South American Subbasin Groundwater Sustainability Plan

Fifth Annual Report, Water Year 2025

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Submitted by:

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SOUTH AMERICAN SUBBASIN GSP - ANNUAL REPORT

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Executive Summary

California Water Code (CWC) §356.2 requires the submission of an annual report to the California Department of Water Resources (DWR) by April 1 of each year following the adoption of the Groundwater Sustainability Plan (GSP or Plan). This report is the fifth annual report submitted to DWR following GSP submission and provides an update on basin conditions and plan implementation progress within the South American Subbasin (SASb) (**Figure ES-1**) for Water Year (WY) 2025 (October 1, 2024 – September 30, 2025). The report is prepared on behalf of six groundwater sustainability agencies (GSAs) covering the South American Subbasin: the Sacramento Central Groundwater Authority (SCGA), Omochumne Hartnell Water District (OHWD), Sacramento County GSA (Sac Co GSA), Northern Delta GSA, Sloughhouse Resource Conservation District (SRCD) GSA, and Reclamation District 551 (RD 551) GSA (**Figure ES-1**).

The SASb GSP provides a path towards sustainable, long-term groundwater management that achieves the Basin's Sustainability Goal:

> **The Sustainability Goal of the Basin is to protect and ensure the long-term viability of groundwater resources for domestic, urban, agricultural, industrial, and environmental beneficial users of groundwater. The Sustainability Goal will be achieved by rigorous assessment of potential impacts to these beneficial users, and scientifically-informed management that avoids significant and unreasonable impacts to beneficial uses and users of groundwater.**

This is demonstrated by an analysis of potential impacts to all beneficial users of groundwater, including, but not limited to, water supply entities, shallow well users, interconnected surface waters, and groundwater dependent ecosystems assuming a moderate warming climate change scenario and projected groundwater use. Results suggest that if 100% of the 45 Representative Monitoring Points (RMP) in the SASb simultaneously reached groundwater level minimum thresholds (MTs), less than 5% of wells would be impacted, less than 5% of interconnected surface water reach length would be impacted, and less than 5% of groundwater dependent ecosystem area would be impacted (Section 3.2, Section 3.3, and Appendices 3A-3C of the adopted SASb GSP; SASb, 2021). Thus, groundwater level MTs developed for the SASb GSP conservatively protect against impacts to beneficial users of groundwater within a reasonable margin of safety, and the maintenance of groundwater levels above MTs strongly indicates the avoidance of impacts to all beneficial users.

Importantly, measured data in the 2025 water year do not indicate the occurrence of significant undesirable results in the SASb (**Table ES-1**).

The remainder of the Executive Summary presents key metrics for WY 2025, including groundwater level data, groundwater quality data, land subsidence data, estimated water use, estimated groundwater use, estimated groundwater storage change, and progress on Plan Implementation regarding projects and management actions. In the sections and appendices that follow the Executive Summary, each key metric is discussed in detail.

It is noted that WYs 2021 and 2022 were critically dry. The lack of rainfall and decreased availability of surface water during critically dry periods resulted in lower groundwater levels due to decreased natural recharge, and increased groundwater pumping. Water year 2023 was a wet year and WY 2024 was above normal. DWR has not published a final value for 2025, but it is assumed to be above normal. Relatively low groundwater extractions and relatively high recharge into the aquifer during WYs 2023 through 2025 resulted in higher groundwater levels and increased groundwater storage.

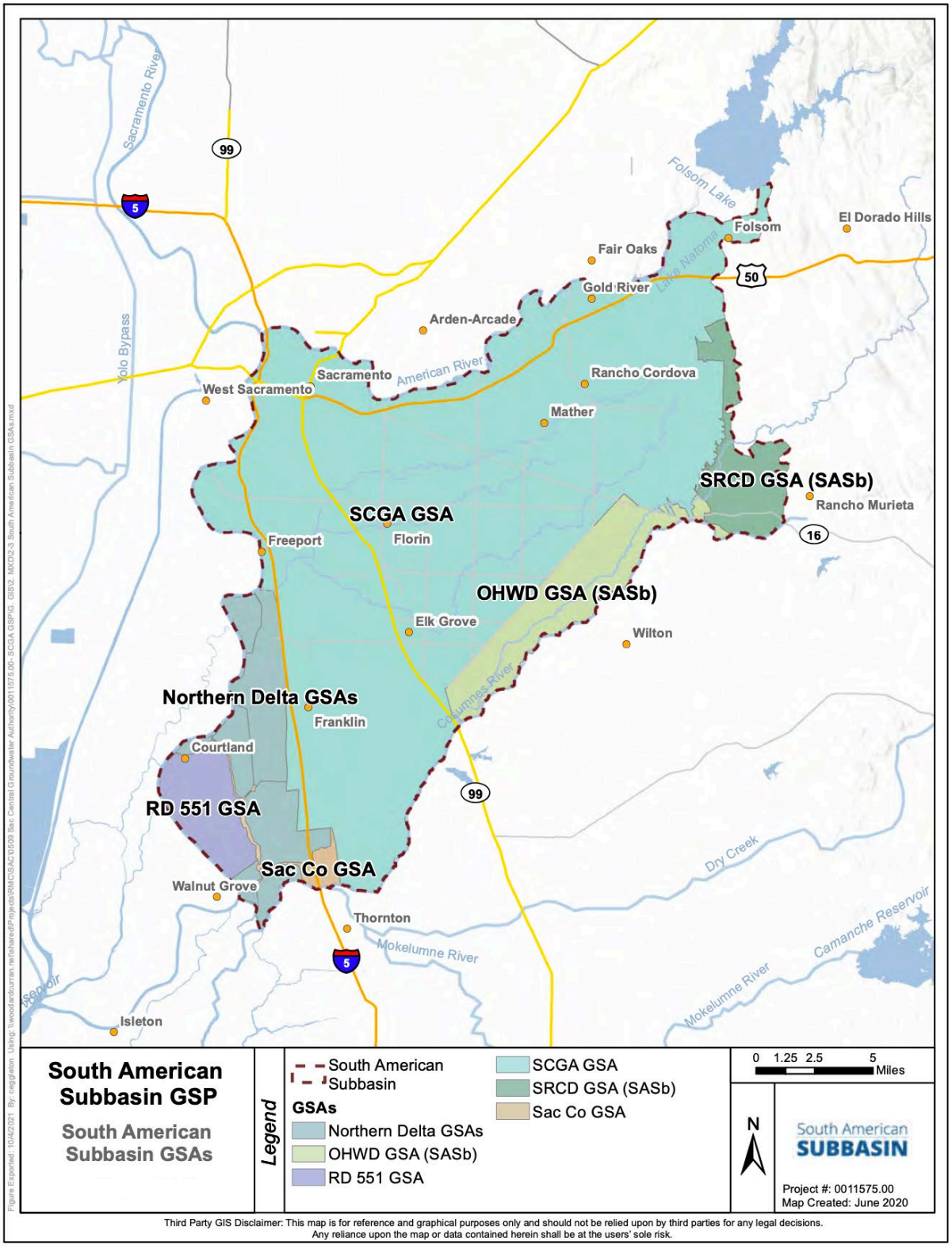

Figure ES-1: South American Subbasin and its six GSAs in Sacramento County, California

Table ES-1: Summary of Sustainable Management Criteria

Sustainability Indicator	Minimum Threshold (MT)	Measurable Objective (MO)	Occurrence of Undesirable Results	Water Year 2025 Annual Report Status
Groundwater Levels	Set at historical minimum elevations to protect sensitive uses and users and avoid undesirable results.	Average groundwater levels observed from January 2015 to June 2021. MOs are higher in the Harvest Water area to account for recharge over time.	More than 25% of representative monitoring wells fall below MTs for three consecutive years.	***No occurrence of undesirable results***
Groundwater Storage	Groundwater levels used as a proxy for this sustainability indicator.			***No occurrence of undesirable results***
Seawater Intrusion	This sustainability indicator is not applicable in the SASb.			
Degraded Groundwater Quality	Nitrate = 10 mg/L Specific Conductance = 1,600 micromhos/cm	Maintain concentration at each RMP below the maximum concentration observed at the RMP prior to May 2020. No MO shall exceed 90% of the MT (9 mg/L for nitrate, 1,440 micromhos/cm for specific conductance).	More than 2 RMPs exceeding the MT for Nitrate or for Specific Conductance.	***No occurrence of undesirable results***
Land Subsidence	No more than 0.1 foot in any single year and a cumulative 0.5 foot in any five-year period, resulting in no long-term permanent subsidence.	Maintain current ground surface elevations	When subsidence substantially interferes with beneficial users of groundwater and surface land uses.	***No occurrence of undesirable results***
Depletions of Inter-connected Surface Waters	Groundwater levels used as a proxy for this sustainability indicator.			***No occurrence of undesirable results***

mg/L = milligrams per liter

Groundwater Levels

Measured groundwater levels in WY 2025 were above MTs in 91% of RMPs and do not indicate the occurrence of undesirable results (**Section 2.1**). Fall 2025 groundwater levels were compared to MTs, MOs, and 2027 milestones. The measurement taken on the date closest to September 30, 2025 (the end of the 2025 water year) was used for each well. For wells with continuous measurements on telemetry, the average of the groundwater levels recorded for the month of October was used, or the median value for the month. Groundwater levels stayed above MTs in 91% of measured RMPs; therefore, 9% of measured RMPs were below MTs. This frequency of wells below MTs avoids the identification of undesirable results defined in the GSP (25% of wells below MTs for three consecutive years) and, by extension, avoids significant and unreasonable impacts to domestic, urban, agricultural, and industrial groundwater users. Groundwater levels in measured RMPs for interconnected surface water (ISW) stayed above MTs in 89% of RMPs. Only one measured ISW RMP (11%) was below the MT, which avoids the occurrence of significant and unreasonable impacts to ISW.

Water Use and Groundwater Budget

Total groundwater extractions for WY 2025 are estimated to be 187,900 acre-feet (AF), including 27,900 AF for remediation (**Section 2.2**), while surface water diversions are estimated to be 152,400 AF (**Section 2.3**). Total water use is estimated to be 312,400 AF (**Section 2.4**). The CoSANA model water budget for the basin calculated an estimated increase in SASb storage of about 7,000 AF during WY 2025 (**Section 2.5**). During the 31-year period from 1995-2025, there has been an estimated cumulative increase in groundwater storage of 139,400 AF.

Land Subsidence

Land subsidence was measured by satellite data and is within instrument measurement error for nearly the entire basin (i.e., InSAR; **Section 2.6**). In WY 2025, a small area north of Sloughhouse experienced vertical displacement of about -0.15 ft, but the cumulative displacement in the past 5 years is less than 0.5 feet. The region experiencing the subsidence is about 0.3 square miles in size and is located east of the intersection of Grant Line Road and Keifer Boulevard. Land subsidence in the Basin did not exceed the minimum threshold.

Groundwater Quality

Groundwater quality Sustainable Management Criteria (SMC) are defined for nitrate and specific conductance. Measured groundwater concentrations during WY 2025 are presented in **Section 2.7** and do not indicate the occurrence of undesirable results (greater than two wells with exceedances for either nitrate or specific conductance). There were no exceedances of nitrate nor specific conductance MTs at any of the RMPs during WY 2025.

Plan Implementation Progress

Progress continues in the implementation of the GSP. Harvest Water remains on schedule to complete construction in 2026 and begin delivering recycled water to growers by 2027. OHWD was previously granted a five-year temporary groundwater recharge permit through the State Water Board, and in WY 2025 recharged 326.1 AF from the Cosumnes River to the Basin. Flood water was diverted from the Cosumnes River in February and March under State Water Code

1242.1. The 224 AF diverted was conveyed through an existing ditch system and then applied to agricultural fields for recharge.

Outreach and communication with stakeholders continues, and the Domestic Well Advisory Group (DWAG) focused on collecting groundwater level measurements from volunteers and continuing to improve the domestic well inventory. Additionally, the GSAs collaborated with the DWAG and the Volunteer Monitoring Program (VMP) to evaluate data quality and to further coordinate on monitoring and reporting to support GSP implementation.

1 Introduction

The South American Subbasin (SASb, or Basin) Groundwater Sustainability Plan (GSP or Plan) was adopted in November and December of 2021 by six Groundwater Sustainability Agencies (GSAs) formed in accordance with the Sustainable Groundwater Management Act (SGMA) of 2014: the Sacramento Central Groundwater Authority (SCGA), Omochumne Hartnell Water District (OHWD), Sacramento County GSA (Sac Co GSA), Northern Delta GSA, Sloughhouse Resource Conservation District (SRCD) GSA, and Reclamation District 551 (RD 551) GSA (**Figure ES-1**). The GSAs were formed to coordinate, develop, and implement a GSP for the South American Subbasin (DWR Subbasin No. 5-012.01). The GSP was submitted to the California Department of Water Resources (DWR) on January 27, 2022, ahead of the January 31, 2022 deadline for high- and medium-priority basins.

California Water Code (CWC) §356.2 requires the submission of an annual report to DWR by April 1 of each year following the adoption of the GSP. This report is the fifth annual report submitted to DWR following submission of the GSP and provides an update on basin conditions and initial plan implementation progress within the SASb for Water Year (WY) 2025 (October 1, 2024 – September 30, 2025). CWC §356.2 requires annual reports to include general information about the SASb and GSP, groundwater elevation data (contour maps and hydrographs), groundwater extraction, surface water supply, changes in groundwater storage, and a description of progress towards implementation of the GSP since the end of the study period for the previous annual report.

The annual report production schedule follows the completion of the preceding water year:

- September 30: end of water year for upcoming reporting period
- October 1 – November 15 (1.5 months): input preceding water year data into the Data Management System (DMS)
- November – January (3 months): produce draft report
- February - March (2 months): review and finalize report
- April 1: submit finalized report to DWR

GSAs implement the annual reporting process by collecting groundwater data, coordinating and communicating with stakeholders and the public, and overseeing the monitoring, modeling, and sustainable management criteria (SMC) tracking that informs annual reporting. GSAs are also responsible for broader SGMA implementation.

Fundamentally, the Annual Report serves as an annual touchpoint and progress report to survey groundwater conditions across the basin, evaluate conditions against SMCs, summarize implementation activities, and communicate findings with state agencies, member agencies, and the public. It is noted that data relevant to the production of the GSP, and key metrics such as water level and groundwater quality, are available from the basin's DMS[1].

[1] https://opti.woodardcurran.com/southamericansubbasin/main.php

2 Basin Conditions

2.1 Groundwater Elevations

The SASb GSP defines Sustainable Management Criteria with respect to quantifiable impacts to beneficial users of groundwater that if exceeded, would lead to the occurrence of undesirable results. The SASb GSP focuses on three classes of sensitive groundwater users – shallow wells, interconnected surface waters, and groundwater dependent ecosystems – in three technical appendices. Results suggested that if 100% of the 45 representative monitoring points (RMPs) in the SASb simultaneously reached groundwater level minimum thresholds (MTs), less than 5% of wells would be impacted, less than 5% of interconnected surface water reach length would be impacted, and less than 5% of groundwater dependent ecosystem area would be impacted (Section 3.2, Section 3.3, and Appendices 3A-3C; SASb, 2021). Hence, groundwater level MTs developed for the SASb GSP conservatively protect against impacts to all beneficial users of groundwater within a reasonable margin of safety, and the maintenance of groundwater levels above MTs is a proxy that strongly indicates the avoidance of impacts to beneficial users.

The groundwater elevation monitoring network is described in Section 3.5.2 of the GSP and is designed to demonstrate groundwater occurrence, level, flow directions, and hydraulic gradients between the principal aquifer and surface water features. The groundwater level monitoring network presented in the GSP included 45 wells; however, two wells were recently sealed or destroyed, leaving 43 wells in the network as shown in **Figure 2-1**.

Groundwater level data were collected from the following sources:

- Department of Water Resources
- Omochumne-Hartnell Water District
- California State University Sacramento (CSUS)
- Sacramento Central Groundwater Authority
- Aerojet Superfund Site

The intent of comparing fall 2025 groundwater levels to MTs, measurable objectives (MOs), and 2027 milestones is to evaluate the status of groundwater conditions in the SASb. In implementing this approach, the measurement taken on the date closest to September 30, 2025 (the end of WY 2025) was used for each well. For wells with continuous measurements on telemetry, the average of the groundwater levels recorded for the month of October was used or the median value for the month. Measurements from all 43 RMPs included in this evaluation were collected in October 2025, with the exception of three measurements collected in September. **Table 2-1** provides a comparison of measured groundwater elevations at each monitoring well with MTs, MOs, and the 2027 interim milestones (IM). **Figure 2-2** displays a map of each RMP measured in fall 2025 and compares the measured groundwater elevation to the RMP's MT. Separate maps for the upper and lower aquifer zones are provided. The upper aquifer zone includes the alluvium and the Laguna formation, and the lower aquifer zone includes the Mehrten, Valley Springs, and Ione formations.

Groundwater levels observed for WY 2025 were above MTs in 91% of measured RMPs[2]; thus 9% of measured RMPs were below MTs, which avoids the occurrence of undesirable results (defined in the GSP as 25% of RMP wells below MTs **for three consecutive years**) and by

[2] 43 of 45 groundwater level and storage RMPs are included in this evaluation, and 39/43 of these RMPs (91%) stayed above MTs.

extension, reflects an absence of significant and unreasonable impacts to domestic, urban, agricultural, industrial, and environmental beneficial users of groundwater. Of the 43 wells included in this evaluation, four were below the MT and five were below the 2027 IM at the time of measurement. All four RMPs with water levels below the MT are in the lower aquifer and are within or in the vicinity of the Aerojet Superfund Site.

RMP_39, RMP_42, and RMP_43 had water levels below their respective MTs and are monitoring wells for the Aerojet Superfund Site. The three wells are within the lower aquifer zone and RMP_42 is part of the interconnected surface water monitoring (ISW) network. As shown in **Figure 2-4** and *Appendix A: Groundwater Elevation Hydrographs*, groundwater levels at RMP_39 have been relatively consistent but below the MT since April 2022, groundwater levels at RMP_42 declined between 2019 and 2022, and groundwater levels at RMP_43 declined between 2019 and 2022. Last year, water levels at RMP_39 and RMP_42 were below their MTs, while RMP_43 was only slightly above its MT. Groundwater remediation pumping is conducted in the region of the Aerojet Superfund Site, and further evaluation is needed to determine if this remediation pumping impacts water levels at these RMPs.

RMP_36 had a measured water level below its MT and is an irrigation well in the lower aquifer zone. The RMP's hydrograph, presented in **Figure 2-4** and in *Appendix A: Groundwater Elevation Hydrographs*, shows water levels at this well appear to be experiencing a gradual but steady decline since 2008. RMP_36 was above its MT last year. This well is near the Aerojet Superfund Site, approximately 1.5 miles southeast of RMP_39, and is being evaluated to determine if remediation pumping is impacting this site.

Groundwater levels in measured RMPs for ISW[3] stayed above MTs in 89% of RMPs; thus only one of the measured RMPs was below MTs, which avoids the occurrence of significant and unreasonable impacts to ISW. The recently sealed RMP_37 was an ISW RMP in the GSP, resulting in nine ISW RMPs as opposed to the original 10. Of the nine ISW RMPs, one was below the 2027 interim milestone at the time of measurement, and eight were above. The ISW RMPs are indicated in **Figure 2-1** and **Figure 2-2**.

[3] 9 ISW RMP measurements are included as part of this evaluation, and 8/9 (89%) of these RMPs stayed above MTs.

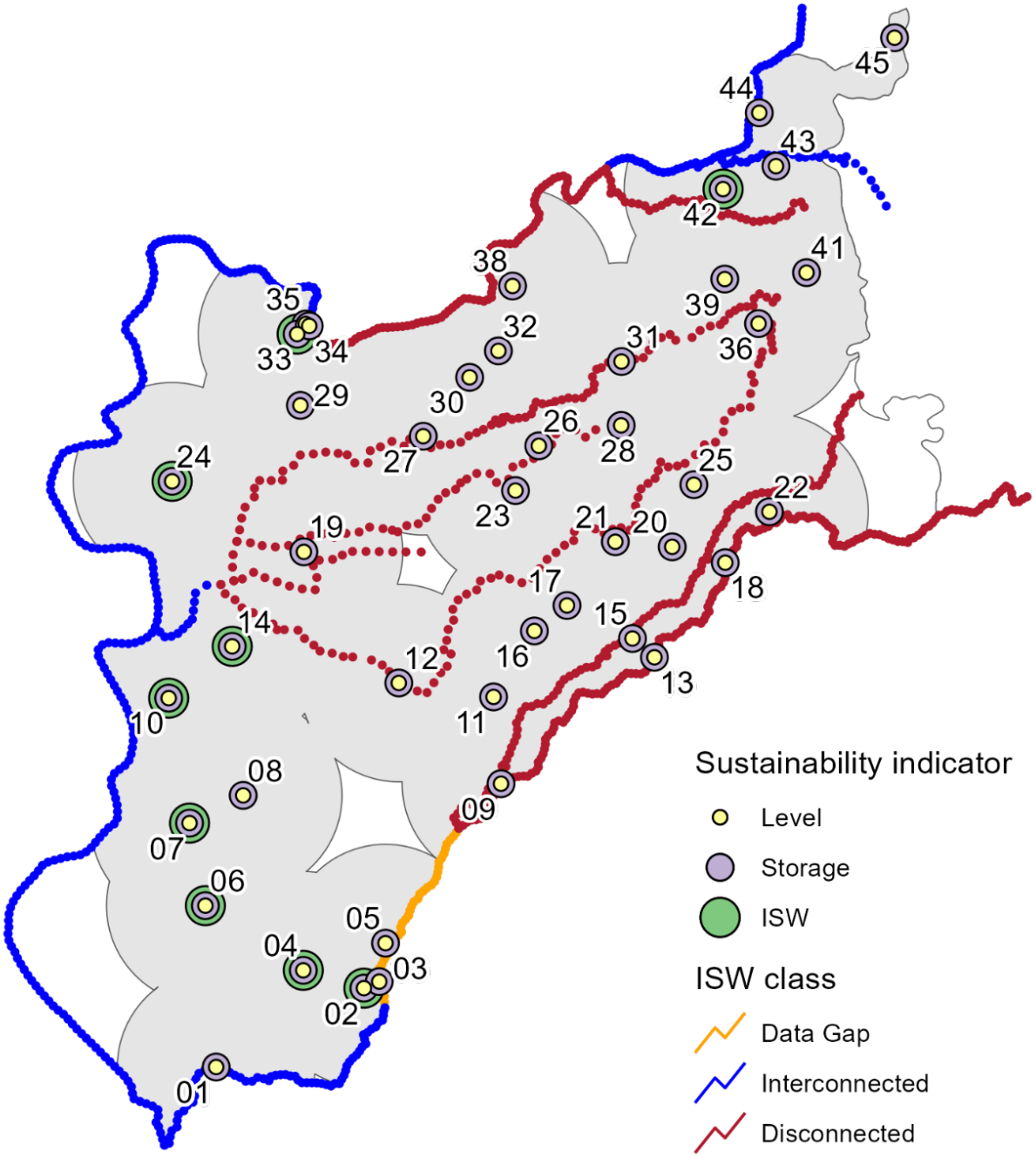

Figure 2-1: Groundwater Levels Monitoring Network[4]

[4] Inactive RMPs not mapped (e.g., RMP_37 and RMP_40). Red dots indicate probable disconnected reaches, blue dots indicate probable interconnected reaches). Network coverage is depicted with grey, circular 24.25 square mile buffers around each monitoring point.

Table 2-1: Measured Elevations in Water Year 2025 Compared to Sustainability Criteria and 2027 Interim Milestones.

