Annual Report for Fiscal Year 2023

Refugio Groundwater Conservation District

Revised: July 18, 2024

Table of Contents

Section 1 - Management Plan

Section 2 - Review of Management Plan Goals and Assessment of Achievement

<u>Management Plan Goal 1 - Providing the Most Efficient Use of Groundwater - FY2023</u>

Management Plan Goal 2 - Controlling and Preventing Waste of Groundwater - FY2023

Management Plan Goal 3 - Addressing Conjunctive Surface Water Management Issues - FY2023

Management Plan Goal 4 - Addressing Natural Resource Issues - FY2023

<u>Management Plan Goal 5 - Addressing Drought Conditions - FY2023</u>

Management Plan Goal 6 - Addressing Conservation - FY2023

Management Plan Goal 7 - Addressing the Desired Future Conditions - FY2023

Section 1 - Management Plan

On April 17, 2023, the Board of Directors of the Refugio Groundwater Conservation District adopted a revised management plan for the district. A copy of the plan is located on the website of the district at the following web address: https://www.rgcd.org/groundwater-policy

See: Management Plans - Adopted - 20230417

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 180 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.

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.

Section 2 - Review of Management Plan Goals and Assessment of Achievement

Based on the review of each management plan goal and associated performance standards, the district fully or partially achieved the objectives established within the management plan of the district during the fiscal year ending September 30, 2023.

<u>Management Plan Goal 1 - Providing the Most Efficient Use of</u> Groundwater - FY2023

Goal 1: Providing the most efficient use of groundwater.

Objective 1: Develop and maintain a program for processing permitting requests submitted to the district and tracking well registrations and permits issued by the district authorizing groundwater production during the fiscal year.

Performance Standard: The district will summarize within the annual report 1) the status of pending permitting requests, 2) the number of wells registered by the district, and 3) the volume of groundwater authorized to be produced under production permits issued by the district, as of the last day of the preceding fiscal year.

Related Programs:

1. Program - PRG-3000 - Groundwater Management - FY2023

Related Projects:

- 1. PRJ-20233100.01 Well Registration Processing for FY2023
- 2. PRJ-20233100.02 Production Permit Renewal Processing for FY2023
- 3. PRJ-20233100.03 Permit Processing for FY2023
- 4. PRJ-20233100.04 Groundwater Production Report Processing for CY2022
- 5. PRJ-20233100.05 Manage Investigations related to Permitting Violations for FY2023
- 6. PRJ-20233100.06 Manage Enforcement Cases related to Permitting Violations for FY2023

Discussion of Information relevant to Assessing the Performance

Summary of Permitting Requests by Status:

The district received <u>3</u> production permit renewal requests (ARPs) and initiated <u>18</u> permitting request cases (PRCs) during the fiscal year.

The district had $\underline{2}$ permitting request cases pending at the end of the fiscal year.

Summary of Wells Registered by the District:

The district received <u>11</u> well registration applications (ARWs) and <u>17</u> Notices of Intent to Drill a Well (NIDWs) during the fiscal year.

See: Meeting Minutes - 20231016 - Board of Directors.

Summary of Authorized Groundwater Production:

Based on a review of the database registry of production permit areas, <u>20</u> production permits issued by the district were active with a cumulative authorization of groundwater production totaling <u>1,345.14</u> acrefeet per year.

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: FULL

Supporting Information - Goal 1

List of Applications to Renew a Production Permit received in the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:GMA intitle:ARP Record Search Results: 3 Notes

- 1. ARP-20230302-01 NW-00544 Texas Parks and Wildlife
- 2. ARP-20230302-02 NW-00545 Texas Parks and Wildlife
- 3. ARP-20230302-03 NW-00546 Texas Parks and Wildlife

List of Permitting Request Cases initiated in the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:GMA intitle:PRC Record Search Results: 18 Notes

