

Victoria County Groundwater Conservation District

Annual Report for Fiscal Year 2022

The Board of Directors of the Victoria County Groundwater Conservation District adopted a revised management plan on April 20, 2018. A copy of the plan is located on the website of the district at the following web address: <https://vcgcd.org/groundwater-policy.html>.

The management plan specifies the method for tracking progress in achieving the goals of the District. The management plans specifies that the staff of the district will prepare and present an annual report to the board of directors regarding the performance of the district in achieving management goals and objectives for each fiscal year. The report will be presented within 120 days following the completion of each fiscal year.

The management plan establishes the goals, objectives, and performance standards by which the district evaluates performance. Goals related to providing the most efficient use of groundwater, controlling and preventing waste of groundwater, addressing conjunctive surface water management issues, addressing natural resource issues, addressing drought conditions, addressing conservation, and addressing the desired future conditions were established by the board of directors.

The district utilizes a simplified program and project management approach for tracking work activities directly associated with the achievement of the management plan goals. Below is a list of management goals, programs, projects, and the assessment of the performance of the district during the fiscal year. The assessment of performance by the district relies upon the evaluation of the associated projects established for the fiscal year and the resulting records and data developed thought those projects and tasks.

Management Plan Goal 1 - Providing the Most Efficient Use of Groundwater - FY2022

See: [Management Plan Goal 1 - Providing the Most Efficient Use of Groundwater - FY2022](#).

Goal 1: Providing the most efficient use of groundwater.

Related Management Plan: [Management Plans - Adopted - 20180420](#)

Related Program: [Program - PRG-3000 - Groundwater Management](#)

Related Projects:

1. [PRJ-20210930.1548 - Manage Investigations related to Permitting Violations for FY2022 \(MG1:O2\) - Active](#)
2. [PRJ-20210930.1548 - Manage Enforcement Cases related to Permitting Violations for FY2022 \(MG1:O2\) - Active](#)
3. [PRJ-20210930.1537 - Production Permit Renewal Processing for FY2022 \(MG1:O2\) - Active](#)
4. [PRJ-20210930.1504 - Groundwater Production Report Processing for CY2021 \(MG1:O2\) - Active](#)
5. [PRJ-20210930.0913 - Permit Processing for FY2022 \(MG1:O1,2\) - Active](#)
6. [PRJ-20221220.0902 - Well Registration Processing for CY2022 \(MG1:O1\) - Active](#)

Objective 1: Develop and maintain a water well registration program for tracking well information for wells within Victoria County.

Performance Standard: Each year, the district will summarize within the annual report the changes related to water well registration including the number of non-grandfathered and grandfathered wells registered.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

The district received and initiated processing of **209** applications related to drilling permit requests during the fiscal year.

The district received and initiated processing of **210** applications related to registering wells during the fiscal year.

The records of the district indicate the number of wells registered with the district totals **2,904** with **1,797** registered as non-grandfathered wells and **1,057** registered as grandfathered wells in the fiscal year.

Achievement Level of the Objective for the Fiscal Year: FULL

Objective 2: Develop and maintain a water well permitting program for processing and tracking all permits authorizing groundwater production.

Performance Standard: Each year, the district will summarize within the annual report the changes related to water well permitting including the number of new applications and the disposition of the applications.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

The district initiated the processing of **34** permitting request cases related to groundwater production permits during the fiscal year.

The district approved **19** production permits during the fiscal year.

The district approved **11** production permit renewals during the fiscal year.

Achievement Level of the Objective for the Fiscal Year: FULL

Management Plan Goal 2 - Controlling and Preventing Waste of Groundwater - FY2022

See: [Management Plan Goal 2 - Controlling and Preventing Waste of Groundwater - FY2022](#).

Goal 2: Controlling and preventing waste of groundwater.

Related Management Plan: [Management Plans - Adopted - 20180420](#)

Related Program: [VCGCD - Adm - PPM - Program - PRG-6000 - Groundwater Protection](#)

Related Projects:

1. [PRJ-20211006.1130 - Well Inspections for FY2022 \(MG2:O1\) - Active](#)
2. [PRJ-20211230.1405 - Observation of Casing Placement for FY2022 \(MG2:O1\) - Active](#)
3. [PRJ-20220103.1414 - Manage Investigations related to Groundwater Protection for FY2022 \(MG2:O1\) - Active](#)

Objective 1: Develop and maintain a water well inspection program for non-exempt wells.