RMP	Aquifer Zone (1)	WY 2025 Date Measured	WY 2025 Measured Elevation (feet amsl)	Minimum Threshold (feet)	Measurable Objective (feet)	Status Compared to MT and MO	2027 Interim Milestone (feet)	Status compared to 2027 IM
01	upper	10/182025	8.2	-3	1	Above MO	-2	Above IM
02	upper	9/11/2025	-16.2	-29	12	Above MT	-18	Above IM
03	upper	10/9/2025	-3.3	-14	14	Above MT	-6	Above IM
04	upper	10/8/2025	-23.1	-46	-10	Above MT	-36	Above IM
05	upper	10/9/2025	2.4	-15	31	Above MT	-3	Above IM
06	upper	9/11/2025	-16.0	-28	9	Above MT	-18	Above IM
07	upper	10/8/2025	-8.3	-12	-3	Above MT	-9	Above IM
08	upper	10/8/2025	-15.3	-28	-19	Above MO	-25	Above IM
09	upper	10/17/2025	31.6	-3	26	Above MO	5	Above IM
10	upper	10/8/2025	-6.9	-11	-7	Above MO	-9	Above IM
11	upper	10/1/2025	-17.8	-33	-22	Above MO	-30	Above IM
12	lower	10/7/2025	-23.3	-41	-34	Above MO	-38	Above IM
13	upper	10/14/2025	-22.4	-37	-20	Above MT	-32	Above IM
14	upper	10/8/2025	-7.9	-18	-14	Above MO	-16	Above IM
15	upper	10/15/2025	36.0	-34	31	Above MO	-17	Above IM
16	upper	10/7/2025	-25.0	-42	-33	Above MO	-39	Above IM
17	lower	10/7/2025	-28.8	-47	-38	Above MO	-44	Above IM
18	lower	10/13/2025	14.7	5	10	Above MO	7	Above IM
19	lower	10/1/2025	-8.3	-23	-17	Above MO	-21	Above IM
20	upper	10/17/2025	-6.1	-17	-8	Above MO	-14	Above IM
21	lower	10/9/2025	-16.2	-54	-37	Above MO	-49	Above IM
22	lower	10/17/2025	39.1	14	35	Above MO	20	Above IM
23	upper	10/14/2025	-22.5	-34	-29	Above MO	-32	Above IM
24	upper	10/8/2025	-6.0	-12	-7	Above MO	-10	Above IM
25	lower	10/7/2025	10.1	4	10	Above MO	6	Above IM
26	lower	10/7/2025	-20.2	-34	-28	Above MO	-32	Above IM
27	upper	10/7/2025	-12.2	-50	-34	Above MO	-45	Above IM
28	lower	10/14/2025	-11.9	-21	-14	Above MO	-18	Above IM
29	upper	10/8/2025	0.1	-5	1	Above MT	-3	Above IM
30	lower	10/7/2025	-11.1	-41	-29	Above MO	-37	Above IM
31	lower	10/7/2025	-13.1	-22	-10	Above MT	-18	Above IM
32	lower	10/1/2025	-2.6	-16	-6	Above MO	-13	Above IM
33	upper	10/30/2025	6.1	-5	-1	Above MO	-3	Above IM
34	upper	10/30/2025	5.0	-6	-1	Above MO	-4	Above IM
35	lower	10/30/2025	5.1	-8	-4	Above MO	-6	Above IM
36	lower	10/7/2025	67.9	68	75	Below MT	71	Below IM
37 (2)	upper	n/a	n/a	1	5	Unknown	3	Unknown
38	upper	10/7/2025	30.8	15	19	Above MO	17	Above IM
39	lower	9/30/2025	97.3	99	105	Below MT	101	Below IM
40 (2)	lower	n/a	n/a	14	48	Unknown	24	Unknown
41	upper	10/13/2025	102.0	90	123	Above MT	99	Above IM
42	lower	10/1/2025	99.4	102	110	Below MT	105	Below IM
43	lower	10/2/2025	196.3	198	206	Below MT	201	Below IM
44	lower	10/7/2025	131.3	130	133	Above MT	132	Below IM
45	lower	10/9/2025	363.6	362	366	Above MT	363	Above IM

1. The upper zone includes the alluvium and the Laguna formation, and the lower zone includes the Mehrten, Valley Springs, and Ione formations.
2. RMP removed from the network due to the RMP being sealed (RMP_37) or destroyed (RMP_40).

3. amsl = above mean sea level

Groundwater elevations measured at RMPs in WY 2025 are reported as biannual contour maps (i.e., spring and fall levels) and hydrographs. Contour maps provide a regional, spatial snapshot of groundwater levels, whereas hydrographs drill down into representative locations and show data from preceding water years to illustrate long-term trends and dependencies on water year type. Contour maps (**Figure 2-3**) show groundwater elevations across spring and fall seasons, with characteristically slightly higher spring levels compared to fall levels. Wells within a 20-kilometer (12.42 mile) buffer of the SASb boundary are retained in groundwater level interpolation (via ordinary kriging) to represent cross-boundary hydraulic gradients and the regional groundwater elevations in Sacramento County within which the SASb is located. Spring (February to May) and fall (October to November) measurements are grouped by month to create the two groundwater level contour maps.

As reported in the SASb GSP, groundwater elevation gradients point inwards towards centers of groundwater pumping. Groundwater elevations are near land surface elevation in the southwestern portion of the SASb.

Hydrographs of groundwater elevations and water year type using historical data from January 1, 2005 through the current reporting year are presented in **Figure 2-4**. Larger images of the hydrographs that include an extended period of record are presented in *Appendix A: Groundwater Elevation Hydrographs*.

2.1.1 Groundwater Elevation Monitoring Network Status Update

As detailed in the Annual Report for WY 2022, two water level RMPs have been removed from the network (RMP_37 was sealed and RMP_40 was destroyed). RMP_37 was also part of the initial ISW network.

With the two wells removed from the network, the remaining 43 water level RMPs provide adequate coverage that is representative of basin conditions. The upcoming GSP 2027 Periodic Evaluation includes an assessment of the monitoring network. The results of this assessment will determine whether additional monitoring is needed.

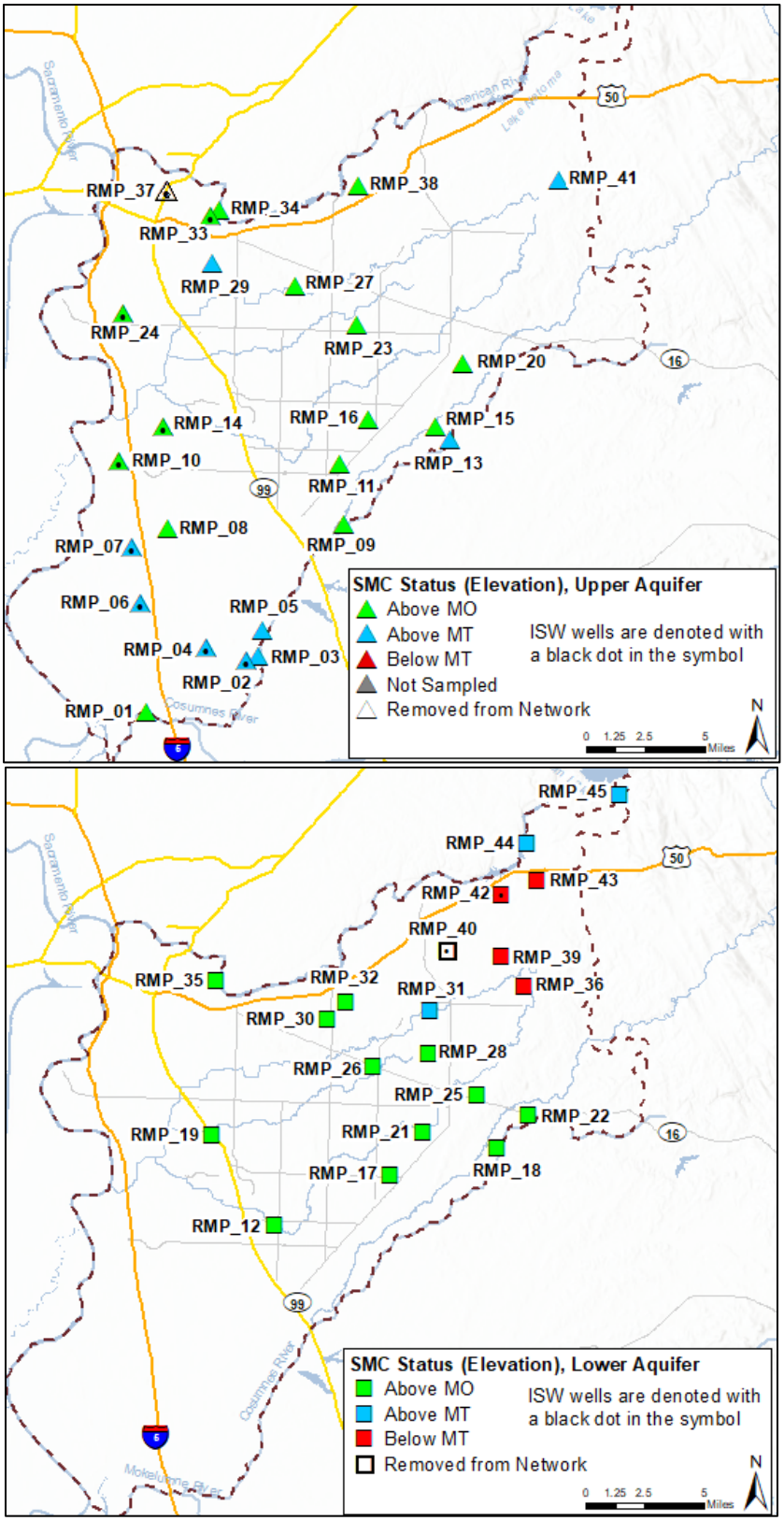

Figure 2-2: WY 2025 Groundwater Elevations Compared to SMC, Upper Zone (above image) and Lower Zone (below image)

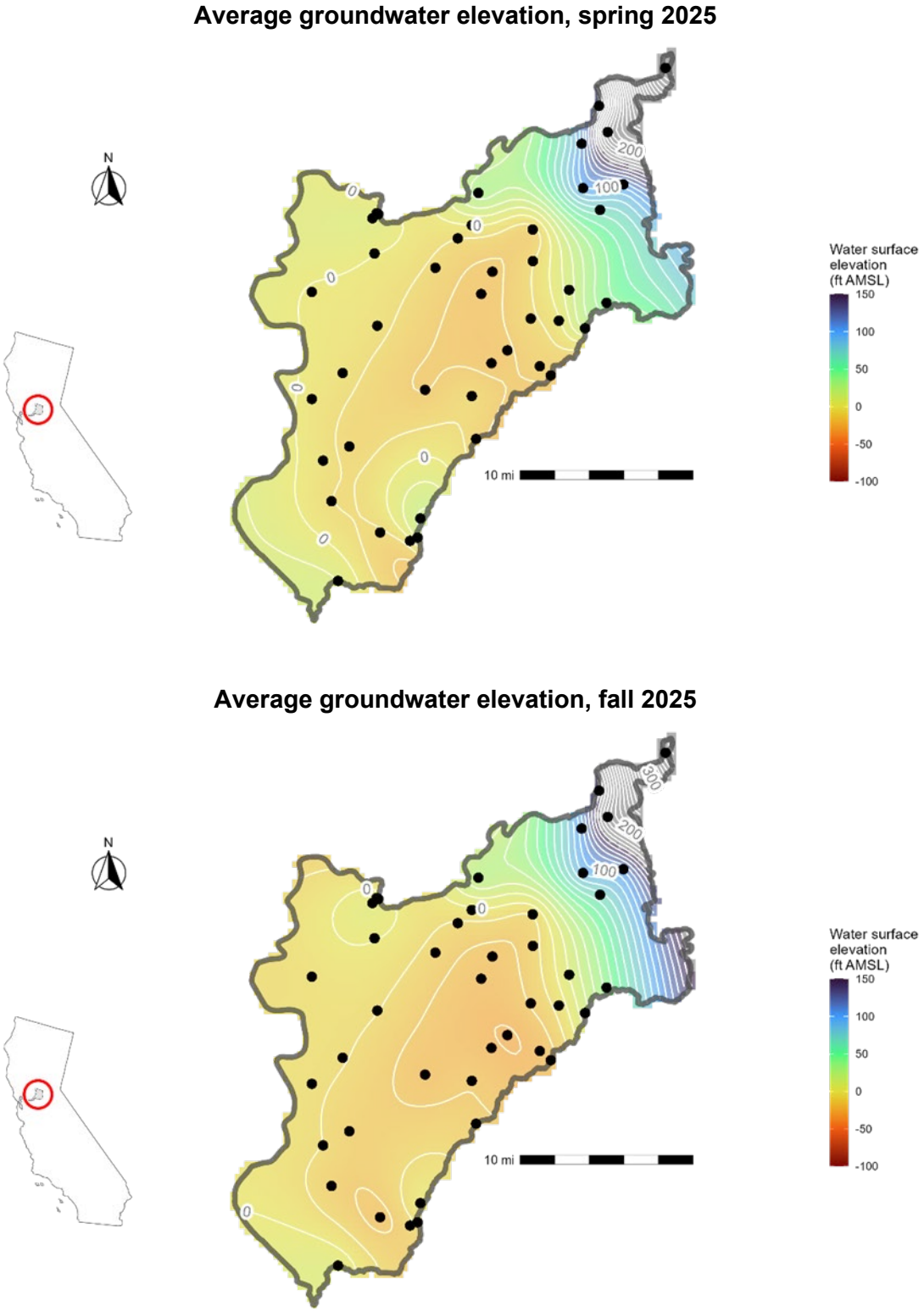

Figure 2-3: Spring (upper plot) and fall (lower plot) seasonal high and low groundwater elevation contours for water year 2025 in the South American Subbasin (ft AMSL). Black dots indicate representative monitoring point wells within the basin with measured groundwater elevation data used to create the groundwater elevation contours.

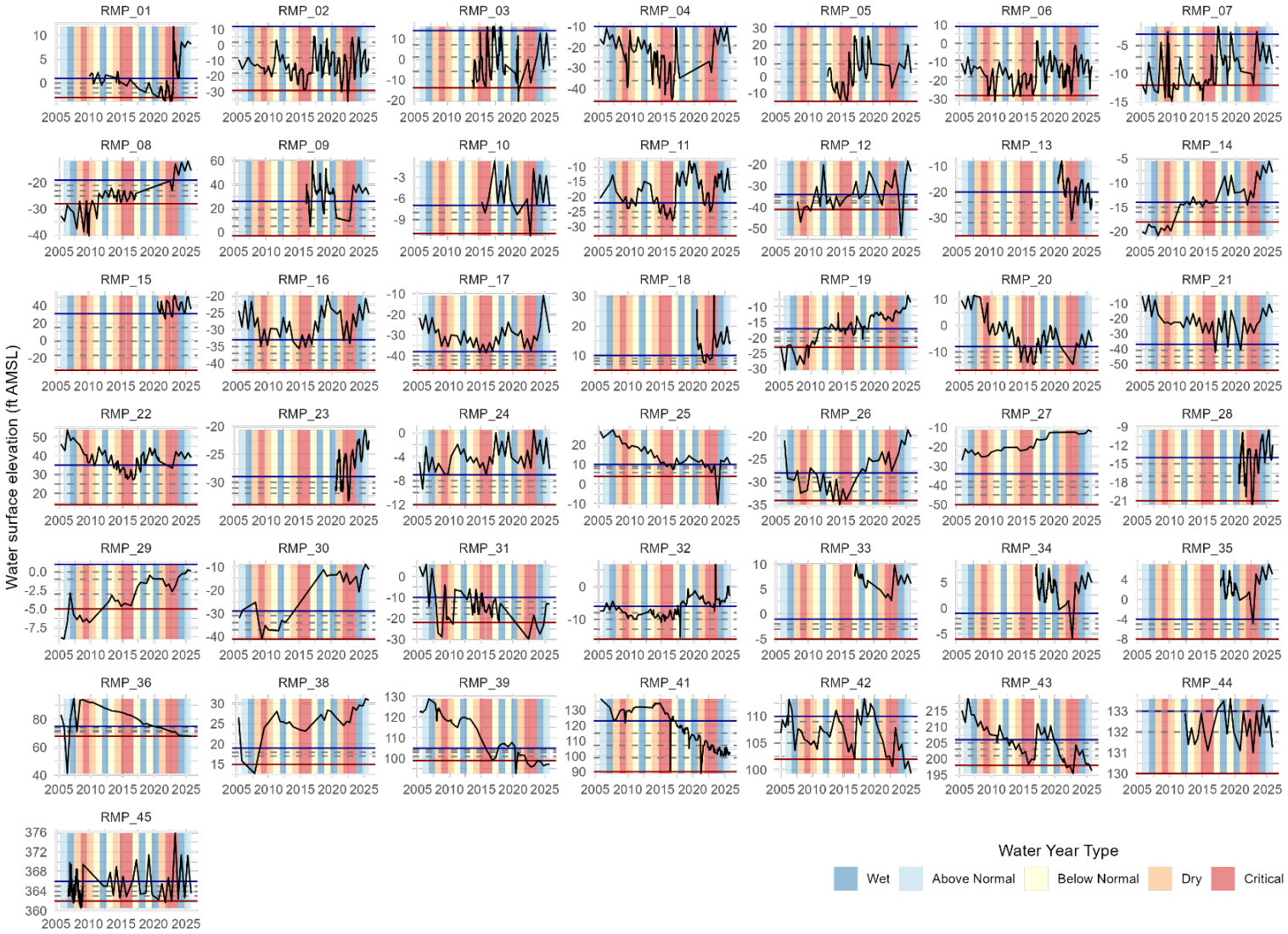

Figure 2-4: Groundwater elevation at RMPs in the SASb. SMC levels are drawn as horizontal dashed lines and indicate the MO (dark blue), IMs (light grey dashed), and MT (dark red). Larger images are presented in Appendix A.

2.2 Groundwater Extractions

Table 2-2 summarizes monthly groundwater extractions for WY 2025 by water use sector. Groundwater extraction data for municipal and industrial, as well as remediation uses were obtained from the following entities located in the SASb:

- Aerojet Superfund Site
- California American Water Company
- City of Sacramento
- Elk Grove Water District
- Golden State Water Company
- Kiefer Landfill
- Sacramento County Water Agency
- Tokay Park Water Company

Groundwater extractions for agricultural and agricultural residential water users were estimated using the Cosumnes-South American-North American (CoSANA) model based on factors including land use, evapotranspiration, and precipitation. CoSANA is a fully integrated surface and groundwater flow model covering all three subbasins. Details about CoSANA can be found in the CoSANA model documentation report that is included as Appendix 2-B to the GSP.

For the Annual Report preparation, CoSANA model hydrology was extended to include the 2025 water year by extending the model input data, including the WY 2025 evapotranspiration, precipitation, surface water flows, surface water deliveries, groundwater extractions, and boundary conditions. In addition, the North American Subbasin (NASb) portion of the model has undergone significant upgrades on features and data using grant funding from the DWR. Given that the American River is on the boundary with NASb, the upgrades affect modeling the hydrologic conditions for the SASb, which are reflected in the modeling results included herein.

For WY 2025, total groundwater extractions are estimated to be 187,900 AF, including a total of 160,000 AF for municipal & industrial and agricultural use and an additional 27,900 AF for remediation. This is less than the sustainable yield of 235,000 AF estimated in the GSP. **Figure B-1** in *Appendix B* displays the general locations of groundwater extractions as modeled by CoSANA in the SASb during WY 2025.

Table 2-2: Monthly Groundwater Extractions by Water Use Sector, Water Year 2025

Month	Municipal & Industrial (AF)	Agricultural (including Ag Res) (AF)	Remediation (AF)	Total Groundwater Extractions (AF)
Oct-24	3,900	10,700	2,600	17,200
Nov-24	2,400	1,500	2,400	6,300
Dec-24	2,100	1,200	2,900	6,200
Jan-25	1,800	3,400	3,000	8,200
Feb-25	1,900	1,000	2,600	5,500
Mar-25	2,200	3,800	2,400	8,400
Apr-25	3,200	11,700	2,600	17,500
May-25	4,800	17,100	2,400	24,300
Jun-25	5,100	17,200	1,800	24,100
Jul-25	5,100	18,300	1,700	25,100
Aug-25	4,800	20,500	1,900	27,200
Sep-25	4,300	12,000	1,800	18,100
Total	41,600	118,400	27,900	187,900

2.3 Surface Water Supply

SGMA requires that the GSP annual report tabulate "*Surface water supply used or available for use*…" (emphasis added, CCR §356.2 [b] [3]). **Table 2-3** summarizes total monthly surface water available for use for WY 2025, broken down by water use sector. The table reports total surface water diversions and not surface water used, which is difficult to parse out by sector. Direct measurements were provided by the following water agencies:

- California American Water Company
- City of Sacramento
- Golden State Water Company
- Rancho Murieta Community Service District
- Sacramento County Water Agency

In addition, surface water diversions were estimated using data from the State Water Resource Control Board's eWRIMS datasets for Omochumne Hartnell Water District and Sloughhouse Resource Conservation District.

For WY 2025, total surface water diversions are estimated to be 152,400 AF.

Table 2-3: Monthly Surface Water Diversions by Water Use Sector, Water Year 2025

Month	Municipal & Industrial (AF)	Agricultural (AF)	Total Surface Water (AF)
Oct-24	10,000	300	10,300
Nov-24	6,400	-	6,400
Dec-24	5,600	-	5,600
Jan-25	5,700	-	5,700
Feb-25	5,000	-	5,000
Mar-25	5,600	100	5,700
Apr-25	6,900	400	7,300
May-25	10,200	4,600	14,800
Jun-25	11,600	13,600	25,200
Jul-25	12,800	15,000	27,800
Aug-25	13,300	9,900	23,200
Sep-25	11,900	3,300	15,200
Total	105,200	47,200	152,400

2.4 Total Water Use

In this Annual Report, total water use is assumed to equal the total combined applied water and precipitation from all sources in the SASb, including all consumptive water use (evapotranspiration) and non-consumptive water use (other water uses, e.g. deep percolation and runoff).

Table 2-4 summarizes monthly combined groundwater extractions (**Table 2-2**) and surface water available for use (**Table 2-3**) for WY 2025 by water source. Total water use by water source in WY 2025 is estimated to be 312,400 AF.

Table 2-5 summarizes the total monthly water use by water use sector. Total water use by water use sector is also estimated to be 312,400 AF.

Additionally, a total of 330.4 AF was diverted for recharge by OHWD. This diversion resulted in an estimated net recharge of 326.1 AF. Additionally, flood flows were diverted from the Cosumnes River under State Water Code 1242.1 in February and in March resulting in 224 AF of flood water diverted, conveyed through an existing ditch system, and then applied to agricultural fields for recharge.

Table 2-4: Monthly Total Water Use by Water Source, Water Year 2025

Month	Groundwater (AF)	Surface Water (AF)	Total Water Use by Source (AF)
Oct-24	14,700	10,300	25,000
Nov-24	3,900	6,400	10,300
Dec-24	3,300	5,600	8,900
Jan-25	5,200	5,700	10,900
Feb-25	2,900	5,000	7,900
Mar-25	6,000	5,700	11,700
Apr-25	14,800	7,400	22,200
May-25	21,900	14,800	36,700
Jun-25	22,300	25,200	47,500
Jul-25	23,400	27,900	51,300
Aug-25	25,300	23,200	48,500
Sep-25	16,300	15,100	31,400
Total	160,000	152,400	312,400

Table 2-5: Monthly Total Water Use (AF) by Water Use Sector, Water Year 2025

Month	Municipal & Industrial (AF)	Agricultural (AF)	Refuge, Native and Riparian (AF)[1]	Total Water Use by Sector (AF)
Oct-24	13,900	11,100	N/A	25,000
Nov-24	8,800	1,500	N/A	10,300
Dec-24	7,700	1,200	N/A	8,900
Jan-25	7,400	3,400	N/A	10,800
Feb-25	6,900	1,000	N/A	7,900
Mar-25	7,900	3,900	N/A	11,800
Apr-25	10,100	12,100	N/A	22,200
May-25	15,100	21,700	N/A	36,800
Jun-25	16,800	30,800	N/A	47,600
Jul-25	17,900	33,300	N/A	51,200
Aug-25	18,100	30,300	N/A	48,400
Sep-25	16,200	15,300	N/A	31,500
Total	146,800	165,600	N/A	312,400

[1] Refuge, native and riparian water uses are not explicitly modeled in CoSANA

2.5 Change in Groundwater Storage

The CoSANA model was used to estimate historical change in storage of the SASb from WYs 1995-2019 for the SASb GSP. The model was extended through WY 2025 in advance of development of this annual report.

Figure 2-5 shows the historical annual groundwater budget by year and water year type (according to the Sacramento River index). The figure shows the annual value for each water budget component – including groundwater pumping and change in storage – in each year, as well as the cumulative water volume change in storage each year for the period from 1995 through 2025. As noted above, groundwater extractions in WY 2025 were significantly lower than the sustainable yield (187,900 AF versus 235,000 AF). Due to the relatively low groundwater extractions and the relatively high recharge into the aquifer during the above normal water year, it is estimated that there was an increase in Basin storage of about 7,000 AF during the water year. During the 31-year period from 1995-2025, there has been an estimated cumulative increase in groundwater storage of 139,400 AF.