- 1. PRC-20221004-01 ADW-20220926-01 Chad Watts
- 2. PRC-20221004-02 ADW-20220926-02 Jake Salcines
- 3. PRC-20221007-01 ARW-20221007-01 Kaitlyn Williams and Robert Arriaga
- 4. PRC-20221012-01 ARW-20220720-02 John A. Kain, Jo Ann Kain
- 5. PRC-20221104-01 ARW-20221104-01 James L. Williams
- 6. PRC-20221115-01 ADW-20221114-01 Kevin Borden
- 7. PRC-20221122-01 AAPC-20221116-01 Hultgren Farms, LLC
- 8. PRC-20221122-02 AAPC-20221117-01 CNS Family Investments, LTD
- 9. PRC-20221129-01 ADW-20221129-01 David S. Kennedy
- 10. PRC-20221130-01 ARW-20221130-01 Nick and Schelsea Arredondo
- 11. PRC-20221216-01 ADW-20221215-01 William James and Patricia Rivera Hoelker
- 12. PRC-20230314-01 ARP-20230302-03 NW-00546 Texas Parks and Wildlife Department
- 13. PRC-20230314-02 ARP-20230302-02 NW-00545 Texas Parks and Wildlife Department
- 14. PRC-20230314-03 ARP-20230302-01 NW-00544 Texas Parks and Wildlife Department
- 15. PRC-20230425-01 AAPC-20230425-01 Drew Donalson R1NW-00425
- 16. PRC-20230515-01 AVHUWF-20230515-01 Ramon Garcia Refugio County WCID 1
- 17. PRC-20230921-01 ANHUPPW-20230918-01- Boardwalk Field Services
- 18. PRC-20230921-02 ANHUPPW-20230918-02 C Breeze Circle S LTD

List of Pending Permitting Cases as of the end of the fiscal year

- 1. PRC-20230921-01 ANHUPPW-20230918-01- Boardwalk Field Services
- 2. PRC-20230921-02 ANHUPPW-20230918-02 C Breeze Circle S LTD

List of Applications to Register a Well received in the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:GMA intitle:ARW

Record Search Results: 11

- 1. ARW-20221007-01 Kaitlyn Williams WL-20220628-04
- 2. ARW-20221104-01 James L. Williams WL-20221102-01
- 3. ARW-20221130-01 Nick and Schelsea Arredondo WL-20221130-01
- 4. ARW-20230405-01 Town of Refugio
- 5. ARW-20230405-02 Town of Refugio

- 6. ARW-20230405-03 Town of Refugio
- 7. ARW-20230405-04 Elizabeth Curran
- 8. ARW-20230405-05 La Rosa Cattle Company
- 9. <u>ARW-20230622-01 Drew Donalson</u>
- 10. ARWF-20230515-01 Refugio County WCID 1
- 11. ARWF-20230918-01 Boardwalk Field Services

List of Notices of Intent to Drill a Well received in the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:GMA intitle:NIDW

Evernote Results: 17

- 1. NIDW-20230217-01 Joseph and Candace Nonley
- 2. NIDW-20230308-01 Luke Ramirez
- 3. NIDW-20230308-02 Tracy Thompson
- 4. NIDW-20230308-03 Kay Altheide
- 5. NIDW-20230308-04 Ramon Lopez
- 6. NIDW-20230308-05 Fidel Flores
- 7. NIDW-20230308-06 Jamison Hudspeth
- 8. NIDW-20230308-07 Jamison Hudspeth
- 9. NIDW-20230419-01 Ronny Anderson
- 10. NIDW-20230419-02 Refugio Ranch
- 11. NIDW-20230419-03 Elizabeth Curran
- 12. NIDW-20230724-01 Joseph Puentes
- 13. NIDW-20230724-02 Nick Arredondo
- 14. NIDW-20230911-01 Terry Lee
- 15. NIDW-20230911-02 Manuel Gradillas
- 16. NIDW-20230911-03 Kleim Construction
- 17. NIDW-20230911-04 Patrick Borden

Table - Active and approved permits at the end of the fiscal year

Database Query Syntax: "Permit Status" in ('Active', 'Approved') and ("GCD Production Permit ID" not like '%20231%' and "GCD Production Permit ID" not like '%2024%')

GCD Production Permit ID	Production Rate AFY	Permit Status
HUPPWF-20230717-01	60.93	Approved
OPW-20160418-03	1	Active
OPW-20160418-04	1	Active
OPW-20180122-02	387	Active
OPW-20180917-01	20	Active
OPW-20180917-01	20	Active
OPW-20180917-02	20	Active
OPW-20180917-02	20	Active

OPW-20180917-03	20	Active
OPW-20180917-03	20	Active
OPW-20190220-01	28	Active
OPW-20190228-01	28	Active
OPW-20200203-01	84	Active
OPW-20210119-02	2.5	Approved
OPW-20210119-03	2	Active
OPW-20210119-04	2	Active
OPW-20210719-01	25	Approved
VPW-20180122-01	225	Active
VPWS-20061023-01	325.62	Active
VPWS-20071022-01	53.09	Active

<u>Management Plan Goal 2 - Controlling and Preventing Waste of</u> <u>Groundwater - FY2023</u>

Goal 2: Controlling and preventing waste of groundwater.