Performance Standard: Each year, the district will summarize within the annual report the findings of the inspection activities including information regarding the number of wells that require improvement to control or prevent waste of groundwater.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective

The district recorded **14** well inspections during the fiscal year.

The district recorded **204** notices of intent to place casing during the fiscal year.

performed site visits for each well inspection and **98** notices of intent to place casing for a total of **112** site visits related in inspection activities in the fiscal year.

Achievement Level of the Objective for the Fiscal Year: FULL

Management Plan Goal 3 - Addressing Conjunctive Surface Water Management Issues - FY2022

See: [Management Plan Goal 3 - Addressing Conjunctive Surface Water Management Issues - FY2022](#).

Goal 3: Addressing conjunctive surface water management issues.

Related Management Plan: [Management Plans - Adopted - 20180420](#)

Related Program: [Program - PRG-8000 - Groundwater Resource Planning](#)

Related Projects:

1. [PRJ-20211004.1516 - Regional Water Planning Participation for FY2022 \(MG3:O1\) - Active](#)

Objective 1: Participate in the regional water planning process by attending at least one South Central Texas Regional Water Planning Group (Region L) meeting per year.

Performance Standard: Each year, the district will summarize within the annual report the representatives of the district, dates, and the number of meetings of the South Central Texas Regional Water Planning Group attended.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

Representatives of the district attended meetings of the South Central Texas Regional Water Planning Group (Region L) on the following dates: **November 4, 2021; February 17, 2022; May 5, 2022; August 4, 2022.**

Achievement Level of the Objective for the Fiscal Year: FULL

Management Plan Goal 4 - Addressing Natural Resource Issues - FY2022

See: [Management Plan Goal 4 - Addressing Natural Resource Issues - FY2022.](#)

Goal 4: Addressing natural resource issues which impact the use and availability of groundwater, and which are impacted by the use of groundwater.

Related Management Plan: [Management Plans - Adopted - 20180420](#)

Related Program: [Program - PRG-4000 - Groundwater Monitoring](#)

Related Projects:

1. [PRJ-20211004.1132 - Arsenic Monitoring at Landfill for FY2022 \(MG4:O1\) - Active](#)
2. [PRJ-20211004.1141 - Baseline Aquifer Monitoring at Cottonwood Drive for FY2022 \(MG4:O1\) - Active](#)
3. [PRJ-20211004.1147 - Baseline Aquifer Monitoring at FM 446 for FY2022 \(MG4:O1\) - Active](#)
4. [PRJ-20211004.1156 - Baseline Aquifer Monitoring at Kingwood Drive for FY2022 \(MG4:O1\) - Active](#)
5. [PRJ-20211004.1158 - Baseline Aquifer Monitoring at Serene Drive for FY2022 \(MG4:O1\) - Active](#)
6. [PRJ-20211004.1206 - Synoptic Aquifer Monitoring for FY2022 \(MG4:O1\) \(MG7:O1\) - Active](#)

7. [PRJ-20211004.1209 - Synoptic Aquifer Monitoring for PVGCD for FY2022 \(MG4:O1\) \(MG7:O1\) - Active](#)
8. [PRJ-20211004.1505 - Baseline Aquifer Monitoring at Boehm Road for FY2022 \(MG4:O1\) - Active](#)
9. [PRJ-20211012.0944 - Ad-Hoc Baseline Water Quality Sampling for FY2022 \(MG4:O1\) - Active](#)
10. [PRJ-20211012.0950 - Annual Water Quality Assessment for FY2022 \(MG4:O1\) - Active](#)
11. [PRJ-20220511.1006 - Baseline Aquifer Monitoring at West Park Avenue for FY2022 \(MG4:O1\) - Active](#)

Objective 1: Develop and maintain a water quality monitoring program.

Performance Standard: Each year, the district will summarize within the annual report the monitoring activities including the number of wells monitored and the year-to-year change of water quality.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

The district collected **36** water quality field measurements during the fiscal year.

The district collected **22** water quality samples for lab analysis during the fiscal year.