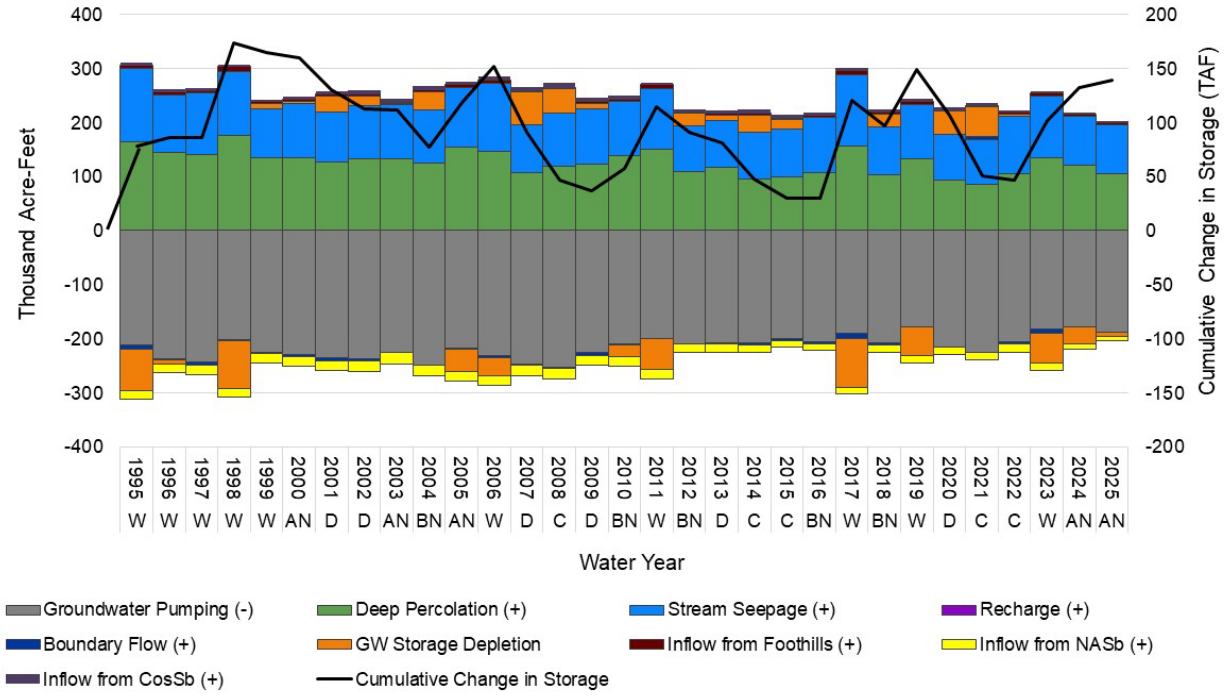

Figure 2-5: Historical Annual Groundwater Budget by Year, Water Year Type, and Cumulative Water Volume [5]

Note: Groundwater storage depletion equals the net amount removed from storage in a given year. Therefore a negative storage depletion reflects a net increase in storage for that year.

Figure B-2 in *Appendix B* displays the total change in groundwater storage, in units of inches, in the principal aquifer of the SASb for WY 2025 in a spatial format as estimated by outputs from CoSANA. The principal aquifer is divided into the upper aquifer and the lower aquifer.

[5] Source: Water year types based on the Sacramento Valley Water Year Index, but 2025 has been assumed to be above normal while waiting for DWR to publish a final 2025 value.

2.6 Land Subsidence

Land subsidence is the lowering of the ground surface elevation. Typically caused by natural compaction, sinkholes, or pumping groundwater from below thick clay layers, land subsidence can be elastic or inelastic. Inelastic subsidence is generally irreversible whereas elastic subsidence refers to usually small, reversible decreases of the ground surface that correspond to seasonal changes in groundwater elevation, and which rebound to pre-subsidence elevations. The minimum threshold for land subsidence in the Basin is set at no more than 0.1 foot in any single year and a cumulative 0.5 feet in any five-year period, resulting in no long-term permanent subsidence. This is set at the same magnitude of estimated error in the InSAR data (+/- 0.1 foot).

As found in the adopted SASb GSP, land subsidence is not known to be historically or currently significant in the Basin. These trends persist in WY 2025; measured land subsidence is within instrument measurement error for nearly the entire basin. In WY 2025, a small area north of Sloughhouse experienced vertical displacement of about -0.15 ft, but the cumulative displacement in the past 5 years is less than 0.5 feet. The region experiencing the subsidence is about 0.3 square miles in size and is located east of the intersection of Grant Line Road and Keifer Boulevard. Land subsidence in the Basin did not exceed the minimum threshold.

2.7 Groundwater Quality

The groundwater quality monitoring network is described in Section 3.5.2 of the GSP and is designed to capture sufficient spatial and temporal detail to understand groundwater quality in the basin. The groundwater quality monitoring network includes 21 wells as shown in **Figure 2-6**. The monitoring network includes one domestic well, 17 municipal wells, and three monitoring wells. The Sacramento Regional County Sanitation District (Regional San) Harvest Water Project is in the process of finalizing a groundwater monitoring network for the Harvest Water Project area. Initial conversations with the Harvest Water Project team indicate that the monitoring network will not be sampled for groundwater quality, but they will explore if they can facilitate access to wells for sampling. If the Harvest Water Project team can facilitate access, then the monitoring network can be reviewed to determine if it would be feasible to implement groundwater quality sampling to support the GSP groundwater quality monitoring network.

Groundwater quality SMCs were established in the GSP for nitrate (as nitrogen) and specific conductance (a measure of salinity). The minimum threshold concentration for each of the constituents of concern is their associated regulatory threshold. For nitrate, this corresponds to the Title 22 Primary Maximum Contaminant Level (MCL) of 10 milligrams per liter (mg/L), and for specific conductance this corresponds to the Title 22 Secondary Maximum Contaminant Level (SMCL) of 1,600 micromhos/cm. The measurable objective for each RMP is to maintain the concentration below the maximum concentration observed at the RMP prior to May 2020. In addition, no measurable objective shall exceed 90% of the minimum threshold (9 mg/L for nitrate, 1,440 micromhos/cm for specific conductance).

Significant and undesirable results for groundwater quality are defined to occur when the number of RMPs experiencing exceedances above the minimum threshold is greater than the number of RMPs with exceedances as of May 22, 2020 (two for nitrate, and two for specific conductance). It is important to note that this threshold relies on the *number* of RMPs experiencing exceedances above the minimum threshold, and not necessarily the *same* RMPs.

Available WY 2025 groundwater quality data were downloaded for each RMP from the Groundwater Ambient Monitoring and Assessment (GAMA) Groundwater Information System for both constituents on December 23, 2025. Some monitoring entities do not report specific conductance data to GAMA; this information was obtained either from the State Water Resources

Control Board's GeoTracker or directly from the monitoring entity. For each RMP, the MO as well as the maximum measured concentration during WY 2025 is presented in **Table 2-6**.

Table 2-6 substitutes the reporting limit for the nitrate result in instances where GAMA denoted the value was below the reporting limit, but above the method detection limit (i.e., the result is an estimated value). The substitution of the reporting limit in these instances documents that groundwater quality is at least as good as the reporting limit. These instances are noted in the table. Additionally, the nitrate graphs in *Appendix C: Groundwater Quality Time Series,* replace non-detect (ND) values with one half the reporting limit, and replace estimated values with the reporting limit. This does not change the evaluation of groundwater quality SMCs.

As shown, measured groundwater quality concentrations during water year 2025 do not indicate the occurrence of undesirable results. There were no exceedances of nitrate nor specific conductance MTs at any of the RMPs during water year 2025. Two RMPs exceeded the MO for specific conductance, and two exceeded the MO for nitrate. Nitrate was not monitored at three RMPs, and specific conductance or TDS was not monitored at thirteen RMPs. *Appendix C: Groundwater Quality Time Series* presents time series beginning in 2005 for nitrate and specific conductance at each RMP.

Section 3.3.3 of the GSP identifies trigger values for nitrate of 50% (5 mg/L) and 90% (9 mg/L) of the Title 22 MCL, and for specific conductance of 90% the upper limit or the 90th percentile value for a calendar year (900 micromhos/cm). The trigger values are intended to identify RMPs to proactively avoid the occurrence of undesirable results. One RMP, L10005519750-MW-G(S), is above the 5 mg/L trigger for nitrate and above the 900 micromhos/cm trigger for specific conductance. During WY 2025, the RMP's nitrate concentration was 8.9 mg/L and the specific conductance was 1,029 micromhos/cm (the specific conductance is also above the RMP's MO). Time series for both constituents are shown on page C-7 of Appendix C. The RMP is a monitoring well for the Florin-Perkins Landfill, a municipal solid waste landfill.

The initial evaluation of groundwater quality conducted for the GSP identified elevated concentrations of arsenic, iron, and manganese in some wells in the SASb. These constituents were not assigned SMCs, but their concentrations at the groundwater quality RMPs are monitored to track potential mobilization or exceedances of the primary MCLs or secondary MCLs, which are measured as averages. Arsenic has a primary MCL of 10 micrograms per liter (μg/L), iron has an SMCL of 300 μg/L, and manganese has an SMCL of 50 μg/L.

Table 2-7 presents summary statistics of concentration data collected at the groundwater quality RMPs during the period January 1, 2005 to September 30, 2025 (non-detect values are replaced with one half the reporting limit, and estimated values are replaced with the reporting limit). For each RMP, the table provides the average value of measurements, as well as the minimum, and maximum values. The number of measurements is also provided. As shown, 20 of the 21 RMPs were sampled for each constituent during the period of analysis. Two of the 20 resulted in an exceedance of the arsenic MCL, seven of the 20 resulted in an exceedance of the iron SMCL, and 11 of the 20 resulted in an exceedance of the manganese SMCL. Additional information, including a review of previous studies in the basin, discussion of the numeric regulatory thresholds, and results of the groundwater quality analysis performed for the GSP can be found in Appendix 2-D of the GSP.

2.7.1 Groundwater Quality Monitoring Network Status Update

During GSP development, wells were selected for inclusion in the groundwater quality monitoring network due to the spatial location of the well, and the long term publicly available record of nitrate and specific conductance (or TDS) data. At the time groundwater quality data was obtained from

GAMA and Geotracker (December 2025); some wells were lacking data for WY 2025, and the monitoring entities were contacted directly to obtain the information.

Though much of the missing data was acquired, nitrate data was unavailable for three wells, and specific conductance or TDS data was unavailable for 13 wells. Information regarding the missing measurements, and planned action for follow up, is as follows:

- RMPs 3410029-002, 3410029-016, 3410029-029, 3410029-024, 3410029-025, 3410029-015, and 3410029-026 are missing specific conductance or TDS. All are part of the SCWA – Laguna/Vineyard water system. A contact for the water system communicated that the wells are sampled on a three-year sampling period for specific conductance and sampled annually for nitrate. An inquiry was made to determine if specific conductance can be monitored and reported annually in the future. A response has not yet been received.
- RMP 3410033-006 is missing nitrate, and specific conductance or TDS. A contact for the water district, Florin County Water District, communicated that the well was sampled in mid-October 2025, which is just outside WY 2025.
- RMP 3400101-001 is missing specific conductance or TDS. A contact for the water system, the Hood Water Maintenance District, communicated that specific conductance measurements are performed every three years, with the next scheduled sampling in August 2026. An inquiry was made to determine if specific conductance can be monitored and reported annually in the future. A response has not yet been received.
- RMP 3901216-001 is missing specific conductance or TDS. A contact for the water system, Santos Ranch PWS #5-CSA #35, communicated that specific conductance measurements are scheduled every three years. An inquiry was made to determine if specific conductance can be monitored and reported annually in the future. A contact for the water system responded that specific conductance will be sampled and recorded during future nitrate sampling, which occurs annually.
- RMP 3400375-001 is missing specific conductance or TDS. The monitoring entity, Slavic Missionary Church, stopped this measurement due to a change in management. An inquiry was made to determine if specific conductance can be monitored and reported annually in the future. A response has not yet been received.
- RMP 3410704-001 is missing nitrate and specific conductance or TDS. An inquiry was made to the contact for the SCWA – Mather-Sunrise water system to determine if nitrate and specific conductance can be monitored and reported annually in the future. A response has not yet been received.
- RMP S7-SAC-SA10 is missing nitrate and specific conductance or TDS. The well is a domestic well, and no information exists online regarding the well owner. The well was last sampled in 2017. It is recommended that this well be removed from the groundwater quality monitoring network as no contact with the owner can be made. Additionally, this well is located directly north of the Harvest Water project area. Once new wells from that network are added to the GSP's groundwater quality monitoring network, this region will have sufficient spatial coverage for this area.

As noted, communication is ongoing to facilitate the monitoring of wells with missing data. The GSP Determination letter, received from DWR on July 27, 2023, includes recommended corrective actions that should be considered for the GSP 2027 Periodic Evaluation, due in late January 2027. One of the recommended corrective actions is to define the data collection frequency for the groundwater quality monitoring network. To satisfy this request, the monitoring

entities responsible for each of the groundwater quality RMPs will be contacted to determine their willingness and ability to conduct monitoring and reporting of nitrate and specific conductance. This will ensure that a scheduled monitoring and reporting plan is followed. If monitoring entities are unwilling or unable to conduct monitoring, then a plan for the continued collection of representative groundwater quality data will be developed. Options may include alternate monitoring entities for the wells, or inclusion of different wells in the network.

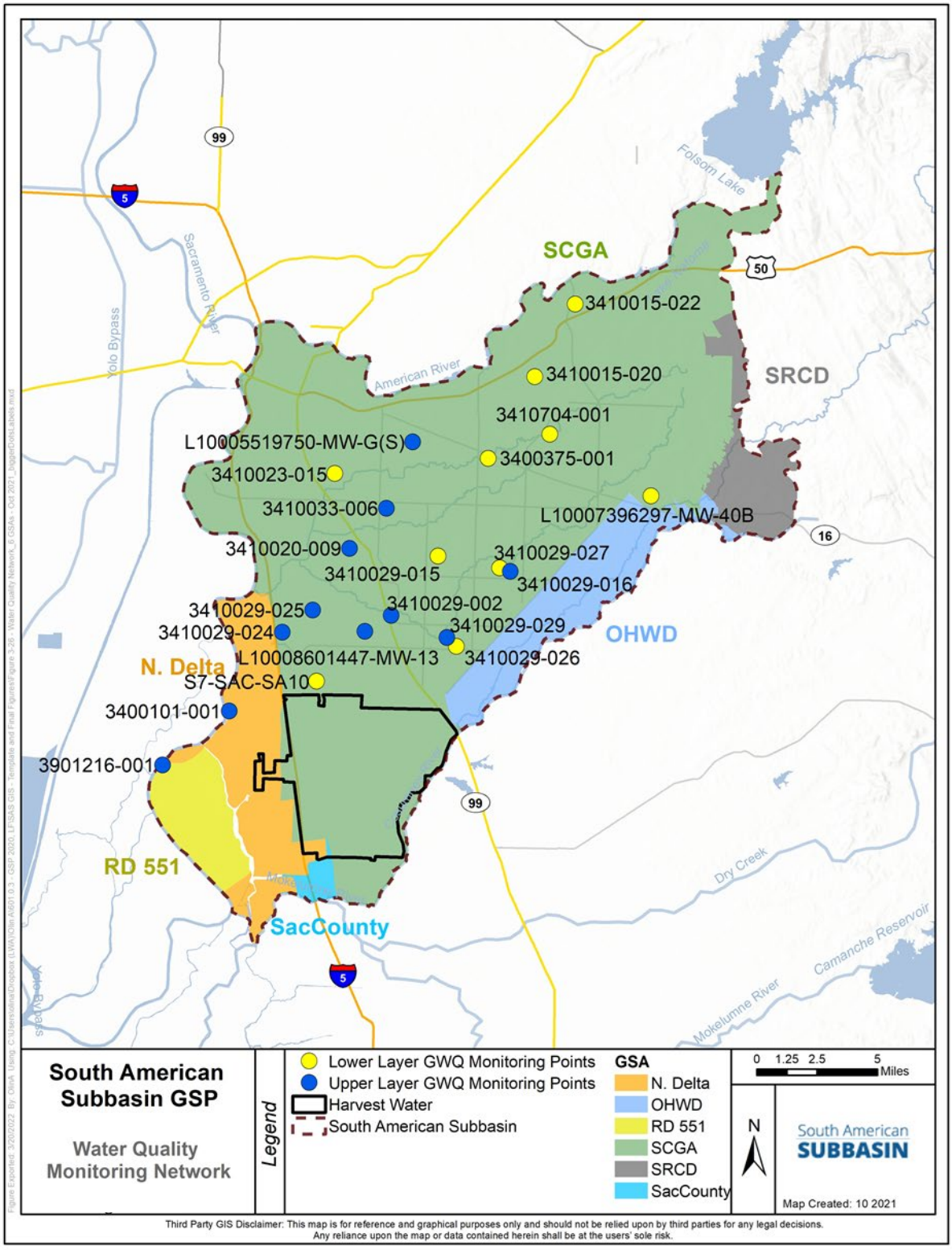

Figure 2-6: Groundwater Quality Monitoring Network

Table 2-6: Water Year 2025 Groundwater Quality (Nitrate MT is 10 mg/L; Specific Conductance MT is 1600 micromhos/cm)

Aquifer Zone	RMP	Nitrate as Nitrogen (mg/L)		Specific Conductance (micromhos/cm)	
		Measurable Objective	Maximum Concentration, WY 2025	Measurable Objective	Maximum Measurement, WY 2025
Upper	3410020-009	3.8	4.1	492	553
Upper	3410029-002	3.0	3.3	470	not monitored (3)
Upper	3410029-016	1.1	1.1	246	not monitored (3)
Upper	3410029-029	2.0	1.8	494	not monitored (3)
Upper	3410033-006	7.2	not monitored (3)	520	not monitored (3)
Upper	L10005519750-MW-G(S)	9.0	8.9	967 (1)	1,029
Upper	L10008601447-MW-13	4.2	0.14	640 (1)	460
Upper	3400101-001	0.5	0.4 (2)	1,200	not monitored (3)
Upper	3410029-024	0.9	0.23 (2)	595	not monitored (3)
Upper	3410029-025	0.5	0.23 (2)	1,440	not monitored (3)
Upper	3901216-001	1.3	1.3	1,440	not monitored (3)
Lower	3400375-001	5.0	0.4 (2)	180	not monitored (3)
Lower	3410015-020	2.1	1.6	240	140
Lower	3410015-022	1.6	0.28	340	230
Lower	3410023-015	1.0	0.01 (2)	915	417
Lower	3410029-015	0.5	0.23 (2)	670	not monitored (3)
Lower	3410029-026	0.5	0.23 (2)	232	not monitored (3)
Lower	3410029-027	0.5	0.23 (2)	230	230
Lower	3410704-001	0.5	not monitored (3)	170	not monitored (3)
Lower	L10007396297-MW-40B	1.9	1.7	359 (1)	302
Lower	S7-SAC-SA10	1.7	not monitored (3)	404	not monitored (3)

MT and MO both exceeded

MT not exceeded, MO exceeded

MO not exceeded

1. Specific conductance data previously unavailable for this well; MO value determined from conversion of TDS to specific conductance using a conversion factor of 1.56 (UCANR, 2023).
2. Value detected at a concentration below the reporting limit (RL) and above the method detection limit (MDL), value of the RL is reported.
3. Well not monitored during WY 2025. Appendix C includes timeseries of monitoring conducted at each well during the period 2005 through WY 2025.

Table 2-7. Summary Statistics for Arsenic, Iron, and Manganese During the Period January 1, 2005 to September 30, 2025

Representative Monitoring Point	Arsenic (µg/L; MCL of 10 µg/L)				Iron (µg/L; SMCL of 300 µg/L)				Manganese (µg/L; SMC of 50 µg/L)			
	Avg.	Min.	Max.	Count	Avg.	Min.	Max.	Count	Avg.	Min.	Max.	Count
3410020-009	3.8	3.1	5.8	9	83	10	144	8	18 (1)	2	20	9
3410029-002	5.5	4.4	7.7	9	84 (1)	30	100	9	18 (1)	10	20	9
3410029-016	3.1	2	4.3	8	90 (1)	30	100	7	19 (1)	10	20	7
3410029-029	4.0	2.3	4.8	9	84 (1)	30	100	9	18 (1)	10	20	9
3410033-006	2.7	2	3.2	7	90 (1)	30	100	7	19 (1)	10	20	7
L10005519750-MW-G(S)	2.3	2	2.8	4	80	50	170	4	14	10	26	4
L10008601447-MW-13	4.8	2.1	10	18	2571	26.9	5000	18	556	94	1080	18
3400101-001	3.7	2	5.3	7	787	100	1200	7	319	280	370	7
3410029-024	47.1	7.3	85	92	690	0	3700	89	297	20	460	89
3410029-025	9.9	2	28	261	305	100	2400	195	649	20	1000	201
3901216-001	3.7	3	4	9	113	50	240	7	27	20	50	7
3400375-001	2.8	2	3.6	2	100 (1)	100	100	2	65	20	110	2
3410015-020	2.3	2	3.3	8	131	30	420	8	15	1	23	8
3410015-022	2.5	1.1	4.5	7	104	89	130	7	33	9.2	110	72
3410023-015	6.4	4.4	8.5	3	453	450	460	3	453	440	470	4
3410029-015	2.0 (1)	2	2	7	96	40	130	9	93	81	120	14
3410029-026	2.0 (1)	2	2	8	112	100	160	10	197	27	240	14
3410029-027	2.0 (1)	2	2	8	143	42	250	8	139	38	170	10
3410704-001	2.0 (1)	2	2	7	196	0	950	8	125	95	180	12
L10007396297-MW-40B	NS (2)											
S7-SAC-SA10	9.0	9	9	1	17	17.1	17.1	1	0.76	0.76	0.76	1

1. All results during the sampling period were either non-detect or estimated values.
2. NS, not sampled during the period of analysis.

3 Plan Implementation Progress

3.1 Overview of Implementation Activities

This section of the Annual Report provides updates and describes progress towards implementing the GSP, including implementation of projects and management actions since adoption of the GSP. **Section 3.2** describes the progress on implementing projects and management actions, with a focus WY 2025 and on activities planned for WY 2026. **Section 3.3** describes progress made towards addressing the recommended corrective actions that were included in the GSP Determination letter. **Section 3.4** describes the funding sources for the implementation activities that are planned for WY2026.

3.2 Implementation Progress

3.2.1 Current Condition for Each Sustainability Indicator

Quantifiable sustainability indicators from WY 2025 were used to determine the occurrence of undesirable results using monitoring data. **Table 3-1** contains a summary of the status of the sustainable management criteria relative to sustainability indicators.

3.2.2 Projects and Management Action Progress and Anticipated Activities for the Coming Year

The progress of projects and management actions described in the GSP are summarized in this section. **Table 3-2** provides a summary of projects, including project description, implementation date and project mechanism. **Table 3-3** includes the accomplishments in the recently completed water year for the projects listed in **Table 3-2** along with the plans for the upcoming WY 2026. Two projects identified after the GSP was submitted have been added to these two tables.

Minor corrections to the SASb DMS[6] were completed in 2025, and data from the DMS have been used for stakeholder and board presentations. The SASb GSP was implemented with local funding to support the SASb monitoring, Well Protection Program, and other projects. The following subsections describe GSP projects and management actions activities in the fifth year of Plan implementation.

[6] https://opti.woodardcurran.com/southamericansubbasin/login.php

Table 3-1. Summary of Sustainable Management Criteria

Sustainability Indicator	Minimum Threshold	Measurable Objective	Occurrence of Undesirable Results	Water Year 2025 Annual Report Status
Groundwater Levels	Set at historical minimum elevations to protect sensitive uses and users and avoid undesirable results.	Average groundwater levels observed from January 2015 to June 2021. MOs are higher in the Harvest Water area to account for recharge over time.	More than 25% of representative monitoring wells fall below MTs for three consecutive years.	***No occurrence of undesirable results***
Groundwater Storage	Groundwater levels used as a proxy for this sustainability indicator.			***No occurrence of undesirable results***
Seawater Intrusion	This sustainability indicator is not applicable in the SASb.			
Degraded Groundwater Quality	Nitrate = 10 mg/L Specific Conductance = 1,600 micromhos/cm	Maintain concentration at each RMP below the maximum concentration observed at the RMP prior to May 2020. No MO shall exceed 90% of the MT (9 mg/L for nitrate, 1,440 micromhos/cm for specific conductance).	More than 2 RMPs exceeding the MT for Nitrate or for Specific Conductance.	***No occurrence of undesirable results***
Land Subsidence	No more than 0.1 foot in any single year and a cumulative 0.5 foot in any five-year period, resulting in no long-term permanent subsidence.	Maintain current ground surface elevations	When subsidence substantially interferes with beneficial users of groundwater and surface land uses.	***No occurrence of undesirable results***
Depletions of Inter-connected Surface Waters	Groundwater levels used as a proxy for this sustainability indicator.			***No occurrence of undesirable results***

Table 3-2. Project and Management Action Summary

GSA	Project	Project Mechanism	First Year Facilities Available for Use	Status	Project Description
SCGA and Northern Delta	Harvest Water Project	Increased Recharge and Reduced Groundwater Pumping	2027	Implementing	Treated recycled water will provide up to 50,000-acre-feet per year (AFY) to irrigate more than 16,000 acres of agricultural and improve the groundwater conditions of over 5,000 acres of riparian and wetland habitats. For additional information, see https://www.sacsewer.com/harvest-water/
OHWD	OHWD Groundwater Recharge Project	Increased Recharge	2020	Implementing	Up to 4,000 AF diverted from the Cosumnes River to 1,168-acres of agricultural land between Cosumnes River and Deer Creek.
SCGA	Regional Conjunctive Use Program	Increased Recharge and Reduced Groundwater Pumping	2000	Implementing	Increase conjunctive use amongst both SASb and NASb and municipal water purveyors. Planned projects will utilize existing infrastructure through water transfers, groundwater recharge projects, wholesale agreements, or wheeling agreements.
SCGA	Vineyard ASR well (part of Regional Conjunctive Use Program)	Increased Recharge	2020	Implementing	Construction of VSWTP was completed in 2011. ASR program is continuing, including the installation of ASR wells and existing system adaptation.
SCGA, SRCD and OHWD	Sacramento Area Flood Control Agency (SAFCA) Flood-MAR	Increased Recharge	2030	Planned	To safely contain floods with a 1-in-500 annual probability of occurrence, release water from Folsom Dam down the Folsom South Canal for recharge in the SASb and Cosumnes subbasins.
Sac County	Flood Diversions for Groundwater Recharge	Increased Recharge	2025	Implementing	The County of Sacramento is working with Rancho Murieta Community Service District to divert flood flows from the Cosumnes River for recharge under State Water Code 1242.1.
Sac County	Wilton Road Floodplain Reconnection	Increased Recharge	To Be Determined	Planned	Reduce flood risk, increase groundwater recharge and improve habitat by modifying floodplain elevations to connect two gravel pits (locally referred to as the “Hanford Gravel Pits”) to the Cosumnes River and Deer Creek at lower flows.
All	Shallow/Vulnerable Well Protection Program	Outreach and collaboration	2022	Implementing	Program assists qualifying shallow well users impacted by groundwater level decline.