Objective 1: Develop and maintain a program for inspecting at least twelve (12) water wells within the district during the fiscal year.

Performance Standard: The district will summarize within the annual report the number of wells inspected during the preceding fiscal year and those wells requiring corrective action.

Related Programs:

1. Program - PRG-6000 - Groundwater Protection - FY2023

Related Projects:

- 1. PRJ-20236100.01 Well Inspections for FY2023
- 2. PRJ-20236100.02 Manage Investigations related to Groundwater Protection for FY2023
- 3. PRJ-20236100.03 Observation of Casing Placement for FY2023

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

Summary of Well Inspections:

The district had recorded <u>10</u> well inspection forms (WIFs) during the fiscal year. The district initiated no investigations or enforcement proceeding regarding wells requiring corrective action based on well inspections performed during the fiscal year.

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: PARTIAL

Supporting Information - Goal 2

List of Well Inspections completed during the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:WIF

Record Search Results: 10

- 1. WIF-20230126-01 GW-00152
- 2. WIF-20230310-01 NW-00539
- 3. WIF-20230310-02 NW-00570
- 4. WIF-20230310-03 GW-00439
- 5. WIF-20230310-04 GW-00234
- 6. WIF-20230425-02 GW-00079
- 7. WIF-20230425-02 GW-00124
- 8. WIF-20230718-01 NW-00657
- 9. WIF-20230726-01 GW-00439
- 10. WIF-20230726-02 NW-00570

<u>Management Plan Goal 3 - Addressing Conjunctive Surface Water</u> <u>Management Issues - FY2023</u>

Goal 3: Addressing conjunctive surface water management issues.

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

Performance Standard: The district will summarize within the annual report the dates of meetings of the South Central Texas Regional Water Planning Group attended by representatives of the district during the preceding fiscal year.

Related Programs:

1. Program - PRG-8000 - Groundwater Resource Planning - FY2023

Related Projects:

1. PRJ-20238100.02 - Regional Water Planning Participation for FY2023

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 3, 2022**; **February 2, 2023**; **May 4, 2023**; **August 3, 2023**.

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: **FULL**

Supporting Information - Goal 3

List of hyperlinks to minutes of the meeting held by the South Central Texas Regional Water Planning Group (Region L) during the fiscal year

- https://www.regionltexas.org/wp-content/uploads/2023/02/Region-L-Minutes-11.03.2022-Final-1.pdf
- https://www.regionltexas.org/wp-content/uploads/2023/05/Region-L-Minutes-2.2.2023.pdf
- https://www.regionltexas.org/wp-content/uploads/2023/08/Region-L-Minutes-5.4.2023.pdf
- https://www.regionltexas.org/wp-content/uploads/2023/11/Region-L-Minutes-8.03.2023 Final.pdf

<u>Management Plan Goal 4 - Addressing Natural Resource Issues -</u> FY2023

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

Objective 1: Develop and maintain a program to monitor the water quality of at least twelve (12) water wells within the district per year.

Performance Standard: The district will summarize within the annual report 1) the number of wells monitored and 2) the water quality measurements collected during the preceding fiscal year.

Related Programs:

1. Program - PRG-4000 - Groundwater Monitoring - FY2023

Related Projects:

- 1. PRJ-20234100.02 Synoptic Aquifer Monitoring for FY2023
- 2. PRJ-20234100.04 Baseline Water Quality Aquifer Monitoring for FY2023
- 3. PRJ-20234100.05 Ad-Hoc Baseline Water Quality Sampling for FY2023
- 4. PRJ-20234100.07 Annual Water Quality Assessment for FY2023

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

The district collected $\underline{5}$ water quality field measurements and $\underline{1}$ water quality sample for lab analysis.

The district received <u>1</u> water quality lab report during the fiscal year.