The district received **5** water quality lab reports during the fiscal year.

The district processed **11** water quality lab measurements during the fiscal year.

Table A. the following table displays the average conductivity measurements of water wells within the district for which a field measurement was collected in the previous fiscal year or current fiscal year.

Parameter	Conductivity, Specific ($\mu\text{mhos/cm}$)		
	FY2021	FY2022	Change from FY2021 to FY2022
GW-000016		957	
GW-000021		924.2	
GW-000047		1010	
GW-000150	1291.7	1135.5	-156.2

GW-000158	749.7	730.6	-19.1
GW-000159	1016.7	970.8	-45.9
GW-000181	1249		
GW-000310	2038.9		
GW-000377	1436.6	892.5	-544.1
GW-000533	1305.5		
GW-000557		1031	
GW-000587	806.5		
GW-000595	3892.3		
GW-000608	1793.1	3579.35	1786.25
GW-000609		1098.4	
GW-000687	840.8	832.3	-8.5
GW-001016	759.8		
GW-001022	765.1	761.4	-3.7
GW-001025	1191.5		
GW-001031	669		

GW-001032	804.1	849	44.9
GW-001033	725.4		
GW-001034	1170		
GW-001035	1222.95		
GW-001036	1159.9	1253	93.1
GW-001037	1118	1049	-69
GW-001038	751	1010	259
GW-001039	933.2	1062	128.8
GW-001040		725	
GW-001046		895	
GW-001048		894	
NW-000016	975.6		
NW-000122	1617.3		
NW-000292	646.9		
NW-000310	3938.95		
NW-000489	3590.3		

Average Change from FY2021 to FY2022 for wells with field conductivity measurements in FY2021 and FY2022:	122.1
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Achievement Level of the Objective for the Fiscal Year: FULL

Management Plan Goal 5 - Addressing Drought Conditions - FY2022

See: [Management Plan Goal 5 - Addressing Drought Conditions - FY2022](#).

Goal 5: Addressing drought conditions.

Related Management Plan: [Management Plans - Adopted - 20180420](#)

Related Program: [Program - PRG-4000 - Groundwater Monitoring](#)

Related Projects: :

1. [PRJ-20211012.0938 - Monitor Drought Conditions for FY2022 \(MG5:O1\) - Active](#)

Objective 1: Collect and review drought condition information related to Victoria County and the surrounding region of Texas.

Performance Standard: Each year, the district will summarize within the annual report the drought condition information collected and reviewed.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

The board of directors of the district considered drought condition information during meetings held on the following dates: **October 15, 2021; January 21, 2022; April 22, 2022; July 15, 2022.**

Achievement Level of the Objective for the Fiscal Year: FULL

Management Plan Goal 6 - Addressing Conservation - FY2022

See: [Management Plan Goal 6 - Addressing Conservation - FY2022](#).

Goal 6: Addressing conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control, where appropriate and cost-effective.

Related Management Plan: [Management Plans - Adopted - 20180420](#)

Related Program: [Program - PRG-2000 - Groundwater Conservation](#)

Related Projects:

1. [PRJ-20210930.0908 - Promote Conservation for FY2022 \(MG6:O1\)](#)
2. [PRJ-20220523.1604 - Conservation Education and Teacher Professional Development for FY2022 \(MG6:O1\)](#)

Objective 1: Promote conservation, rainwater harvesting or brush control within Victoria County.

Performance Standard: Each year, the DISTRICT will summarize within the annual report the activities directly related to conservation, rainwater harvesting or brush control including participation in scientific investigations and studies, educational materials developed and delivered to local schools, cooperative educational contributions and grants, public speaking events and presentations, community event participation, and educational publications.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

The district addressed and promoted conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control by promoting related educational publications on the website of the District. On **May 17, 2022**, the website of the District was updated to incorporate new promotions of groundwater conservation (<https://www.vcgcd.org/groundwater-conservation.html>).

The district addressed and promoted conservation by approving and funding the proposal for the Teacher Professional Development and Student Camp project with UHV for the purposes of promoting groundwater conservation. Dr. Le Sage-Clements and Dr. Dimitri Sobolev of University of Houston-Victoria conducted the professional development sessions on **June 7 and 8, 2022**. The sessions were attended by approximately **10** teachers from school districts located within Victoria, Calhoun, Refugio, and Jackson Counties.

