopted by GMA-9 as a whole and is measured GMA wide.

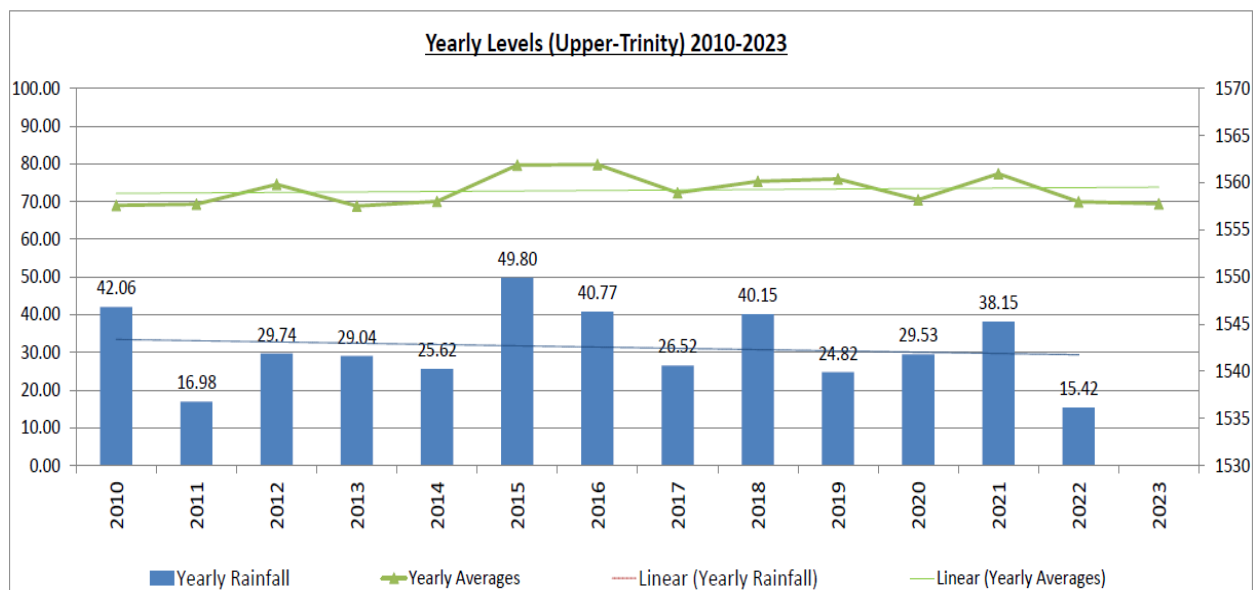


This chart depicts the average level on a yearly basis of all the wells completed in the Middle Trinity back to 2008. The majority of new wells drilled in the District are completed in the Middle Trinity.

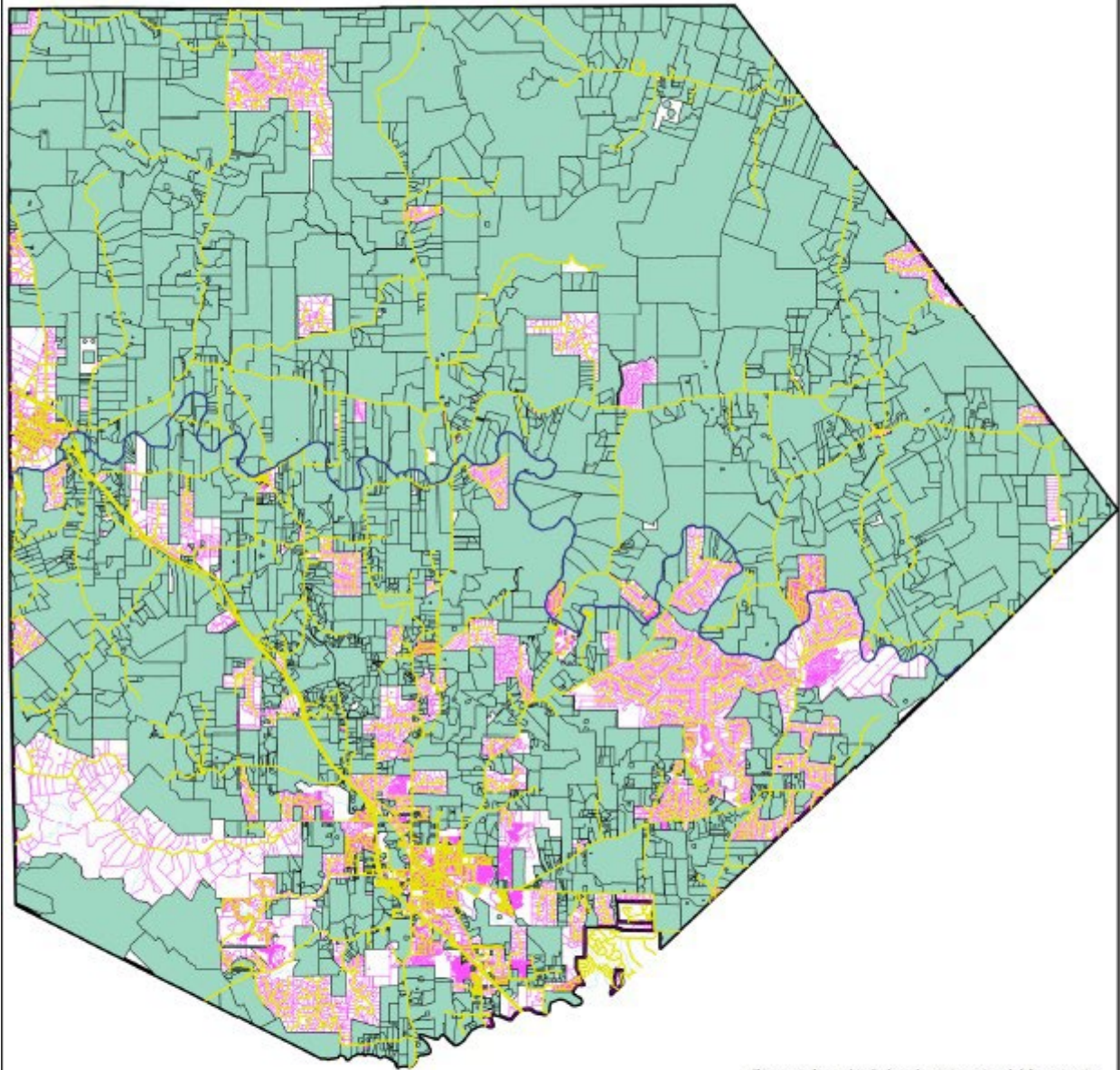




This chart depicts the average level on a yearly basis of all the wells completed in the Lower Trinity back to 2001.



This chart depicts the average level on a yearly basis of all the wells completed in the Upper Trinity back to 2010.



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