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: PARTIAL

Supporting Information - Goal 4

List of water quality field measurements collected during the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:WQFM

Record Search Results: 5

- 1. WQFM-20230718.1135 NW-00657
- 2. WQFM-20230726-01 GW-00439
- 3. <u>WQFM-20230726-01 GW-00439</u>
- 4. WQFM-20230726-02 NW-00570
- 5. WQFM-20230726-03 NW-00539

List of water quality lab samples collected during the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:WQSI

Record Search Results: 1

1. WQSI-20230718-01 - NW-00657

List of water quality lab reports received during the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:WQLR

Record Search Results: 1
1. WQLR-20230718.1145

Management Plan Goal 5 - Addressing Drought Conditions - FY2023

Goal 5: Addressing drought conditions.

Objective 1: Review drought condition information related to the district and the surrounding region of Texas collected from the following website at least four meetings of the Board of Directors during the fiscal year: https://www.waterdatafortexas.org/drought/.

Performance Standard: The district will summarize within the annual report the number of instances drought condition information was considered by the Board of Directors during the preceding fiscal year.

Related Programs:

1. Program - PRG-4000 - Groundwater Monitoring - FY2023

Related Projects:

1. PRJ-20234100.01 - Monitor Drought Conditions for FY2023

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 17, 2022; April 17, 2023; July 17, 2023**.

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: PARTIAL

Supporting Information - Goal 5

List of minutes of meeting of the district at which drought conditions were considered during the fiscal year

- 1. Meeting Minutes 20221017 Board of Directors
- 2. Meeting Minutes 20230417 Board of Directors
- 3. Meeting Minutes 20230717 Board of Directors

Management Plan Goal 6 - Addressing Conservation - FY2023

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

Objective 1: Promote conservation, rainwater harvesting, or brush control within Refugio County at least once during the fiscal year.

Performance Standard: The district will summarize within the annual report the number of instances the district promoted conservation, rainwater harvesting, or brush control during the preceding fiscal year.

Related Programs:

1. <u>Program - PRG-2000 - Groundwater Conservation - FY2023</u>

Related Projects:

- 1. PRJ-20232100.01 Promote Conservation for FY2023
- 2. PRJ-20232100.02 Conservation Education and Teacher Professional Development for FY2023

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 October 7, 2022, student water conservation camps were facilitated by staff of the University of Houston - Victoria. The camps were financially sponsored, in part, by the district.

On April 17, 2023, the Board of Directors of the district authorized the expenditure of up to \$5,000.00 for sponsorship of field trips by 4th and 5th grade students from Refugio County to the Wetland Education Center located in the INVISTA Plant Wetland for the purposes of promoting water conservation.

On May 5, 2023, the website of the district was updated to incorporate new promotions of groundwater conservation (https://www.rgcd.org/groundwater-conservation).

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: FULL

Supporting Information - Goal 6

See: Meeting Minutes - 20230417 - Board of Directors

<u>Management Plan Goal 7 - Addressing the Desired Future Conditions - FY2023</u>

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

Objective 1: Develop and maintain a program to monitor the water level of at least twelve (12) water wells within the district per year.

Performance Standard: The district will summarize within the annual report 1) the number of wells monitored and 2) the water level measurements collected during the preceding fiscal year.

Objective 2: Analyze aquifer monitoring information to evaluate achievement of the desired future conditions of the district based on information available during the fiscal year.

Performance Standard: The district will summarize within the annual report 1) the aquifer monitoring information and 2) the conclusions regarding the achievement of the desired future conditions of the district during the preceding fiscal year.

Related Programs:

- 1. Program PRG-4000 Groundwater Monitoring FY2023
- 2. Program PRG-8000 Groundwater Resource Planning FY2023

Related Projects:

- 1. PRJ-20234100.02 Synoptic Aquifer Monitoring for FY2023
- 2. PRJ-20234100.03 Continuous Water Level Monitoring for FY2023
- 3. PRJ-20234100.06 Annual Water Level Assessment for FY2023
- 4. PRJ-20234200.01 Monitoring Network Assessment and Improvement Project for FY2023
- 5. PRJ-20238100.01 GMA 15 Joint Planning for 3rd Planning Cycle in FY2023

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to Objective 1:

The district collected <u>10</u> separate water level measurements from water wells within Refugio County during the fiscal year.

The average water level of wells measured during the fiscal year was 30 feet below the surface.

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: PARTIAL

Discussion of Information relevant to Assessing the Performance of the District during the Fiscal Year relative to Objective 2:

The average water level of wells measured in year 2000 was 25 feet below the surface.

The average water level of wells measured in calendar year 2022 was 28 feet below the surface.

The average water level of wells measured in calendar year 2023 was 27 feet below the surface.