GSA	Project	Project Mechanism	First Year Facilities Available for Use	Status	Project Description
All	Sacramento County Environmental Management Wells Program	Outreach and collaboration	2022	Implementing	GSAs coordinate with Program to establish revised requirements for well construction to avoid future impacts on shallow well users, GDEs and the GSP monitoring network.
All	GSP Monitoring Network Data Gaps	Data Collection	2023	Implementing	GSAs to plan, implement and fund efforts to fill data gaps including: refine information regarding wells in GSP Monitoring Network, understand surface water and groundwater interactions along Cosumnes River

Table 3-3. Project and Management Action Implementation Summary

GSA	Project	Project Mechanism	First Year Facilities Available for Use	Status	WY 2025 Accomplishments	WY2026 Proposed Activities
SCGA and North Delta	Harvest Water Project	Increased Recharge and Reduced Groundwater Pumping	2027	Implementing	Major pipeline construction is complete. Pumping station construction started. Fifty-six customer connections, representing 68% of summer irrigation demand goal under construction. Nine additional customer agreements have been secured. See https://www.sacsewer.com/harvest-water/	Complete final paving operations. Complete Pumping station construction. Secure remaining service agreements. See https://www.sacsewer.com/harvest-water/
OHWD	OHWD Groundwater Recharge Project	Increased Recharge	2020	Implementing	Five-year temporary permit from State Water Board granted in January 2023. A net 326.1 AF from the Cosumnes River was recharged. Options and regulatory requirements were explored to improve diversion pump capacity.	Continued operation per five-year temporary permit conditions for diversions from the Cosumnes River obtained from the SWRCB. Apply to funding opportunities to support the implementation of improved diversion pump capacity.
SCGA	Regional Conjunctive Use Program	Increased Recharge and Reduced	2000	Implementing	Work on developing water bank that included continued with work on the environmental process, groundwater modeling, community outreach and	Continue work on the environmental process, groundwater modeling, community outreach and engagement, and the monitoring plan.

GSA	Project	Project Mechanism	First Year Facilities Available for Use	Status	WY 2025 Accomplishments	WY2026 Proposed Activities
		Groundwater Pumping			engagement and the release of version 1 of the Water Accounting System for Water Banking.	
SCGA	Vineyard ASR well (part of Regional Conjunctive Use Program)	Increased Recharge	2020	Implementing	Pilot study is completed, and CEQA process is continuing.	Continue work on the development of a strategic plan for the implementation of the ASR program, including the potential use of the three Excelsior Road supply wells.
SCGA, SRCD and OHWD	Sacramento Area Flood Control Agency (SAFCA) Flood-MAR	Increased Recharge	2030	Planned	SAFCA initiated development of a white paper describing benefits to the agencies using American River water and outlining next steps.	Coordinate with SAFCA, RWA, and SASb GSAs to determine approvals needed to develop a pilot program. Consider options for recharge near the Folsom South Canal. Options include area assessed with exploratory borings and tTem, OHWD area near Folsom South Canal and gravel pit.
Sac County	Flood Diversions for Groundwater Recharge	Increased Recharge	2025	Implementing	Flood water was diverted in February and March resulting in 224 AF conveyed through an existing ditch system and then applied to agricultural fields for recharge.	The County of Sacramento will continue working with Rancho Murieta Community Service District to divert flood flows from the Cosumnes River for recharge under State Water Code 1242.1
Sac County	Wilton Road Floodplain Reconnection	Increased Recharge	To Be Determined	Planned	An initial project report was finalized in September 2025.	Continue to search for funding opportunities to implement this multi-benefit project.

GSA	Project	Project Mechanism	First Year Facilities Available for Use	Status	WY 2025 Accomplishments	WY2026 Proposed Activities
All	Shallow/ Vulnerable Well Protection Program	Outreach and collaboration	2022	Implementing	The Domestic Well Advisory Group (DWAG), formed in WY2023, continued to meet and coordinate outreach through the Volunteer Monitoring Program (VMP), County drought resilience planning and other methods. Regular water level measurements were collected by volunteers and reviewed by SCGA technical staff. The levels collected were consistent with nearby RMP network wells in spring and fall seasons. Continued engagement with domestic well owners through outreach.	Improve domestic well inventory through outreach and coordination with VMP. Continue to collect, review, and compare voluntary monitoring data with nearby RMP network wells.
All	Sacramento County Environmental Management Wells Program	Outreach and collaboration	2022	Implementing	Continued discussions with the Sacramento County Environmental Management Department (SCEMD) to develop ordinance modifications pertaining to wells in the jurisdiction of SCEMD.	GSAs intend to continue discussions with the Sacramento County Environmental Management Department (SCEMD) to develop ordinance modifications pertaining to wells in the jurisdiction of SCEMD in WY2026.
All	GSP Monitoring Network Data Gaps	Data Collection	2023	Planned	RMPs with missing screen intervals and depth information were surveyed to determine the feasibility of completing video logs to obtain missing information. The survey determined that none of the wells had ports large enough for video access. Missing well depths were obtained from well owners and added to the well information in the DMS.	Continue to investigate options for obtaining missing well screen interval information.

3.2.3 Projects

In WY 2025, progress was made for the following projects identified for implementation in the GSP. Projects are described by group and include projects planned for near-term implementation (Group 2), supplemental projects (Group 3) and two projects identified after the GSP was submitted.

3.2.3.1 Group 2

Harvest Water Project

The Harvest Water Project, sponsored by the Sacramento Area Sewer District (formerly Sacramento Regional County Sanitation District), will provide a supply of disinfected tertiary-treated recycled water, up to 50,000 AF per year (AFY) to irrigate more than 16,000 acres of agricultural land and improve groundwater conditions for over 5,000 acres of riparian and wetland habitats. This project will reduce the need for groundwater pumping, support habitat protection efforts, restore depleted groundwater levels by up to 35 feet within 15 years, and increase groundwater storage by approximately 370,000 AF. It will also provide approximately 30,000 AFY for conjunctive use during droughts.

Harvest Water was awarded $291.8 million in grant funding under California's Water Storage Investment Program (WSIP). Additionally, the Harvest Water Project was awarded a $30 million grant from the U.S Bureau of Reclamation through the Title XVI Water Reclamation and Reuse Program. The project has also received around $19 million in funding from other sources (SCWA, City of Elk Grove, County Transportation, State Water Board). Further sources of funding are being investigated to assist in covering construction and operational costs.

In WY 2025, the Harvest Water team worked with Department of Fish & Wildlife staff to complete the program's ecosystem benefits and develop an ecosystem Public Benefits contract and Adaptive Management Plan.

Harvest Water has a community-based approach and focuses on building relationships with growers. Over 100 growers have signed letters of intent to receive water from the project. Growers have signed long-term contracts to receive 56 percent of the summer irrigation demand goal, and delivery infrastructure is under construction for these growers.

The Capital Improvements Program progressed with the following accomplishments in WY 2025:

- Construction is almost complete on the pipelines as of the end of WY 2025, with Final Paving to be completed December through January for Bruceville Road, Lamber Road, and Twin Cities Road, and microsurfacing of Franklin Boulevard to be complete in Spring 2026.
- Initiated construction of on farm connections.

Physical construction completion of the Harvest Water Project is scheduled for 2026, with anticipated start of operation in 2027. For more information, see https://www.regionalsan.com/harvest-water (Board of Directors Regular Meeting).

Omochumne-Hartnell Water District Groundwater Recharge Project

The OHWD Groundwater Recharge Project will divert up to 4,000 AFY of surface water from the Cosumnes River to a 1,168-acre spreading area located between the Cosumnes River and Deer Creek to alleviate groundwater storage overdraft in both the SASb and Cosumnes Subbasin. The use of available water during high flow events could allow the watershed to recover and result in

Cosumnes River flows to persist during the dry season as the groundwater levels are incrementally increased through recharge (GSP, 2022).

In WY 2023, OHWD was granted a five-year temporary groundwater recharge permit through the State Water Resources Control Board. The permit was issued in January 2023, authorizing OHWD to divert 2,444 AF from the Cosumnes River in Sacramento County during flow events meeting the minimum flow diversion criteria for the period December 1st - March 15th. The permit requires fish screens on both the pumps currently available, and construction of fish screens was completed in 2023. A net 343.5 AF from the Cosumnes River was recharged in WY 2024. In WY 2025, the project diverted a total of 330.4 AF, with an estimated net recharge of 326.1 AF

Moving forward, the OHWD will continue to operate the recharge site, implementing the project using the five-year temporary permit. OHWD explored options to improve diversion pump capacity in WY 2025 and is coordinating on regulatory requirements for the addition of diversion pumps. OHWD plans to identify and apply for funding opportunities that would support the design and installation of additional diversion pumps. OHWD is interested in applying for a standard diversion permit for long-term use, and will continue to operate under the five-year temporary permit to obtain experience and information relevant to the future standard permit application.

Regional Conjunctive Use Program

The regional conjunctive use program was initiated after regional entities completed the Sacramento Water Forum Agreement in 2000 (GSP, 2021). Program benefits are achieved through reduced groundwater pumping in wet years by delivery of additional surface water.

Efforts to increase operational flexibility and capacity of conjunctive use will continue with construction of system interties, treatment plant improvements, and development of groundwater wells. These efforts have been and are being conducted by California-American Water, City of Sacramento, Sacramento County Water Agency, and the Golden State Water Company (GSP 2021).

To expand the program and provide incentives to recharge with Central Valley Project (CVP) water, the Regional Water Authority (RWA) is developing a water bank in both the NASb and the SASb. In support of the water bank, a water accounting framework has been developed, environmental work is continuing, and a pre-banking report has been developed describing the water banked due to conjunctive management actions the municipal providers have taken since 1997.

The Vineyard Surface Water Treatment Plant (VSWTP) construction was completed in 2011, and a feasibility study for the implementation of an Aquifer Storage and Recovery (ASR) program was completed in 2022. The feasibility study included conceptual designs for the conversion of one existing supply well to ASR, four additional proposed ASR wells, and a cost-benefit analysis for the implementation of the program. A three-cycle ASR pilot test was initiated in late 2023 and completed in early April 2024. The pilot test results are described in a Technical Addendum to the ASR Feasibility Study. VSWTP staff are continuing work on a strategic plan to implement the ASR program, including the potential use of the three Excelsior Road supply wells.

3.2.3.2 Group 3

Sacramento Area Flood Control Agency's (SAFCA) Flood-MAR Project

The SAFCA project is planned to combine Flood-MAR (Managed Aquifer Recharge) with modifications to the three largest non-federal dams in the American River Basin to safely contain

floods with a 1-in-500 annual probability occurrence. The SAFCA Flood-MAR project includes measures to conserve water for environmental, agricultural, and urban use by allowing conditional storage, aquifer recharge, and beneficial use of winter runoff (SASb GSP 2021).

In WY 2025, SAFCA initiated a white paper describing benefits to the agencies using American River water and outlining next steps.

A supplemental project was proposed at the SCGA Board of Directors Regular December 2025 Meeting. The Folsom South Canal would be used to convey water to gravel pits that are located near the Folsom South Canal. Recharge at this location would potentially reach paleochannels and store water in SASb aquifers. Use of the gravel pits as a recharge basin fits with the American River Climate Adaptation Program by providing a reliable and safe water supply for the region's long-term needs and to preserve the fishery, wildlife, recreations, and aesthetic values of the lower American River (Board of Directors Regular December 2025 Meeting).

3.2.3.3 Projects Planned and Implemented After GSP Development

Flood Diversions for Groundwater Recharge

The County of Sacramento is actively developing a Flood Diversions for Groundwater Recharge Annex to the County's Emergency Operation Plan that is aligned with Water Code Section 1242.1[7], which allows parties to divert flood waters for groundwater recharge without a water right if in compliance with certain requirements. Executive Order N-16.25, issued in January 2025, suspended the requirement to have the Emergency Operations Plan Annex in place to make diversions, as long as other code requirements are met. Following this Executive Order, the County of Sacramento issued a Proclamation of Local Emergency in February 2025 and worked with Rancho Murieta Community Service District to divert flood flows from the Cosumnes River for groundwater recharge. In WY 2025, diversions occurred for ~12 hours in February (2/13 – 2/16 in the volume of 112 AF) and ~12 hours in March (3/17 – 3/18, volume of 112 AF), resulting in a total volume of 224 AF of flood water diverted. Water was conveyed through an existing ditch system and then applied to agricultural fields for recharge.

Looking ahead, the County of Sacramento intends to continue exploring opportunities under Water Code Section 1242.1 in future years, including 1) final adoption of a Flood Diversion for Groundwater Recharge Annex to the County's Emergency Operation Plan and 2) expanding the sites prepared to divert flood waters.

Wilton Road Floodplain Reconnection Project

The Wilton Road Floodplain Multi-Benefit Project, led by the County of Sacramento, provides an opportunity to enhance the Cosumnes River watershed's health and resilience. The project is located within the OHWD GSA area at 10865 Wilton Road, Elk Grove, CA 95624, between the Cosumnes River and Deer Creek. Conceptually, the project involves modifying floodplain elevations to connect two gravel pits (locally referred to as the "Hanford Gravel Pits") to the Cosumnes River and Deer Creek at lower flows. An initial project report was finalized in September 2025, with preliminary costs estimated between $8-24 million, depending on the scale of the project.

Primary project goals are to:

[7] More information on Water Code Section 1242.1: https://www.waterboards.ca.gov/waterrights/water_issues/programs/groundwater-recharge/recharge-diversions.html

- Reduce flood risk: Implement innovative flood management strategies to lower flood elevations and minimize property damage.
- Enhance groundwater recharge: Restore natural recharge opportunities to support agricultural production, drinking water supplies, and ecosystem functions.
- Improve habitat: Reconnect the river to its floodplain to provide critical habitat for native vegetation, fish, and wildlife.

Expected Annual Benefit are listed below:

- Recharge: 2,700 AF of additional recharge per average water year
- Flood: Flood elevation reduction by over 1 foot in Wilton area
- Habitat: Increase of over 10,000 acre-days per year of aquatic/riparian habitat

Looking ahead, project proponents are actively searching for funding to finalize engineering/design work on the project.

3.2.4 Management Actions

In WY 2025, progress was made for the following four Management Actions considered in the development of the SASb GSP.

3.2.4.1 Management Action No. 1 – Shallow/Vulnerable Well Protection Program

The focus of WY 2025 activities was to coordinate with the Domestic Well Advisory Group (DWAG) to continue to collect groundwater level measurements from volunteers and continue to improve the domestic well inventory. The GSAs worked closely with the DWAG and the Volunteer Monitoring Program (VMP) to evaluate data quality and are in an ongoing discussion for the potential for inclusion of voluntary monitoring data into the SASb monitoring program.

The focus of WY 2026 GSP implementation activities will be to continue communication with the DWAG to further improve information contained in the domestic well inventory. The GSAs will continue to collaborate with DWAG to engage with the community and stakeholders as well as the VMP to better understand water levels of domestic wells. Specific action updates are described below.

Domestic Well Advisory Group

The DWAG was formed to coordinate community outreach, engage stakeholders on well construction standards, support the volunteer monitoring effort, and support further development of the well protection program. A critical objective of DWAG is to assist in the definition of the scope and administrative details of a potential mitigation element of the well protection program. The group charter was developed and the first DWAG meeting was held in January 2024, with a second meeting was held in October 2024. Additional meetings were held in WY 2025 and are planned for WY 2026.

Improved Well Inventory

The DWAG is assisting with outreach to domestic well owners and working to obtain information to improve the domestic well inventory.

Volunteer Monitoring Program

A volunteer who applied for and was selected as a DWAG member continued to collect water levels from domestic wells where access was provided within the Basin. Water levels have been collected from 29 wells since January 2022. Continued coordination with the VMP is planned for WY 2026.

3.2.4.2 Management Action No. 2 – Well Permit Coordination

The GSAs worked with the Sacramento County Environmental Management Department (SCEMD) to implement the Governor's Executive Order for GSAs to review well permit applications in WY 2024. In WY 2025, the GSAs built on this cooperation to discuss ways the SCEMD and GSAs within the SASb, in collaboration with GSAs in the NASb and other subbasins within the SCEMD jurisdiction, can cooperate to achieve the GSP groundwater sustainability goals.

3.2.4.3 Management Action No. 3 – Coordination Activities

The SASb Executive Committee, in collaboration with NASb GSA, has coordinated with RWA on the regional groundwater banking and accounting framework. Many of the agencies along the Cosumnes River have formed GSAs in both the SASb and in the Cosumnes Subbasin. As a result, the same GSA staff are involved in both subbasins, such that separate coordination meetings are needed less between the SASb and the Cosumnes Subbasins.

Model updates that occur every year to support the annual report include incorporation of hydrology data, water supply and operations data, and municipal production records in the model datasets.

The Executive Committee will continue to meet regularly and will coordinate the following activities:

- Discussions with representatives from land use agencies to promote consistency of future plans with the adopted GSP.
- Discussions with representatives of GSAs and stakeholders in North American and Cosumnes Subbasins to track and maintain records of all funding and associated GSP components.
- Continued discussions with the RWA and other regional partners in: (a) the development of a regional groundwater banking and accounting framework; and (b) understanding the climate change assessment prepared for the American River Watershed Resilience Pilot Study.

The Executive Committee will continue to coordinate and communicate with stakeholders and participating GSAs for project coordination, as needed.

3.2.4.4 Management Action No. 4 – Actions to Address Data Gaps

Three specific data gaps were presented in the GSP to be addressed during plan implementation:

- Collection of well depth and screened interval information for specific wells in the GSP Monitoring Network.
- Collection of surface water and groundwater data and information along the middle reach of the Cosumnes River to help resolve uncertainties regarding surface water/groundwater interactions in this area.

- Analysis of groundwater quality samples collected by domestic well owners under the Domestic Well Protection Program Voluntary Monitoring Network.

Progress towards addressing these data gaps has been slowed by funding limitations. Collaboration with the DWAG to address the above-mentioned data gaps started in WY 2024 and continued in WY 2025. The following activities are ongoing and will continue through WY 2026.

Monitoring Network Update

Missing well depth information has been obtained and added to the DMS. Additional data collection from the existing SASb Monitoring Network is necessary to obtain missing screened interval information for specific wells in the GSP Monitoring Network. SCGA staff inspected wells with missing construction information to assess the feasibility of obtaining the missing information.

Cosumnes Surface Water Data Collection

Information was gathered and coordination with the Cosumnes Subbasin, the Cosumnes River Project, and The Nature Conservancy was conducted to determine a stream gage location. Subsequently an application was submitted to the California Stream Gauge Information Program (CALSIP). Unfortunately, funding was not obtained. A request for funding may be included in a future grant application. This information will support interconnected surface water analysis and provide information towards filling a data gap.

OHWD was awarded a CalSIP grant in WY 2025 for the upgrade of the two streamflow gages on the Cosumnes River between Michigan Bar and Highway 99. The grant additionally funded the installation of a new stream gage on Deer Creek near the upper OHWD recharge site. These stream gages will assist in assessing stream-aquifer interaction, understanding the recharge benefit for surface water, and support diversion criteria monitoring for the OHWD recharge project.

Groundwater Quality Sample Collection

Groundwater quality samples will be collected and analyzed from domestic wells where owner consent is obtained. It is anticipated that these well owners may also consent to participation in the Voluntary Monitoring Network. Samples are anticipated to be collected in collaboration with the VMP.

3.2.5 Managerial Updates Regarding GSAs

3.2.5.1 Omochumne-Hartnell Water District Expansion

OHWD is considering whether to annex non-district lands in response to requests from landowners. Several landowners requested OHWD examine the possibility of annexation of land west of Highway 99, south of the City of Elk Grove's Sphere of influence to the Cosumnes River and over to Interstate 5. These areas are not within the boundaries of any other water district and are represented by SCGA and Sacramento County. The following is a summary of landowner's rationale for this expansion:

1. Better represent the agricultural interest in the area.
2. Create a large agricultural water district.
3. Facilitate assistance related to implementation of the Harvest Water project.
4. Provide groundwater level monitoring in the area.

In response, OHWD staff prepared a written analysis (undated) of the expansion that describes the amount of land, benefits, fiscal impacts, effect on OHWD board elections, and disadvantages of the expansion. Information is available on OHWD's website (https://ohwd.org/). The OHWD Board decided to move forward with the annexation and the application is currently pending at LAFCO.

3.2.5.2 Sloughhouse Resource Conservation District Withdrawal from SASb GSAs

In December 2025, the Sloughhouse Resource Conservation District withdrew from the SASb Memorandum of Understanding. Notice was sent via email and U.S. Mail on December 17, 2025, and reads as follows:

"Pursuant to Section 4.13(a) of the Memorandum of Understanding Establishing a South American Subbasin Sustainable Groundwater Management Act Executive Committee and General Manager Committee and Identifying Cost Share Provisions for Groundwater Sustainability Plan Implementation ("SaSB MOU") Sloughhouse Groundwater Sustainability Agency ("SRCD") is hereby providing written notice that it is withdrawing from the SaSB MOU. Under Section 4.13(b), SRCD shall not be responsible for its proportional share of costs incurred under the SaSB MOU following the date identified above for this written notice."

The notice was sent to the following parties:

- Northern Delta GSA
- Sacramento Central Groundwater Authority
- Omochumne-Hartnell Water District
- Sacramento County GSA

Withdrawal from being a SASb GSA was filed with DWR and subsequently posted to the SGMA portal on December 19, 2025[8].

Moving forward, Sloughhouse Resource Conservation District remains committed to working closely with the Executive Committee to identify a new GSA to manage the portion of SASb that will no longer be managed by the Sloughhouse GSA.

3.3 Progress Made Towards Addressing Recommended Corrective Actions in GSP Determination

A GSP determination letter was issued to the SASb in response to DWR's approval of the submitted Plan on July 27, 2023. The letter provided four recommended corrective actions to be considered and addressed by the Plan's first Periodic Evaluation due in late January 2027. The four corrective actions issued by DWR for SASb, include:

1) **Recommended Corrective Action 1**: Amend or update the sustainable management criteria for:
    a. Arsenic: establish SMC or clarify why an SMC was not developed,
    b. Specific conductivity: provide information regarding specific conductivity, or the relationship between total dissolved solids (TDS) and specific conductivity, and
    c. Threshold exceedances in a single aquifer zone: account for localized threshold exceedances or provide additional information.

[8] https://sgma.water.ca.gov/portal/gsa/withdrawals

2) **Recommended Corrective Action 2**: Revise definition of undesirable results for land subsidence.

3) **Recommended Corrective Action 3**: Interconnected surface water assessment and address data gaps.

4) **Recommended Corrective Action 4**: Additional information on the monitoring network.

SASb GSAs have initiated the necessary work to address corrective actions in the GSP 2027 Periodic Evaluation. Available groundwater quality data for the SASb monitoring network have been evaluated from the GeoTracker GAMA portal. Existing arsenic data has been reviewed, and the GSAs are assessing the need for establishing sustainable management criteria for arsenic. A similar evaluation will be conducted to evaluate available specific conductivity (SC) and TDS data for SASb monitoring network wells. Results from this evaluation will be considered to determine the relationship between SC and TDS data. The quantitative definition of undesirable results for the individual aquifer zones will be considered and described in the GSP 2027 Periodic Evaluation.

The review and evaluation of the current definition of undesirable results for land subsidence will be performed during preparation of the GSP 2027 Periodic Evaluation. GSAs plan to develop the scope of work for assessing interconnected surface water impacts and data gaps once the DWR guidance is released. Missing monitoring network information noted in the GSP Determination letter will be obtained and reported in the completed GSP 2027 Periodic Evaluation.

3.4 Funding Sources

Funding sources are summarized below, including DWR support, locally funded activities, and other support

3.4.1 DWR Support

Facilitation support has been provided by DWR for ongoing basin coordination and for ongoing DWAG coordination.

3.4.2 Locally Funded Activities

All the planning and implementation activities described in the previous sections were locally funded in WY 2025, except the DWAG related coordination.

3.4.3 Other Support

In addition to local funding, the Harvest Water Project has received funding from California's Water Storage Investment Program, the United States Bureau of Reclamation and the State Water Resources Control Board. Additionally, OHWD received a CalSIP grant from the California Department of Water Resources to fund stream gage installation and improvements.