Achievement Level of the Objective for the Fiscal Year: FULL

Management Plan Goal 7 - Addressing the Desired Future Conditions - FY2022

See: [Management Plan Goal 7 - Addressing the Desired Future Conditions - FY2022](#).

Goal 7: Addressing the desired future conditions adopted by the district under Section 36.108.

Related Management Plan: [Management Plans - Adopted - 20180420](#)

Related Program: [Program - PRG-4000 - Groundwater Monitoring](#)

Related Projects:

1. [PRJ-20210805.1336 - Monitoring Network Assessment and Improvement Project for FY2022 \(MG7:O1\) - Active](#)

2. [PRJ-20211004.1201 - Continuous Water Level Monitoring for FY2022 \(MG7:O1\) - Active](#)
3. [PRJ-20211004.1201 - Continuous Water Level Monitoring for FY2022 \(MG7:O1\) - Active](#)
4. [PRJ-20211004.1206 - Synoptic Aquifer Monitoring for FY2022 \(MG4:O1\) \(MG7:O1\) - Active](#)
5. [PRJ-20211004.1209 - Synoptic Aquifer Monitoring for PVGCD for FY2022 \(MG4:O1\) \(MG7:O1\) - Active](#)
6. [PRJ-20211012.0946 - Annual Water Level Assessment for FY2022 \(MG7:O2\) - Active](#)
7. [PRJ-20211012.1007 - Baseline Water Level Monitoring at Reineke Road for FY2022 \(MG7:O1\) - Active](#)

Related Program: [PRG-8000 - Groundwater Resource Planning](#)

Related Projects:

1. [PRJ-20210805.1445 - GMA 15 Joint Planning for 3rd Planning Cycle \(MG7:O2\) - Active](#)

Objective 1: Develop and maintain a water level monitoring program.

Performance Standard: Each year, the DISTRICT will summarize within the annual report the water level monitoring activities including the number of wells monitored and the year-to-year change of water level.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

The district collected **55** separate water level measurement from water wells within Victoria County during the fiscal year.

Table B. The following table displays the average water level (feet below the surface) by year for all wells with water level measurements within Victoria County in the District's database. The average water level of wells measured in year 2000 was 60.3 feet below the surface. The average water level of wells measured in year 2022 was **47.7** feet below the surface.

Year	Count of Measurements	Avg. Water Level (Depth Below Surface in feet):
2000	20	60.3
2009	49	52.0
2010	59	49.6

2011	63	52.4
2012	58	53.3
2013	97	54.8
2014	128	54.6
2015	119	53.4
2016	146	49.9
2017	141	49.9
2018	133	50.6
2019	120	50.8
2020	110	52.9
2021	116	54.8
2022	50	47.7

Achievement Level of the Objective for the Fiscal Year: FULL

Objective 2: Analyze water level monitoring information to evaluate water level trends and determine the degree to which the DISTRICT is complying with the desired future conditions of Gulf Coast Aquifer in Victoria County.

Performance Standard: Each year, the DISTRICT will summarize within the annual report the water level trends and the conclusions regarding the DISTRICT’s compliance with the desired future condition of the Gulf Coast Aquifer in Victoria County.

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to the Objective:

The district, based on the report developed by Dr. Young of Intera titled *Application of Geostatistical Techniques to Interpret Measured 2021 Water Levels*, estimates the following changes in water levels within the district:

- **-1.2** feet of change in water levels (i.e., decline) in the Chicot Aquifer between year 2000 and year 2021,
- **+12.9** feet of change in water levels (i.e., recovery) in the Evangeline Aquifer between year 2000 and year 2021, and
- **+6.1** feet of combined change in water levels (i.e., in the Chicot and Evangeline Aquifers between year 2000 and year 2021).

The desired future condition for Victoria County is stated as follows: “Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 5 feet in December 2069 from estimated year 2000 conditions.”

Based on water level trends within Victoria County, the district concludes that the condition of the Gulf Coast Aquifer within Victoria County is in compliance with the District’s desired future condition.

Achievement Level of the Objective for the Fiscal Year: FULL