The district, based on the report developed by Dr. Young of Intera titled *Application of Geostatistical Techniques* to *Interpret Measured 2022 Water Levels*, estimates the following changes in water levels within the district:

- -5.2 feet of change in water levels (i.e., drawdown) in the Chicot Aquifer between year 2000 and year 2022,
- -4.2 feet of change in water levels (i.e., drawdown) in the Evangeline Aquifer between year 2000 and year 2022, and
- -4.1 feet of combined change in water levels (i.e., in the Chicot and Evangeline Aquifers between year 2000 and year 2022.

The desired future condition for Groundwater Management Area 15 is expressed as a maximum drawdown between January 2000 and December 2080. The county-specific desired future condition for Refugio County is "5 feet of drawdown of the Gulf Coast Aquifer System."

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

Assessment of Achievement

Achievement Level of the Objective for the Fiscal Year: FULL

Supporting Information - Goal 7

List of water level measurements collected during the fiscal year

Record Search Syntax: (intitle:20230* OR intitle:20221*) AND intitle:WLM

Record Search Results: 10

- 1. WLM-20230310-01 NW-00539
- 2. WLM-20230310-02 NW-00570
- 3. WLM-20230310-03 GW-00439
- 4. WLM-20230310-04 GW-00234
- 5. WLM-20230425-01 GW-00124
- 6. WLM-20230425-02 GW-00079
- 7. WLM-20230718-01 NW-00657
- 8. WLM-20230726-01 GW-00439
- 9. WLM-20230726-02 NW-00570
- 10. WLM-20230726-03 NW-00539

Table: Water Level Measurements Collected during Fiscal Year

Database Query Syntax: "Measurement Date" > '2022-09-30' and "Measurement Date" < '2023-10-01'

GCD Source Document ID	GCD Water Well ID	Measureme nt Date	Parameter Measurement
WLM-20230310-01	NW-00539	3/10/2023	25
WLM-20230310-02	NW-00570	3/10/2023	23
WLM-20230310-03	GW-00439	3/10/2023	14
WLM-20230310-04	GW-00234	3/4/2023	49
WLM-20230425-01	GW-00124	4/25/2023	42
WLM-20230425-02	GW-00079	4/25/2023	23
WLM-20230718-01	NW-00657	7/18/2024	56
WLM-20230726-01	GW-00439	7/26/2023	15
WLM-20230726-02	NW-00570	7/26/2023	29
WLM-20230726-03	NW-00539	7/26/2023	26
Average:			30

Table: Water Level Measurements Collected during Calendar Year 2000

Database Query Syntax: "Measurement Date" > '1999-12-31' and "Measurement Date" < '2001-01-01'

GCD Water Well ID	Measurement Date	Parameter Measurement
GW-00079	2/21/2000	29
GW-00085	2/21/2000	29
GW-00124	2/21/2000	36
GW-00235	2/21/2000	23
GW-00370	2/21/2000	18
NW-00475	2/21/2000	16
Average:		25

Table: Water Level Measurements Collected during Calendar Year 2022

Database Query Syntax: "Measurement Date" > '2021-12-31' and "Measurement Date" < '2023-01-01'

GCD Water Well ID	Measurement Date	Parameter Measurement
NW-00539	2/23/2022	24
GW-00234	2/22/2022	47
GW-00124	2/22/2022	37
NW-00340	2/22/2022	36
NW-00474	2/22/2022	26
GW-00085	2/22/2022	31
GW-00445	2/23/2022	21
GW-00446	2/23/2022	26
GW-00447	2/23/2022	29
GW-00448	2/23/2022	28
GW-00439	2/23/2022	13
NW-00570	2/23/2022	22
Average:		28

Table: Water Level Measurements Collected during Calendar Year 2023

Database Query Syntax: "Measurement Date" > '2022-12-31' and "Measurement Date" < '2024-01-01'

GCD Water Well ID	Measurement Date	Parameter Measurement
NW-00570	3/10/2023	23
NW-00539	3/10/2023	25
GW-00439	3/10/2023	14
GW-00234	3/4/2023	49
GW-00124	4/25/2023	42
GW-00079	4/25/2023	23
GW-00439	7/26/2023	15
NW-00570	7/26/2023	29
NW-00539	7/26/2023	26
Average:		27

RGCD - Intera Report Water Level Analysis for CY2022 - 20231218.pdf



Untitled Attachment

See: Meeting Minutes - 20240205 - Board of Directors.