4 References

California Department of Water Resources (CA-DWR). 2017. Sustainable Management Criteria Best Management Practice, dated November 2017, 38 pp.

South American Subbasin (SASb). 2021. South American Subbasin Groundwater Sustainability Plan, dated October 29, 2021. Available online at: https://sgma.water.ca.gov/portal/gsp/preview/111

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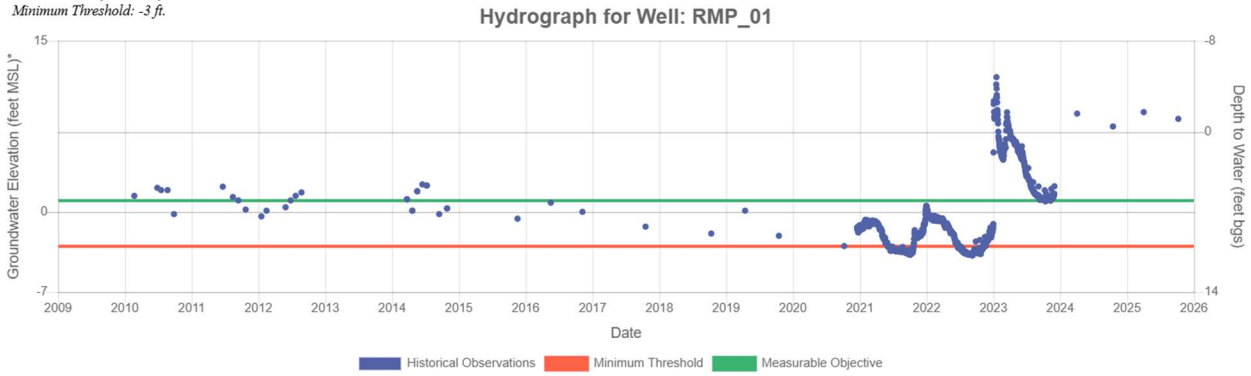
Towill, Inc., 2021. InSAR Data Accuracy for California Groundwater Basins CGPS Data Comparative Analysis January 2015 to September 2019. https://data.cnra.ca.gov/dataset/tre-altamira-insar-subsidence/resource/a1949b59-2435-4e5d-bb29-7a8d432454f5.

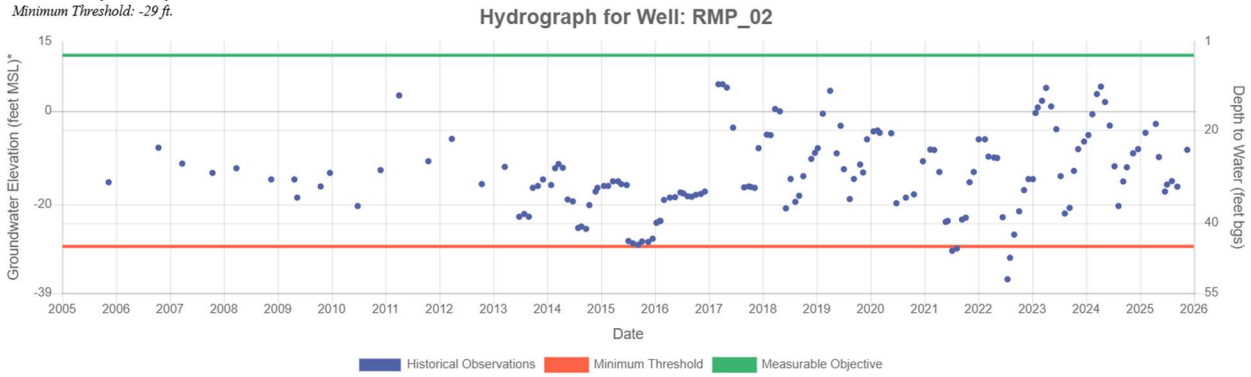
University of California Agriculture and Natural Resources (UCANR). 2023. Salinity measurement and unit conversion. Salinity Management. University of California Division of Agriculture and Natural Resources. Visited March 22, 2023. https://ucanr.edu/sites/Salinity/Salinity_Management/Salinity_Basics/Salinity_measurement_and_unit_conversions/

Appendix A: Groundwater Elevation Hydrographs

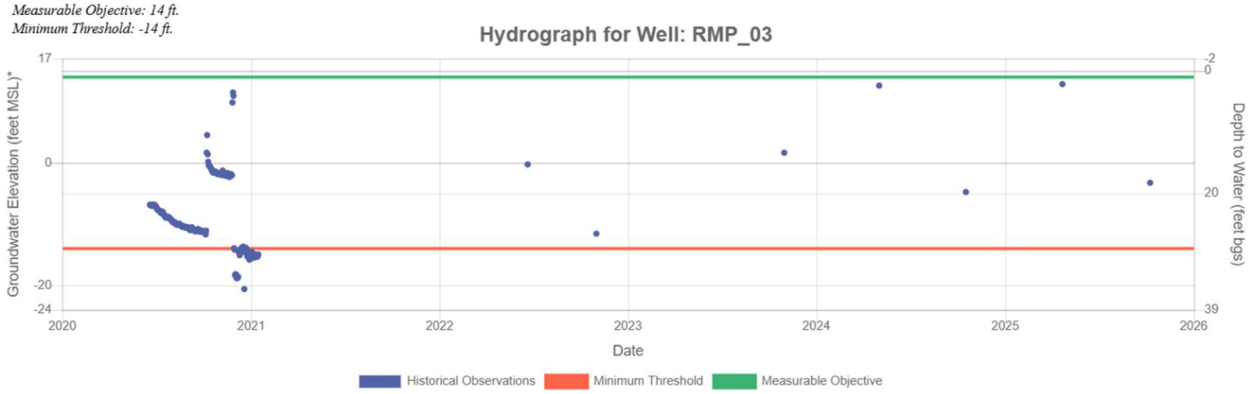
Ground Surface Elevation: 8 ft.
Measurable Objective: 1 ft.
Minimum Threshold: -3 ft.



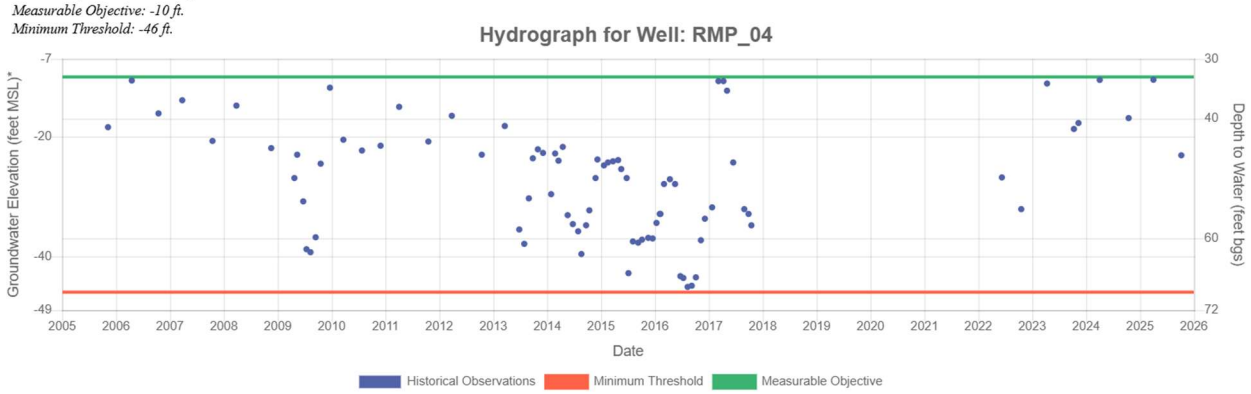
Ground Surface Elevation: 16 ft.
Measurable Objective: 12 ft.
Minimum Threshold: -29 ft.



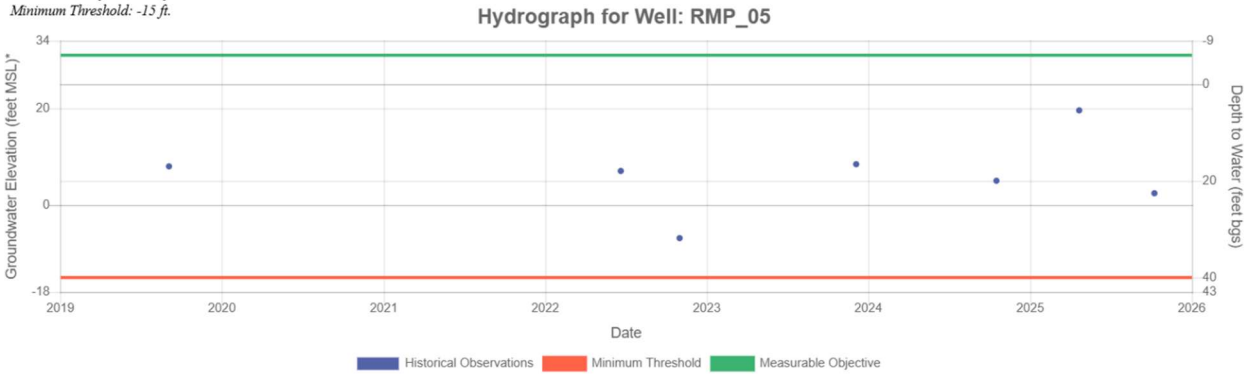
Ground Surface Elevation: 16 ft.
Measurable Objective: 14 ft.
Minimum Threshold: -14 ft.



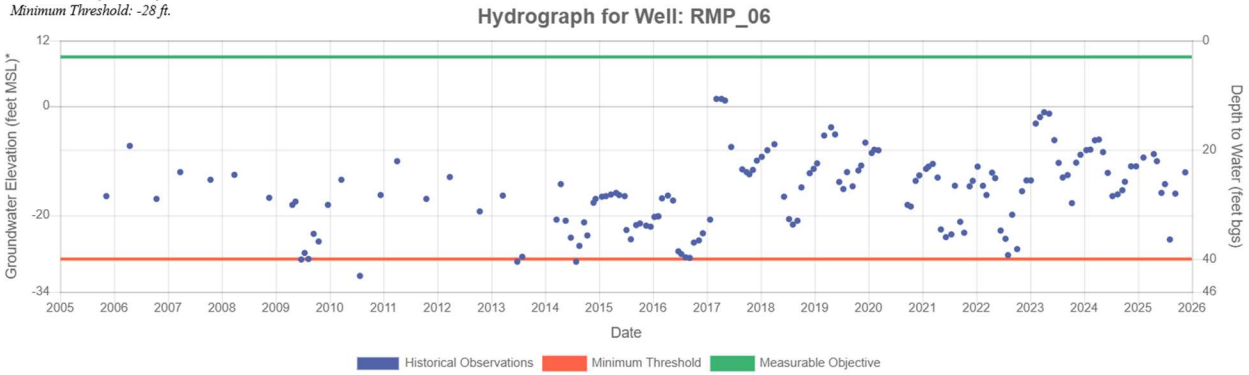
Ground Surface Elevation: 23 ft.
Measurable Objective: -10 ft.
Minimum Threshold: -46 ft.



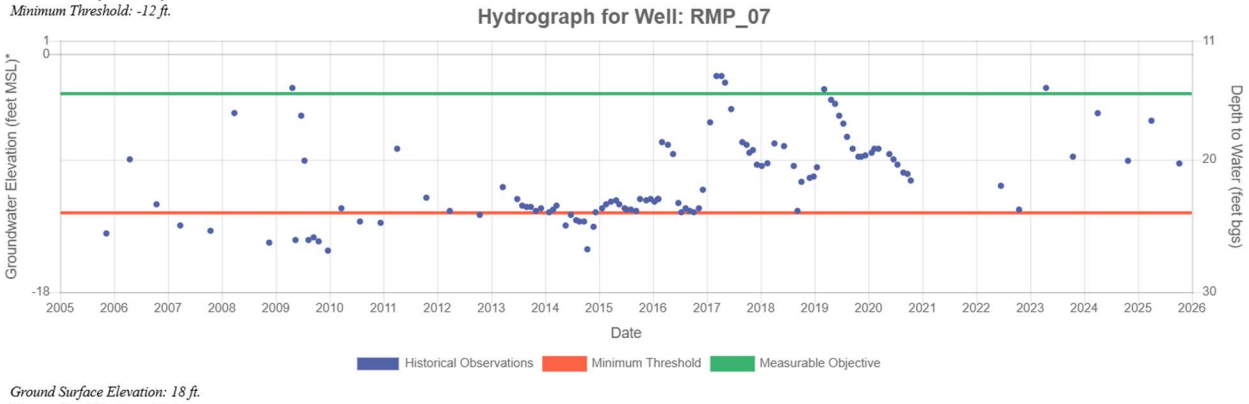
Ground Surface Elevation: 25 ft.
Measurable Objective: 31 ft.
Minimum Threshold: -15 ft.



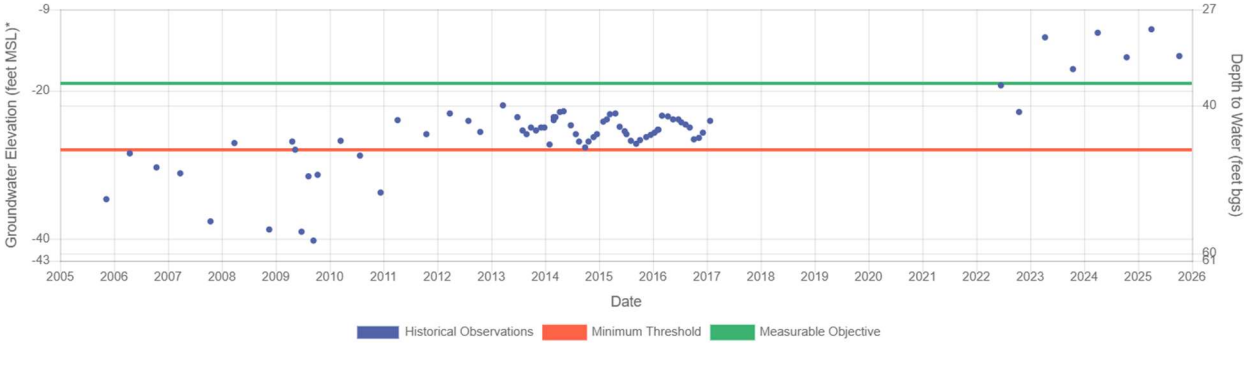
Ground Surface Elevation: 12 ft.
Measurable Objective: 9 ft.
Minimum Threshold: -28 ft.



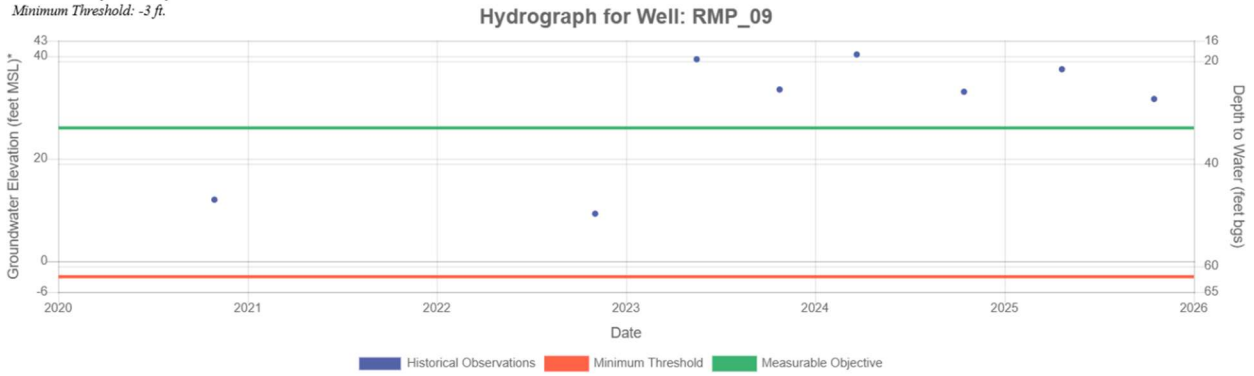
Ground Surface Elevation: 12 ft.
Measurable Objective: -3 ft.
Minimum Threshold: -12 ft.



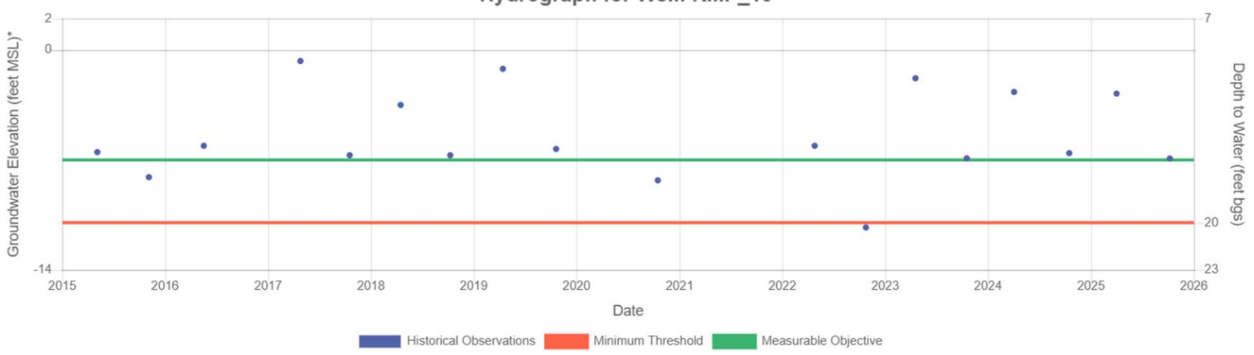
Ground Surface Elevation: 18 ft.
Measurable Objective: -19 ft.
Minimum Threshold: -28 ft.



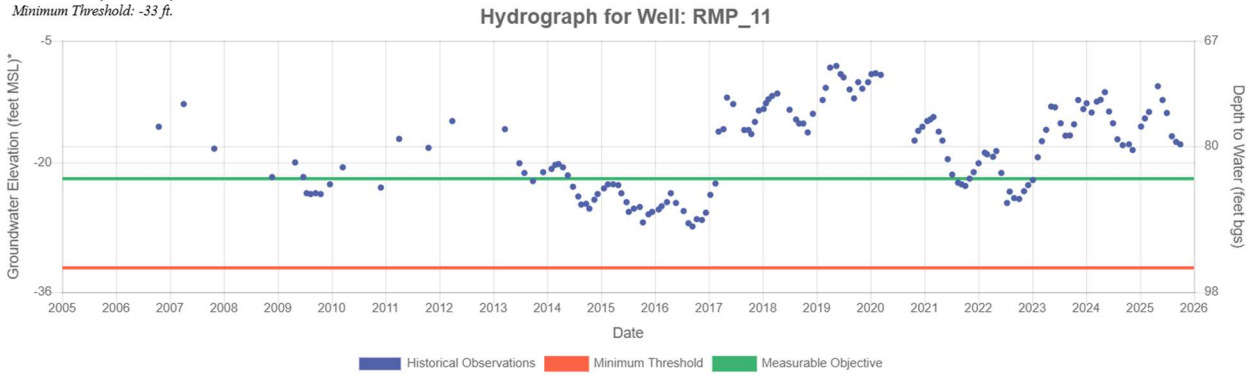
Ground Surface Elevation: 60 ft.
Measurable Objective: 26 ft.
Minimum Threshold: -3 ft.



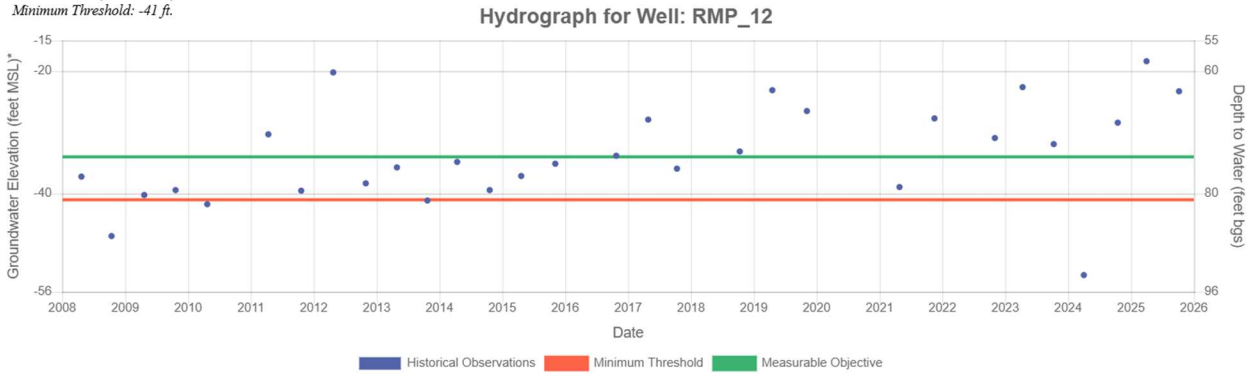
Ground Surface Elevation: 9 ft.
Measurable Objective: -7 ft.
Minimum Threshold: -11 ft.



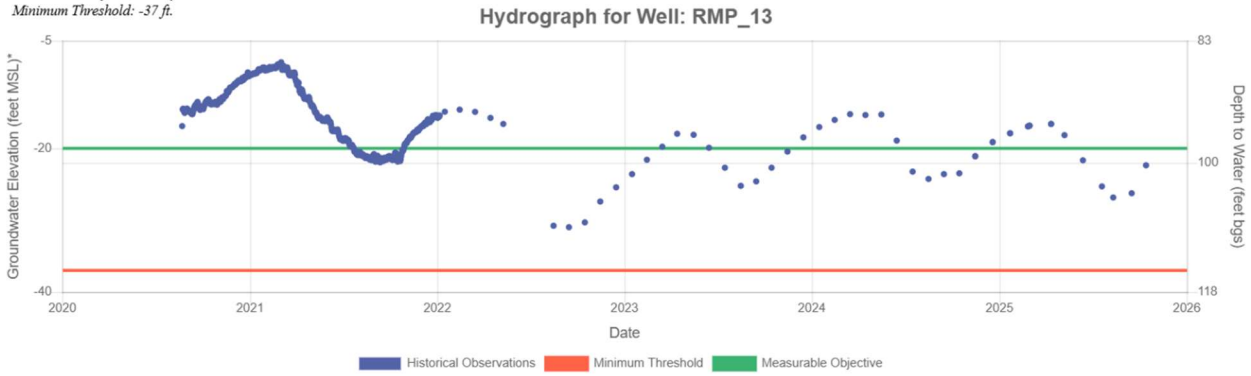
Ground Surface Elevation: 63 ft.
Measurable Objective: -22 ft.
Minimum Threshold: -33 ft.



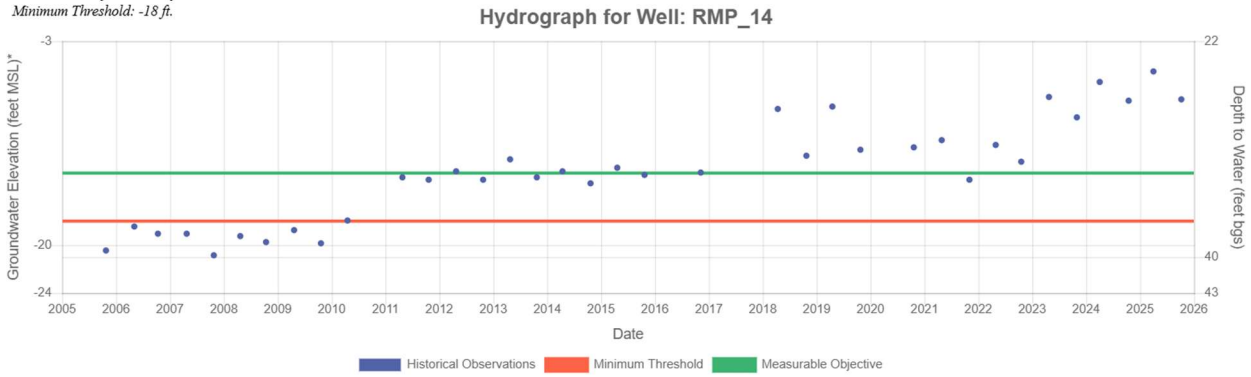
Ground Surface Elevation: 41 ft.
Measurable Objective: -34 ft.
Minimum Threshold: -41 ft.



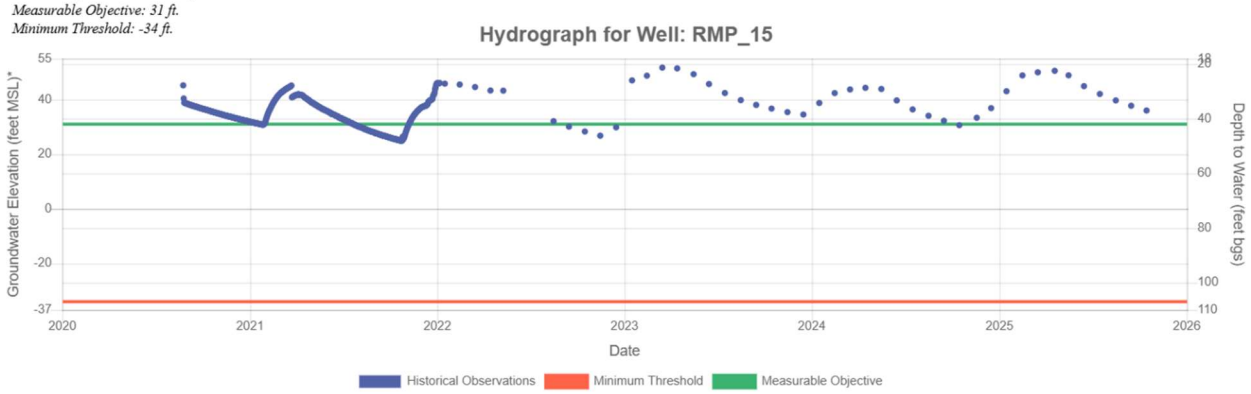
Ground Surface Elevation: 79 ft.
Measurable Objective: -20 ft.
Minimum Threshold: -37 ft.



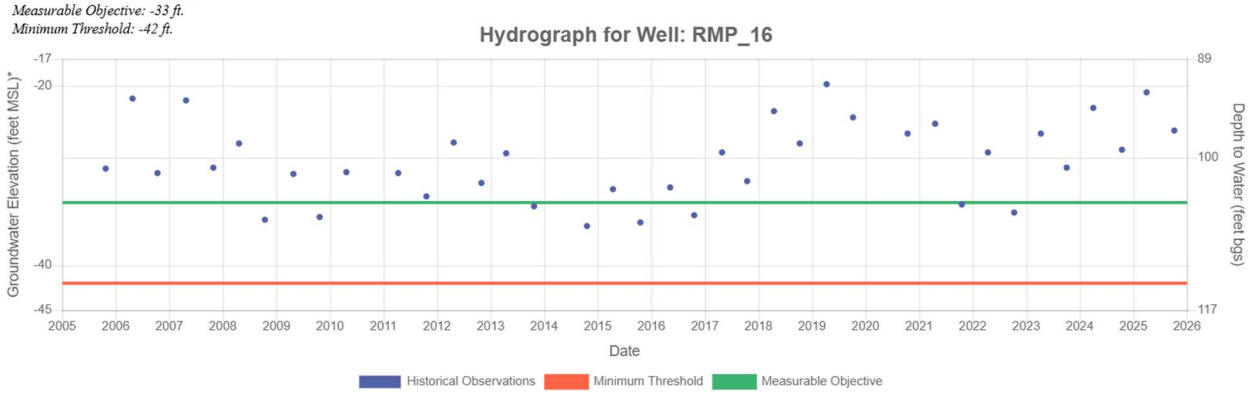
Ground Surface Elevation: 19 ft.
Measurable Objective: -14 ft.
Minimum Threshold: -18 ft.



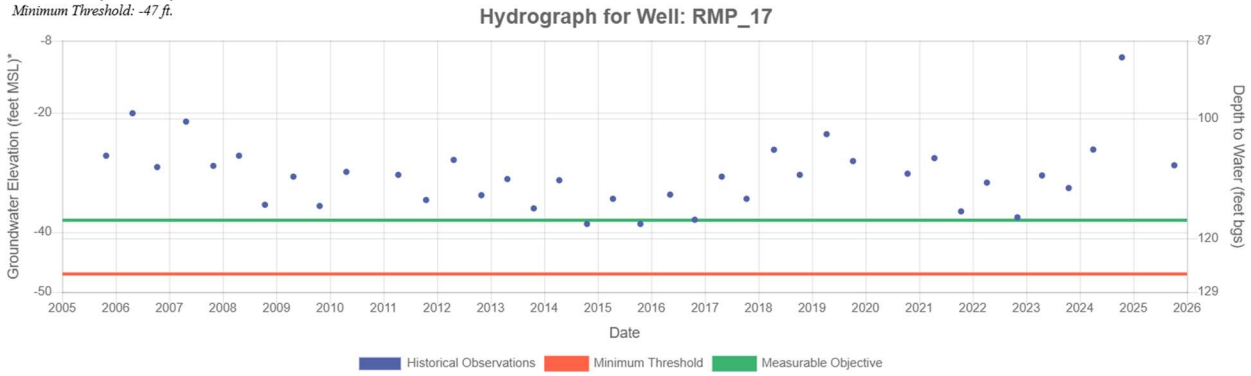
Ground Surface Elevation: 74 ft.
Measurable Objective: 31 ft.
Minimum Threshold: -34 ft.



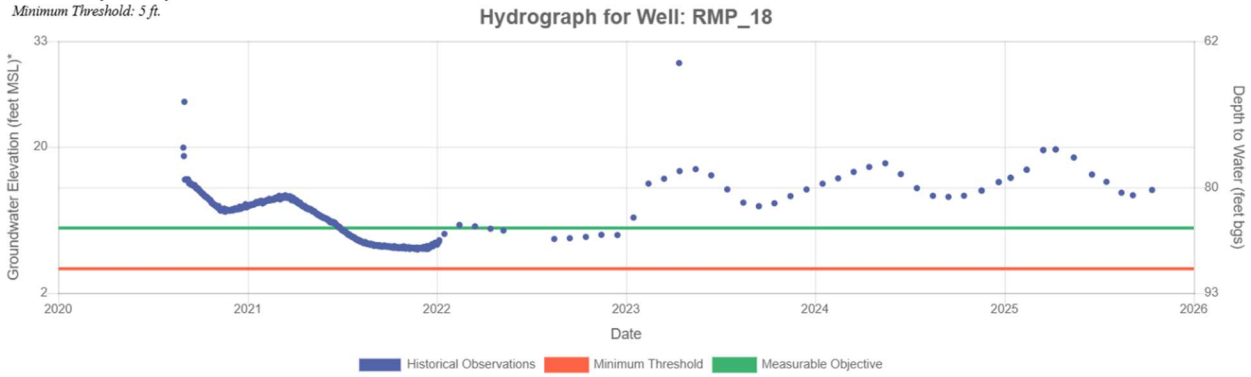
Ground Surface Elevation: 72 ft.
Measurable Objective: -33 ft.
Minimum Threshold: -42 ft.



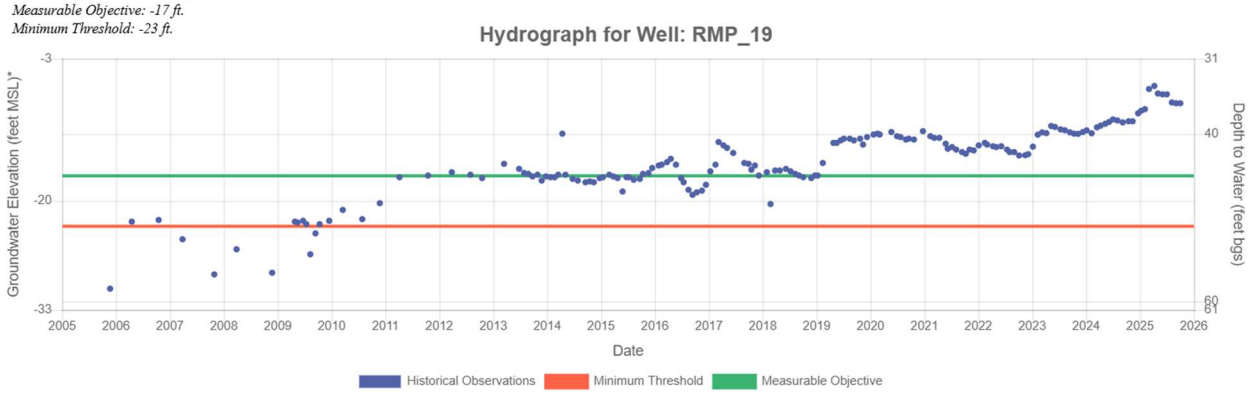
Ground Surface Elevation: 79 ft.
Measurable Objective: -38 ft.
Minimum Threshold: -47 ft.



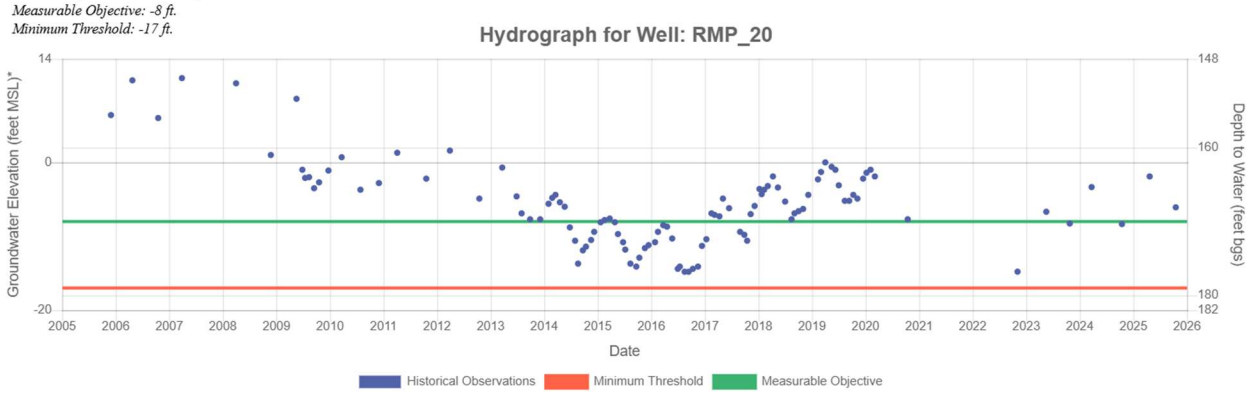
Ground Surface Elevation: 96 ft.
Measurable Objective: 10 ft.
Minimum Threshold: 5 ft.



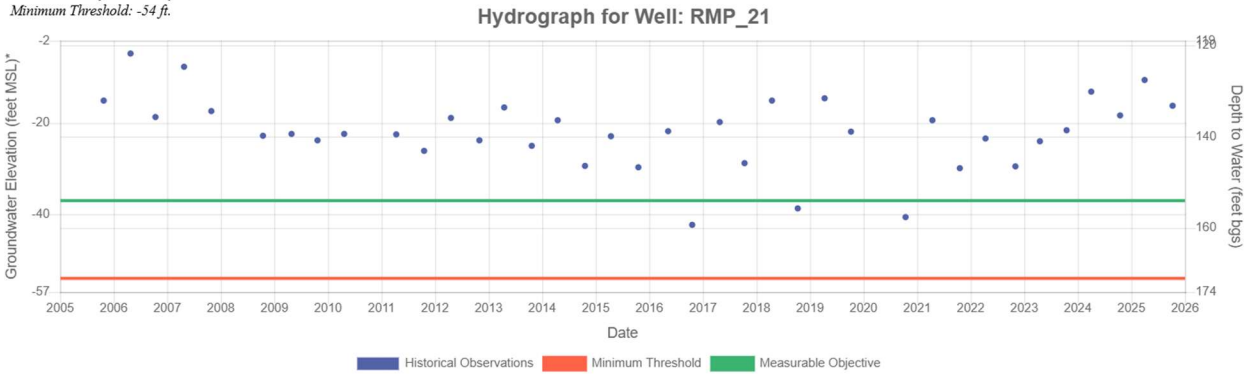
Ground Surface Elevation: 29 ft.
Measurable Objective: -17 ft.
Minimum Threshold: -23 ft.



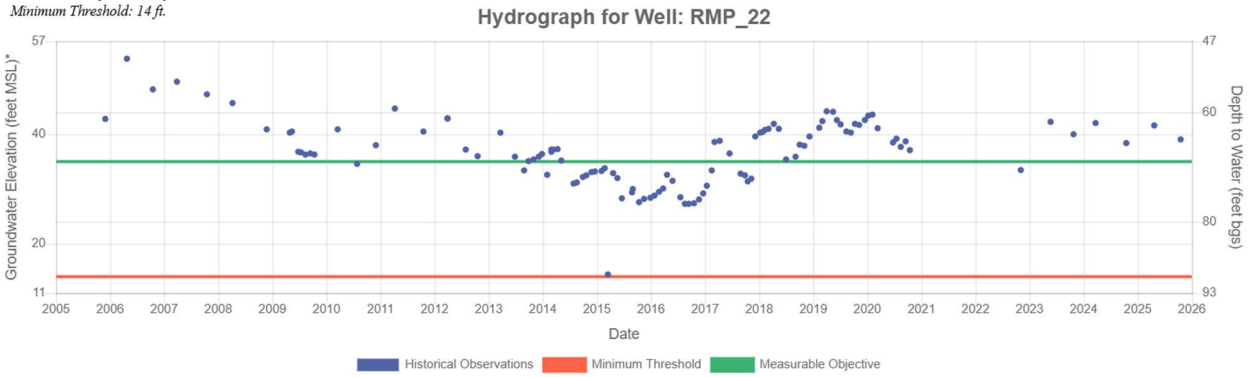
Ground Surface Elevation: 163 ft.
Measurable Objective: -8 ft.
Minimum Threshold: -17 ft.



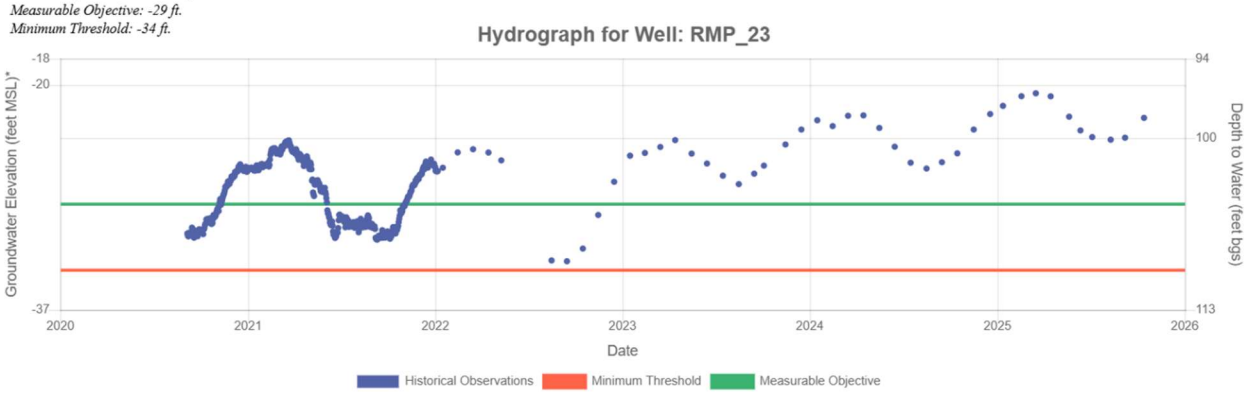
Ground Surface Elevation: 117 ft.
Measurable Objective: -37 ft.
Minimum Threshold: -54 ft.



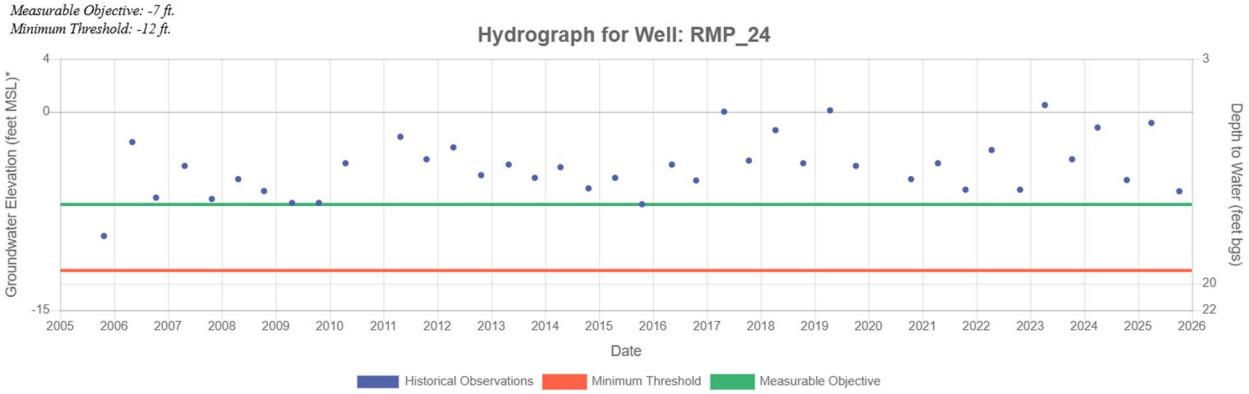
Ground Surface Elevation: 105 ft.
Measurable Objective: 35 ft.
Minimum Threshold: 14 ft.



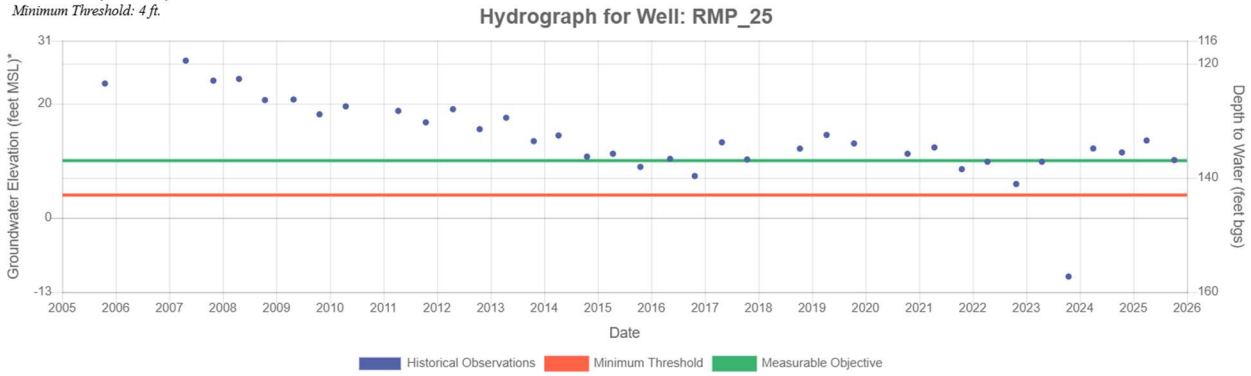
Ground Surface Elevation: 76 ft.
Measurable Objective: -29 ft.
Minimum Threshold: -34 ft.



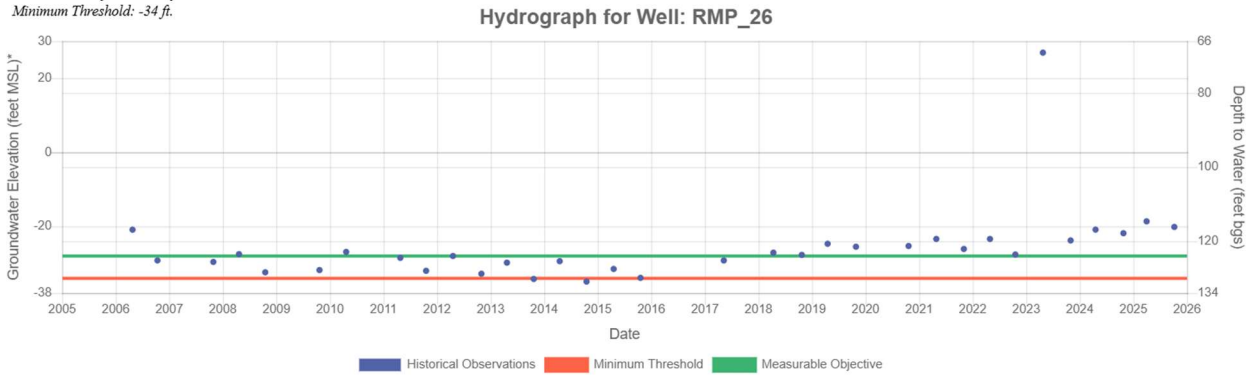
Ground Surface Elevation: 8 ft.
Measurable Objective: -7 ft.
Minimum Threshold: -12 ft.



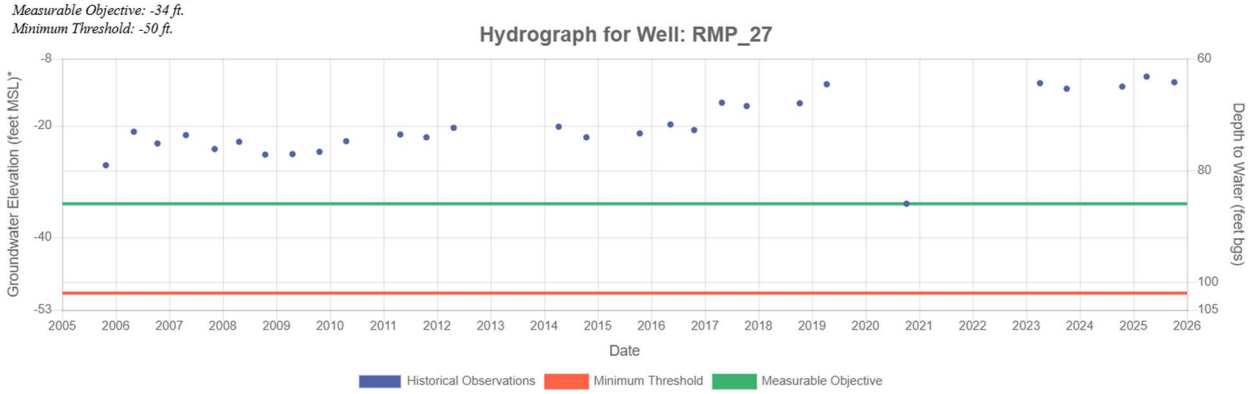
Ground Surface Elevation: 148 ft.
Measurable Objective: 10 ft.
Minimum Threshold: 4 ft.



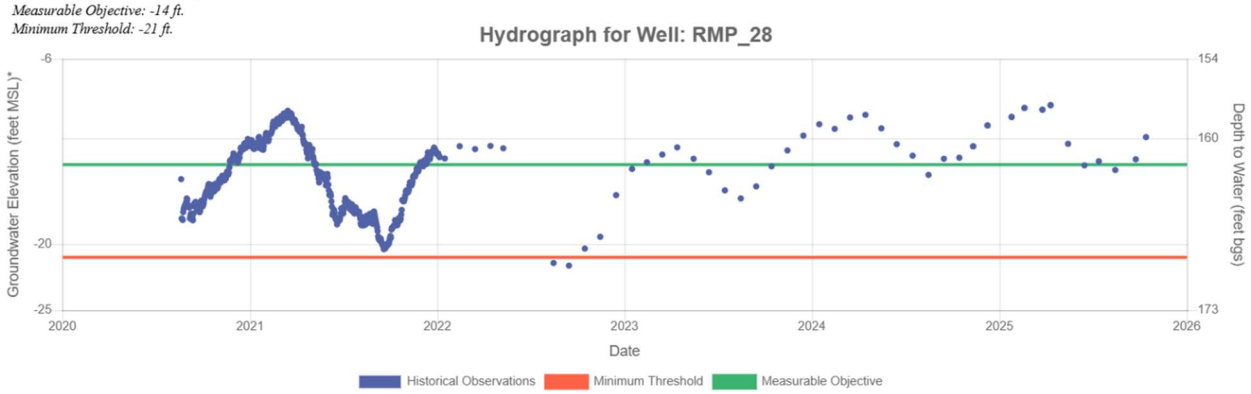
Ground Surface Elevation: 96 ft.
Measurable Objective: -28 ft.
Minimum Threshold: -34 ft.



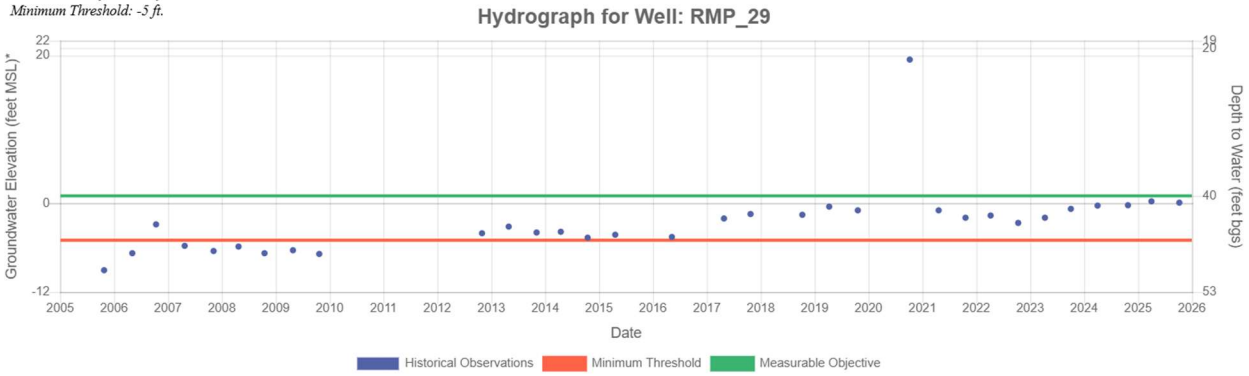
Ground Surface Elevation: 52 ft.
Measurable Objective: -34 ft.
Minimum Threshold: -50 ft.



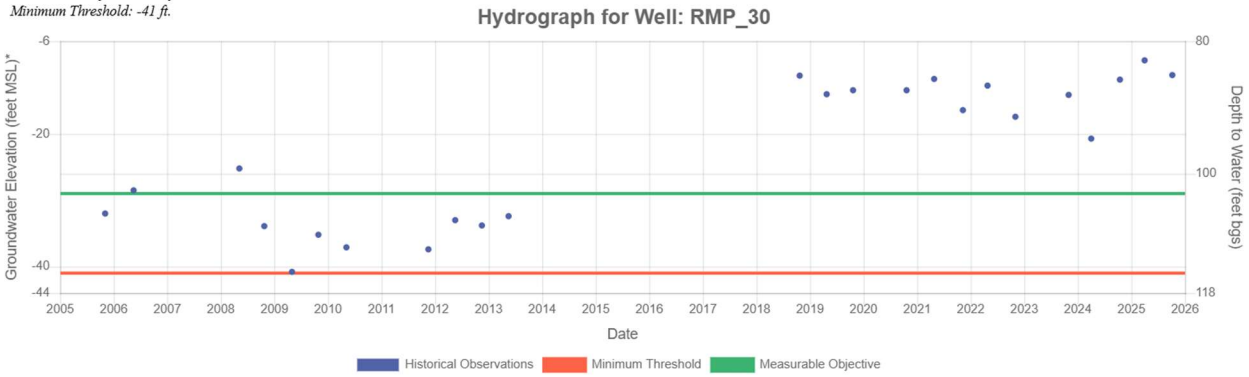
Ground Surface Elevation: 148 ft.
Measurable Objective: -14 ft.
Minimum Threshold: -21 ft.



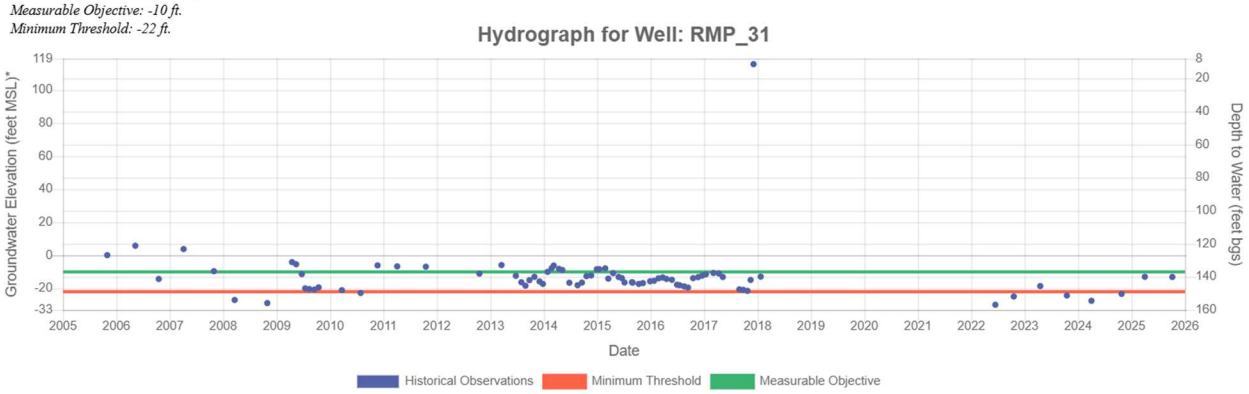
Ground Surface Elevation: 42 ft.
Measurable Objective: 1 ft.
Minimum Threshold: -5 ft.



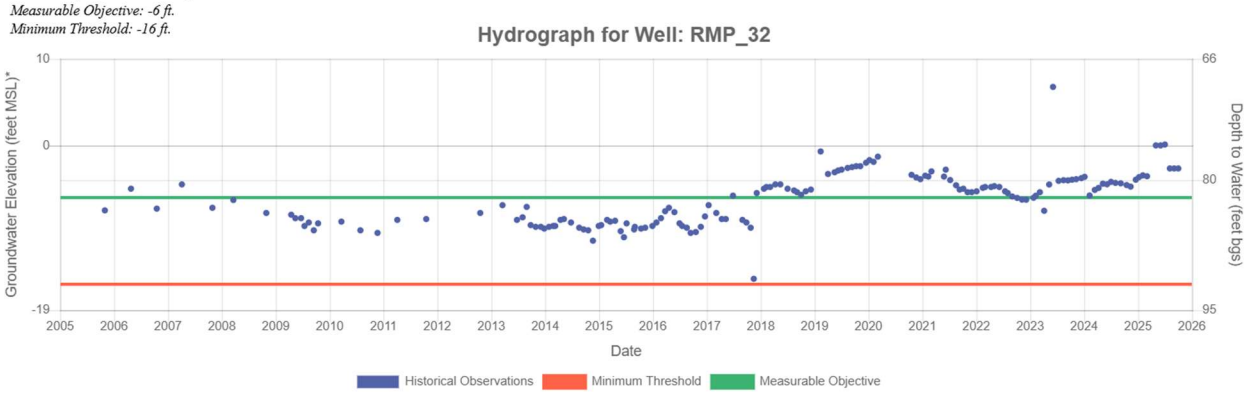
Ground Surface Elevation: 74 ft.
Measurable Objective: -29 ft.
Minimum Threshold: -41 ft.



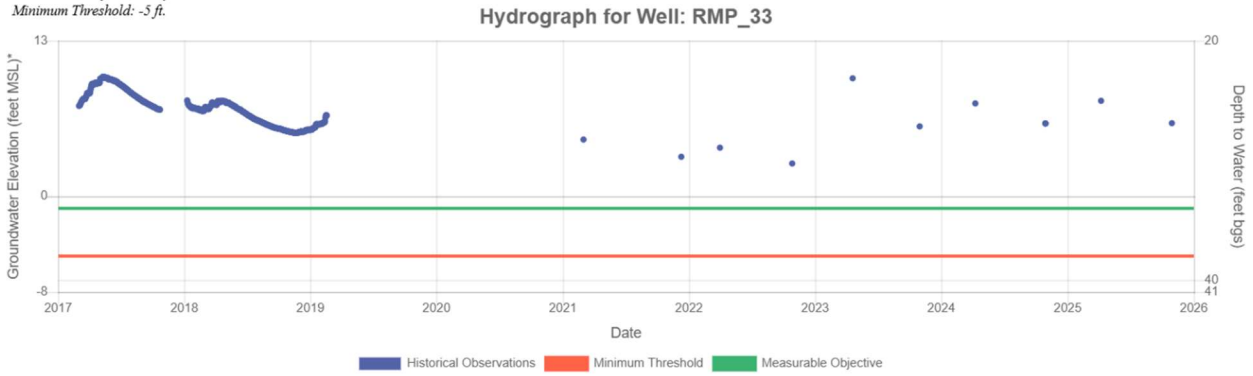
Ground Surface Elevation: 127 ft.
Measurable Objective: -10 ft.
Minimum Threshold: -22 ft.



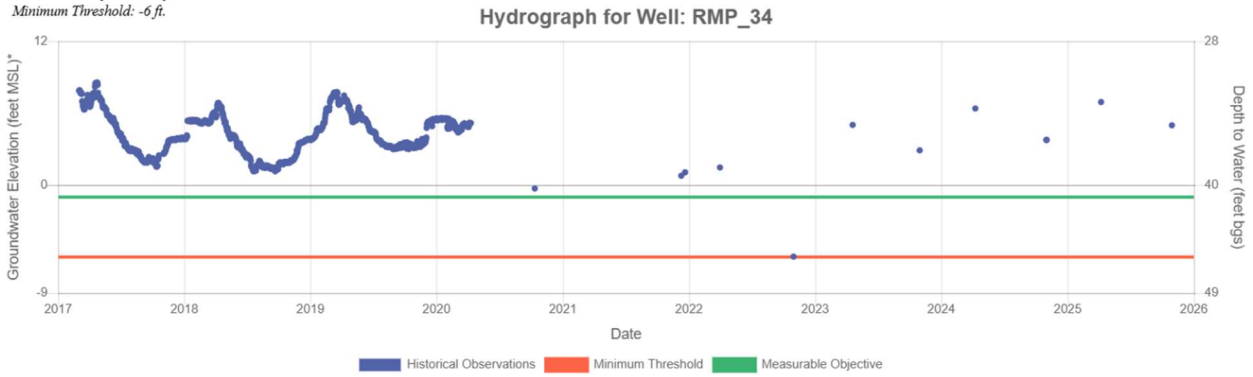
Ground Surface Elevation: 76 ft.
Measurable Objective: -6 ft.
Minimum Threshold: -16 ft.



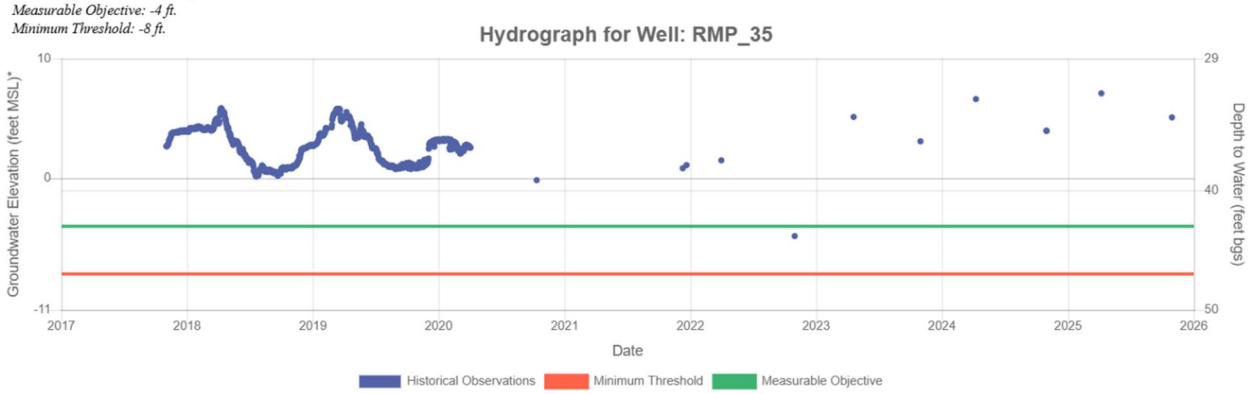
Ground Surface Elevation: 34 ft.
Measurable Objective: -1 ft.
Minimum Threshold: -5 ft.

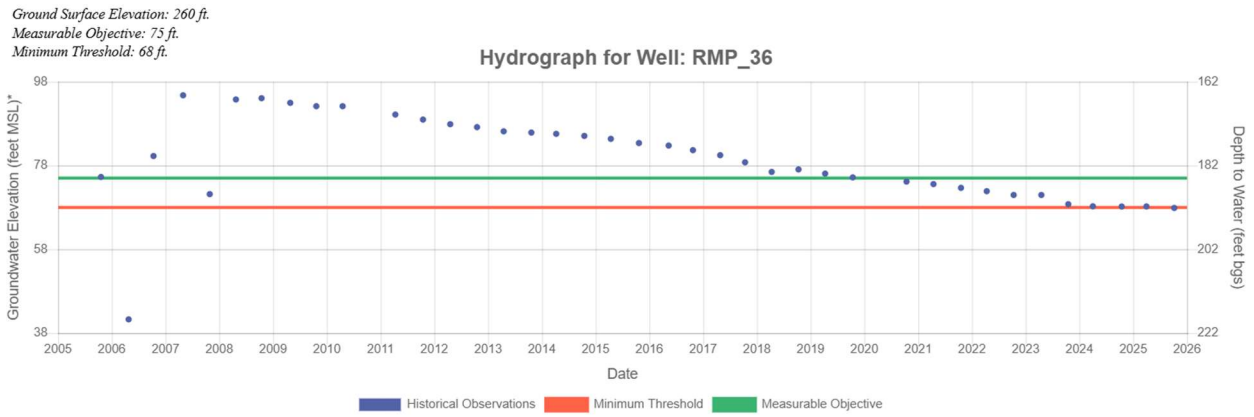


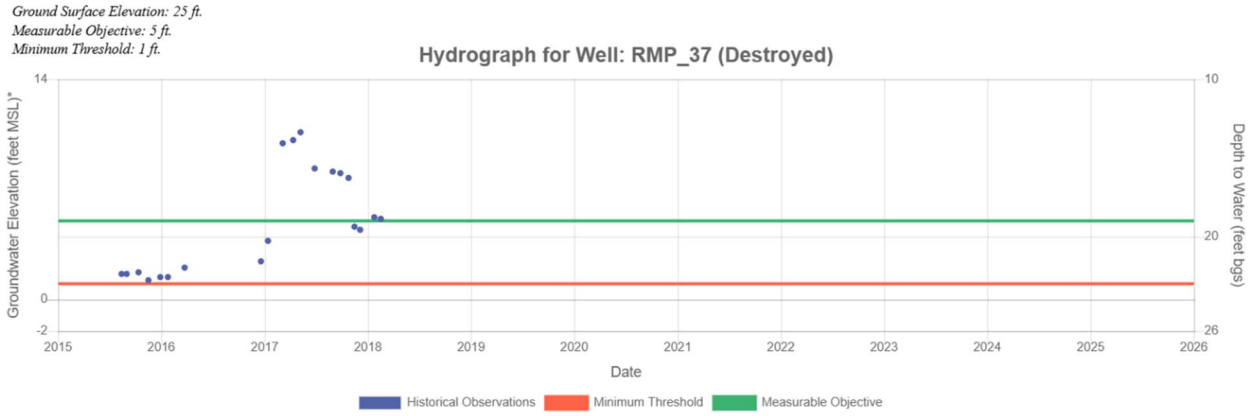
Ground Surface Elevation: 40 ft.
Measurable Objective: -1 ft.
Minimum Threshold: -6 ft.



Ground Surface Elevation: 40 ft.
Measurable Objective: -4 ft.
Minimum Threshold: -8 ft.

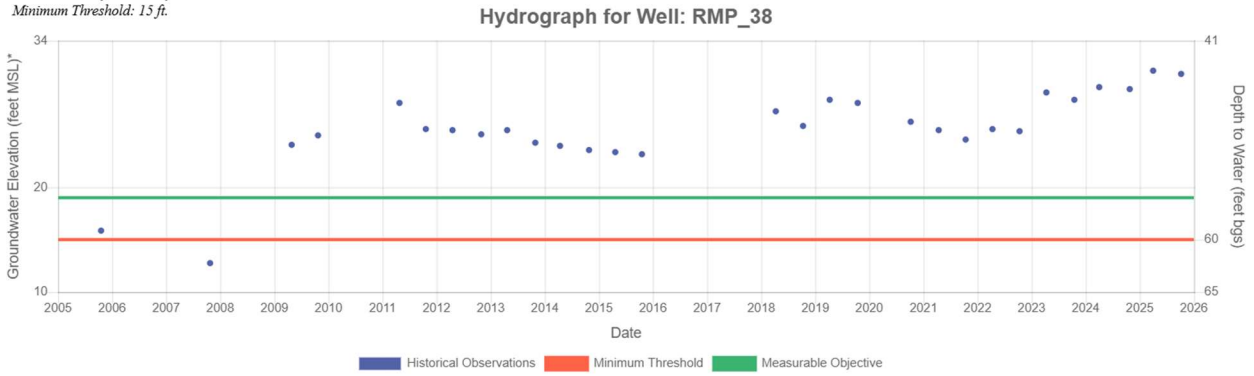




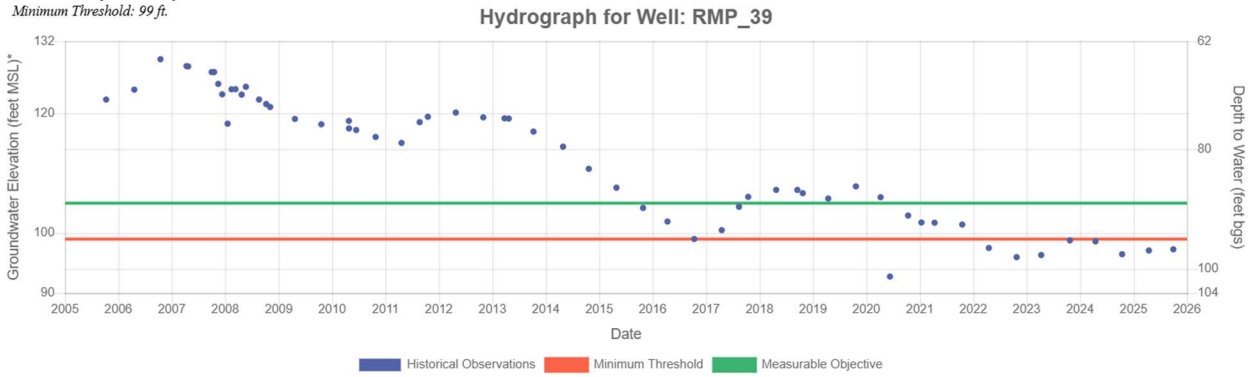


RMP_37 was sealed and is no longer monitored. It will likely be removed at the 5-year update review.

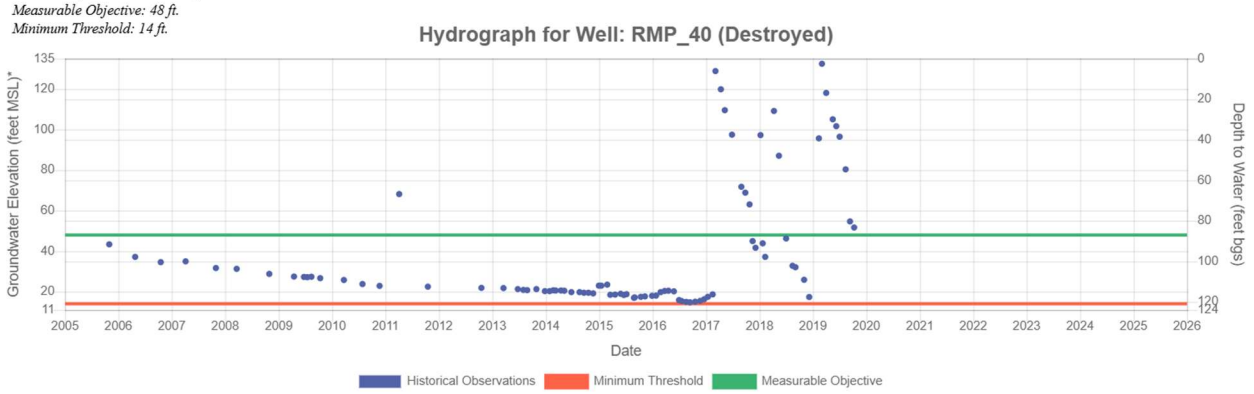
Ground Surface Elevation: 76 ft.
Measurable Objective: 19 ft.
Minimum Threshold: 15 ft.



Ground Surface Elevation: 195 ft.
Measurable Objective: 105 ft.
Minimum Threshold: 99 ft.

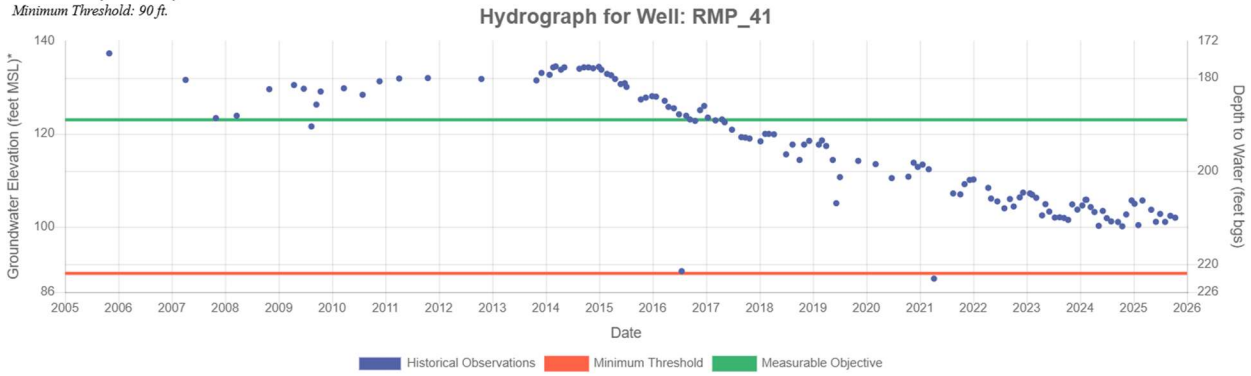


Ground Surface Elevation: 136 ft.
Measurable Objective: 48 ft.
Minimum Threshold: 14 ft.

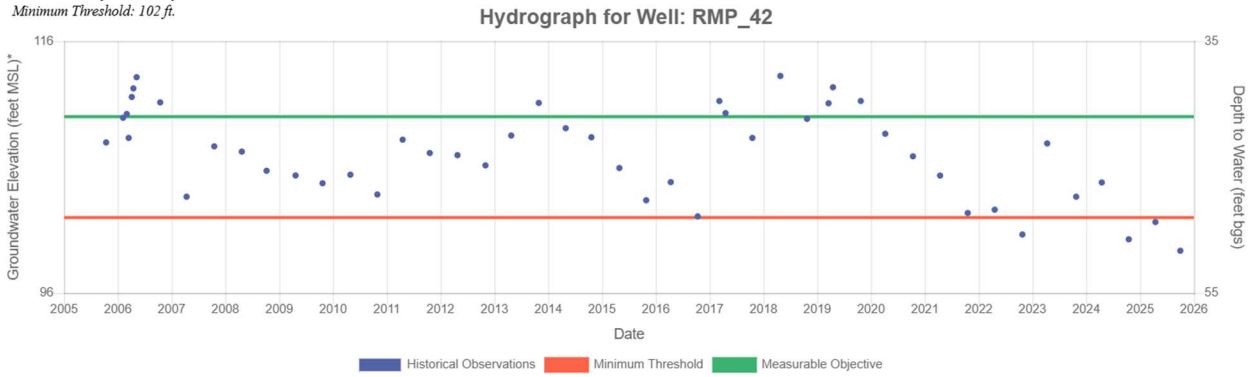


RMP_40 was destroyed and is no longer monitored. It will likely be removed at the 5-year update review.

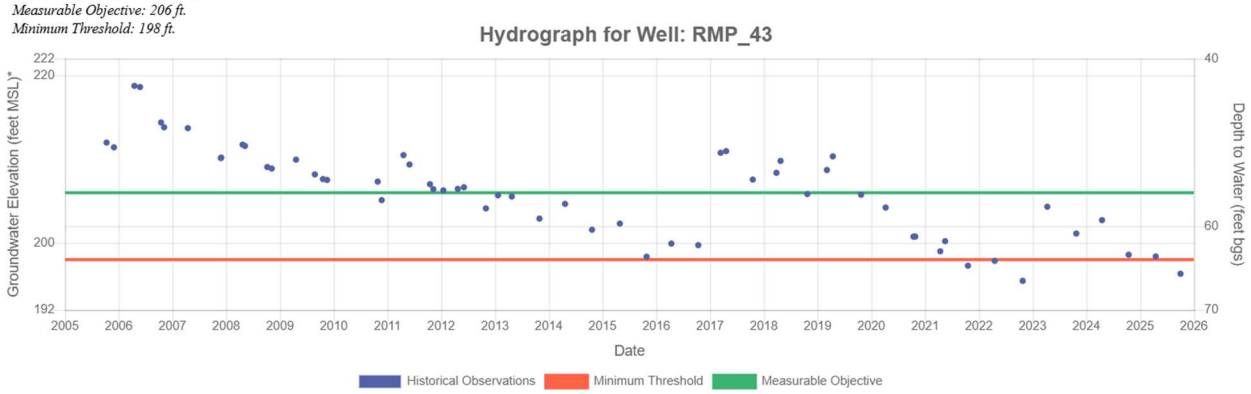
Ground Surface Elevation: 312 ft.
Measurable Objective: 123 ft.
Minimum Threshold: 90 ft.



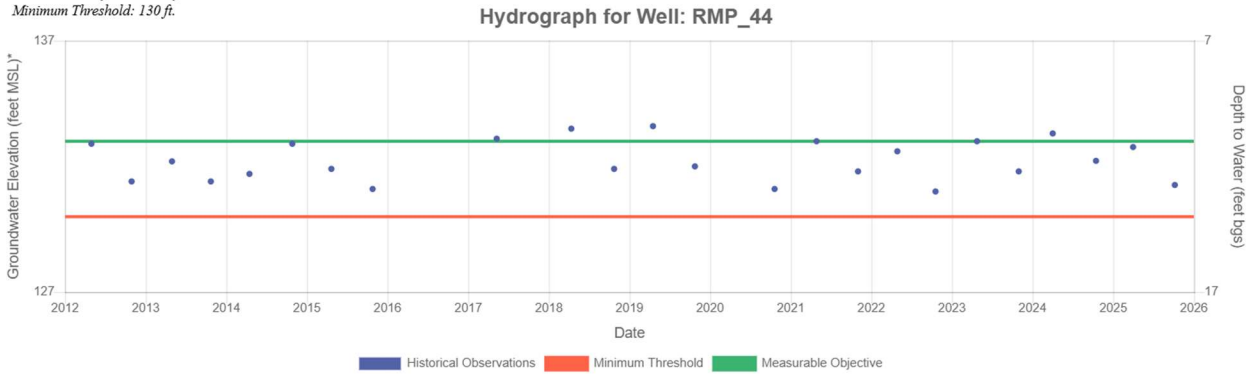
Ground Surface Elevation: 152 ft.
Measurable Objective: 110 ft.
Minimum Threshold: 102 ft.



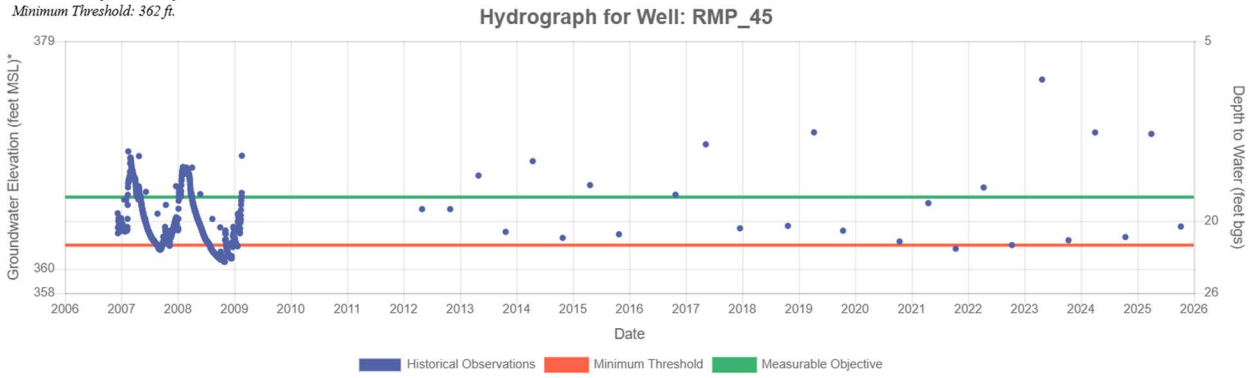
Ground Surface Elevation: 263 ft.
Measurable Objective: 206 ft.
Minimum Threshold: 198 ft.



Ground Surface Elevation: 145 ft.
Measurable Objective: 133 ft.
Minimum Threshold: 130 ft.



Ground Surface Elevation: 385 ft.
Measurable Objective: 366 ft.
Minimum Threshold: 362 ft.



Appendix B: Spatial Representation of Groundwater Extractions and Change in Groundwater Storage as Estimated by CoSANA

Figure B-1 displays the general locations of groundwater extractions in the SASb during the 2025 water year. This figure represents the normalized extraction rates per unit area by CoSANA model elements for municipal and industrial, agricultural (including agricultural residential) and remediation extractions. The municipal and industrial and remediation extractions are reported by well, while the agricultural and ag res extractions are estimated by area using the CoSANA model.

Figure B-2 displays the total change in groundwater storage in the principal aquifer of the SASb for water year 2025 in a spatial format as estimated by outputs from CoSANA. The change in storage is shown in units of inches. CoSANA calculates a change in volume per area of model element. Since the model elements vary in size, visually displaying a map of volume change per model element is not spatially intuitive, so the results have been normalized to show change in depth by dividing the volume by area per model element. Consistent with the increase in overall subbasin storage during the 2025 water year, the figures below relative increases in storage (positive change in depth shown in yellow and tan colored shades) in most areas of the basin, with only small areas with relative decreases in storage (negative change in depth shown in shades of brown). Note that the results shown are modeled changes in storage and may not reflect changes in groundwater levels at individual wells during the water year.

Overall, the groundwater storage is relatively constant in most parts of the basin for the 2025 water year. There are moderate increases in groundwater storage throughout the central portion of the basin. Slight decreases in storage are seen in the southwestern and eastern central areas of the basin.

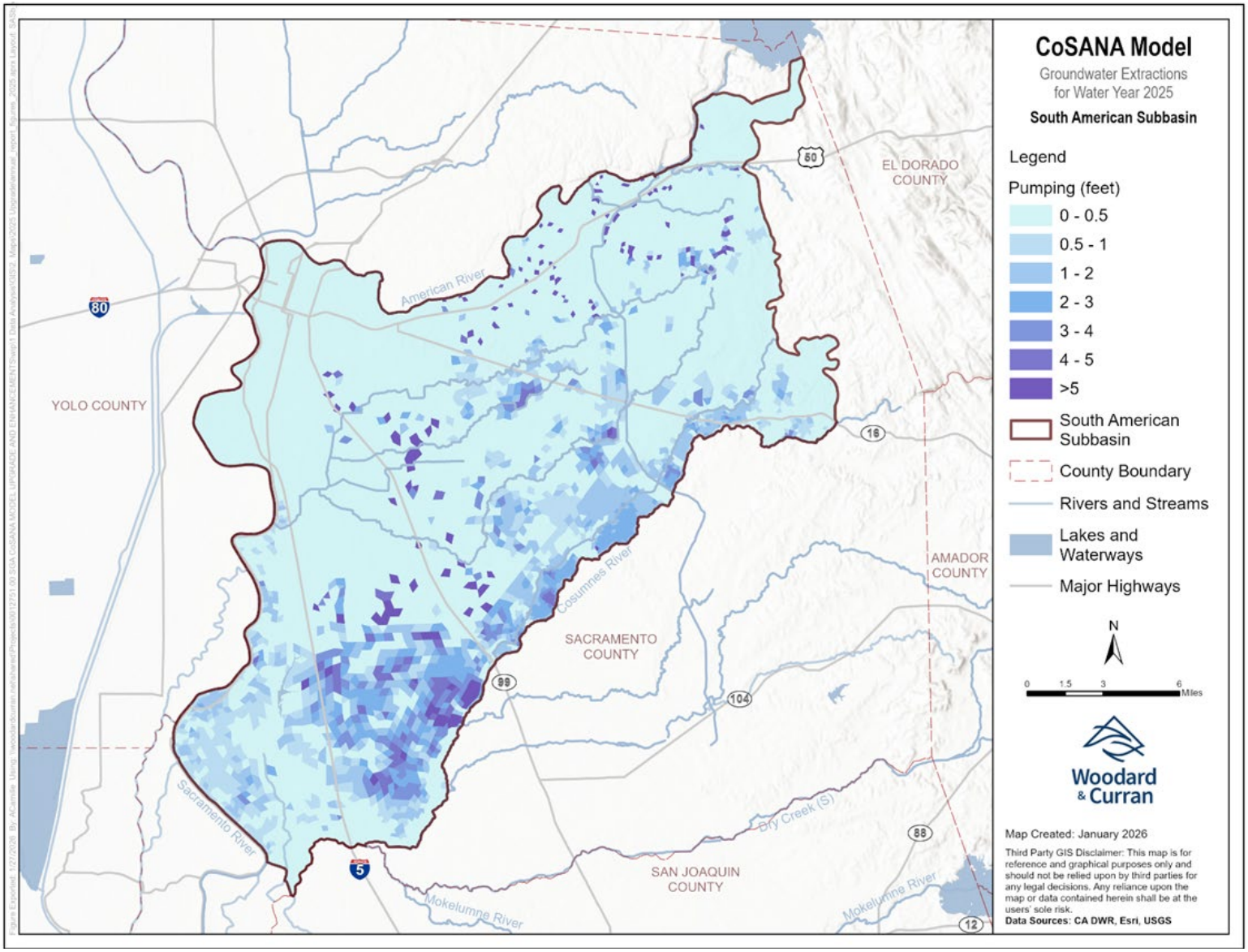


Figure B-1: General Location of Groundwater Extractions in WY 2025 in the South American Subbasin

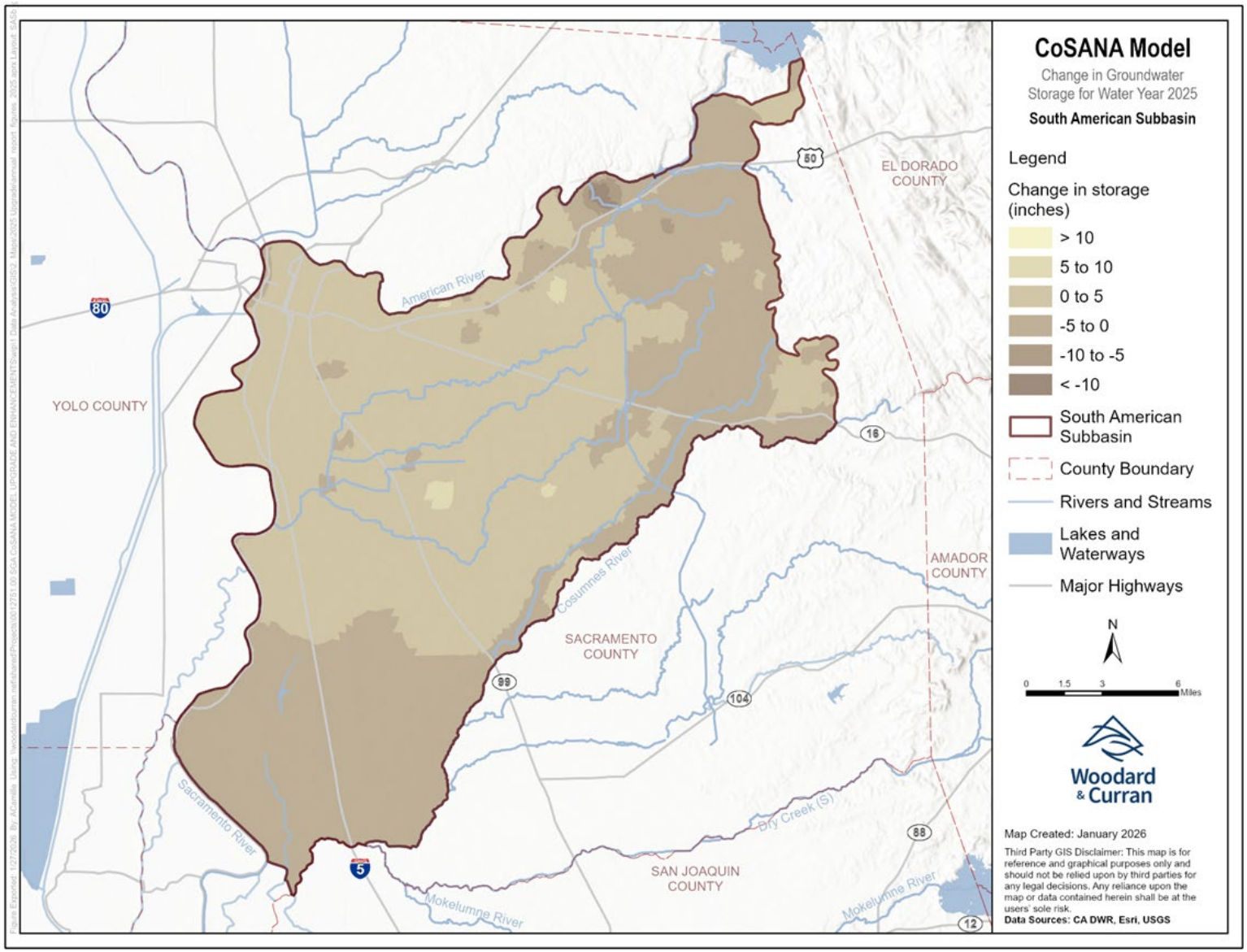
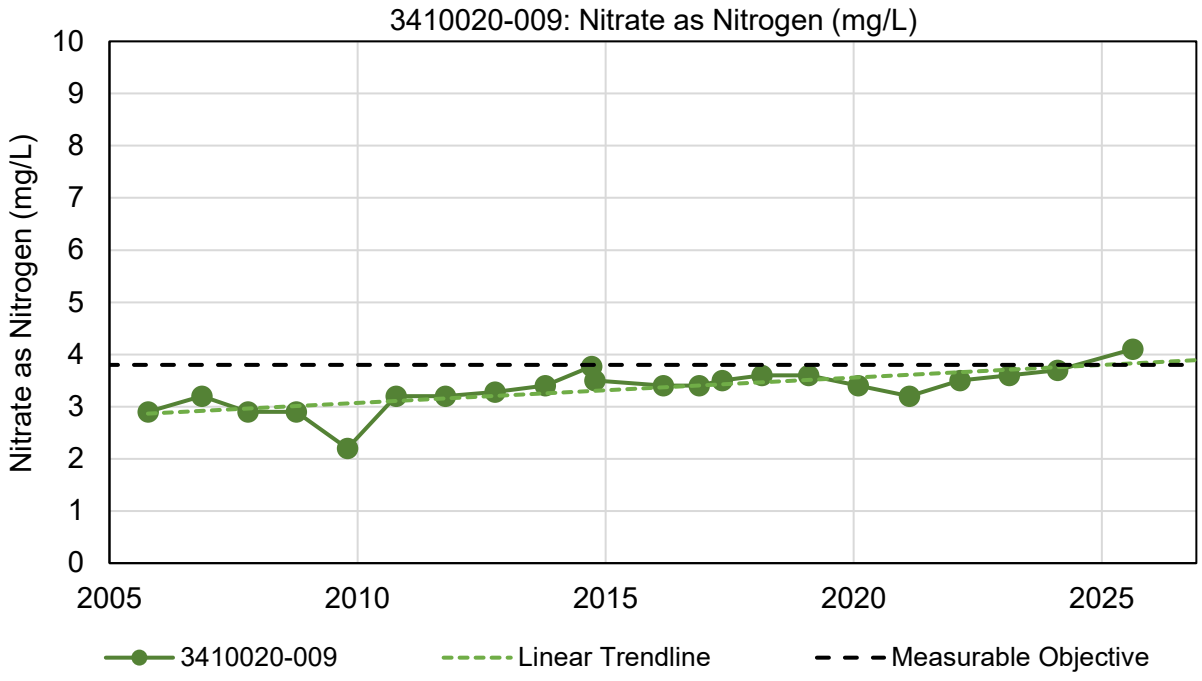
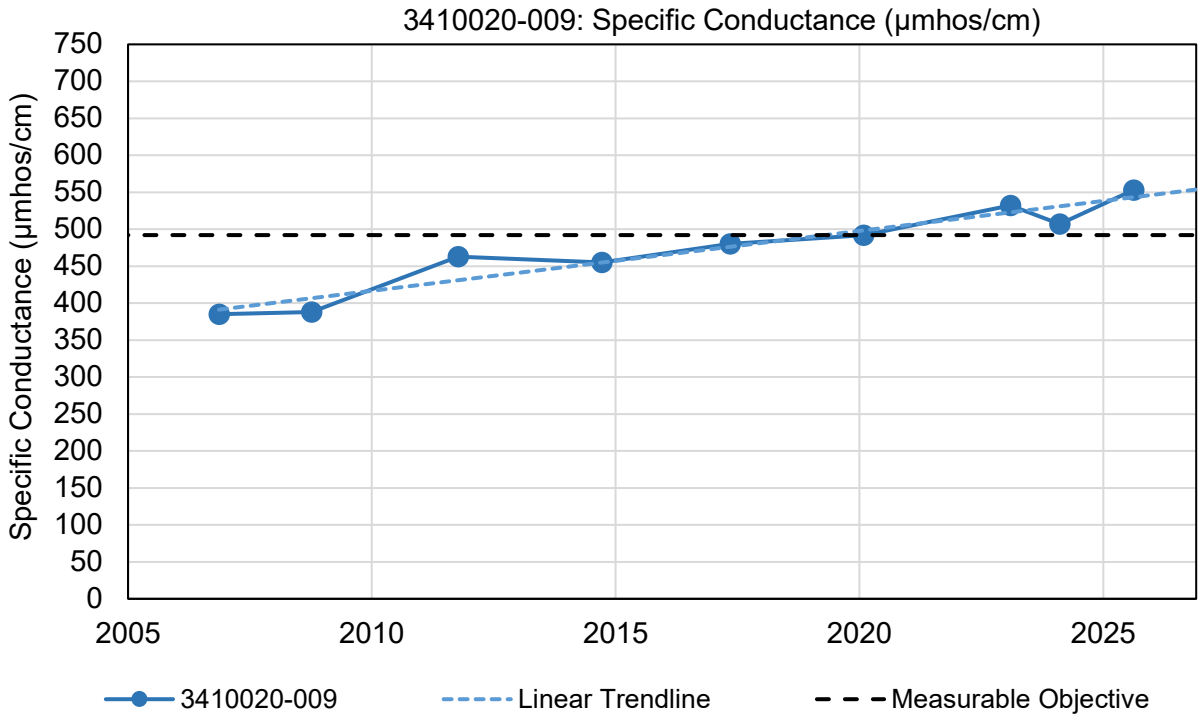


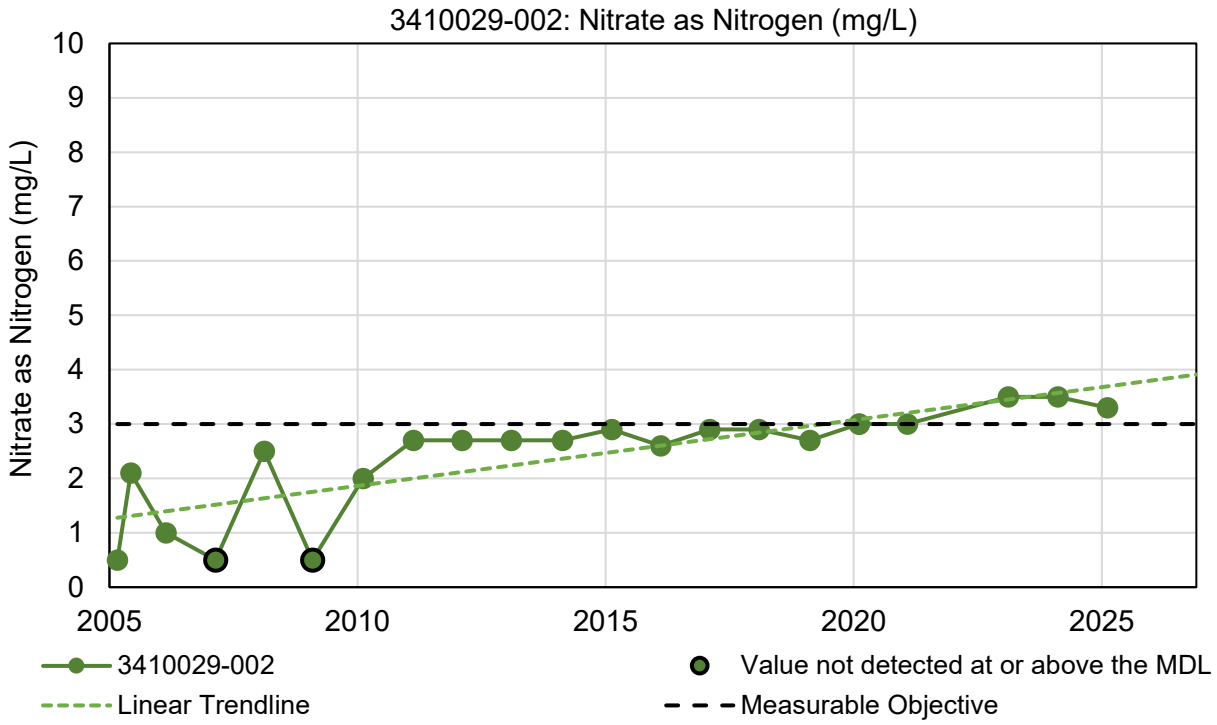
Figure B-2: Estimated Spatial Change in Groundwater Storage (inches) in the South American Subbasin over the 2025 Water Year

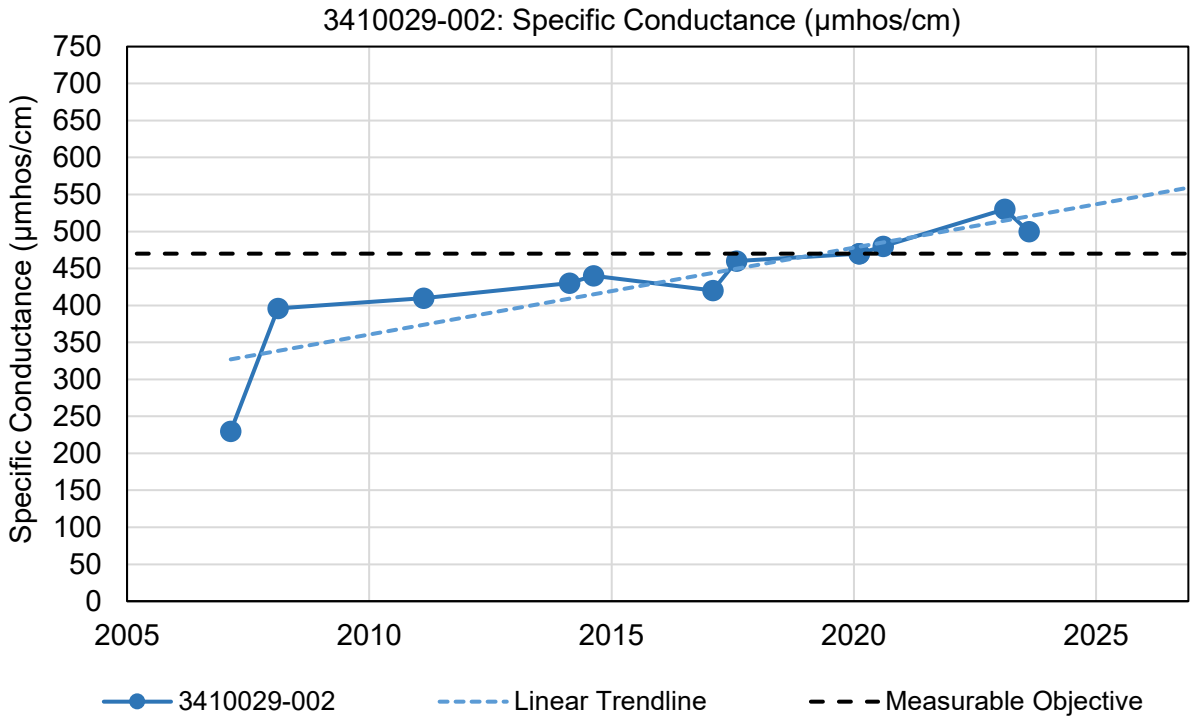
Appendix C: Groundwater Quality Time Series

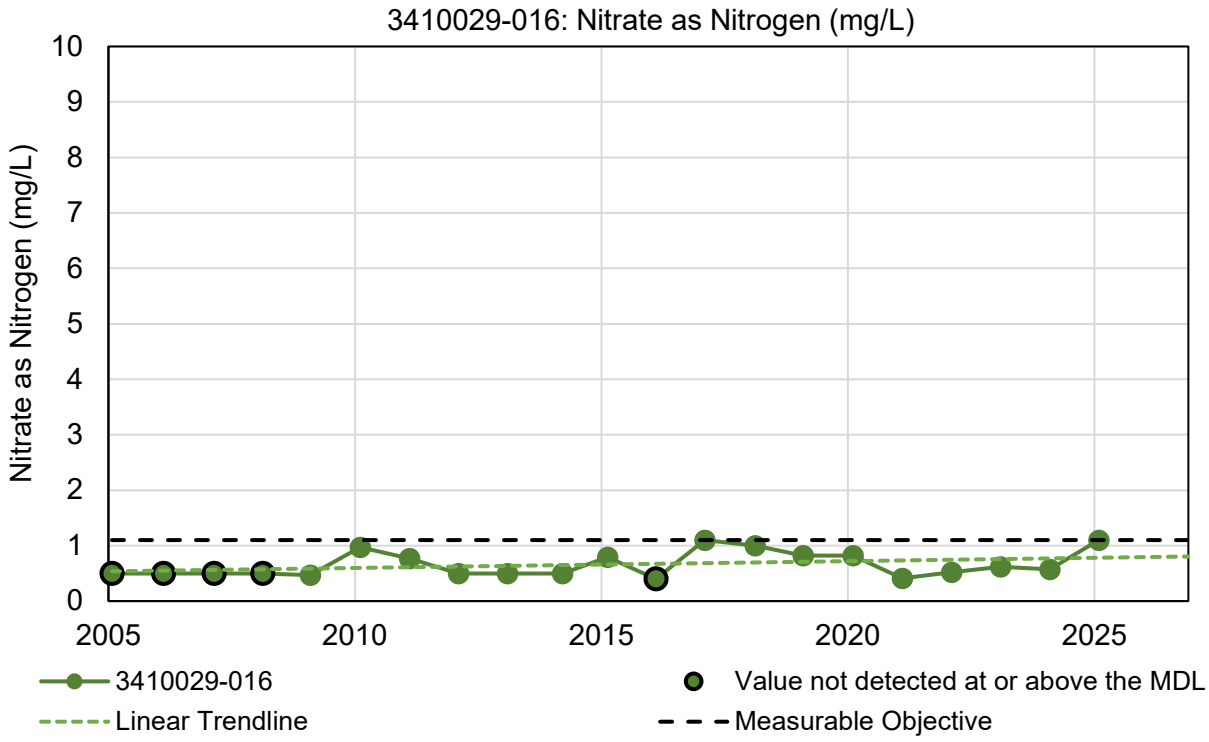
This appendix provides time series of nitrate as nitrogen and specific conductance for wells included in the groundwater quality monitoring network. The maximum threshold concentration for nitrate is the Title 22 Primary Maximum Contaminant Level of 10 mg/L, and for specific conductance is the Title 22 Secondary Maximum Contaminant Level of 1600 micromhos/cm. The measurable objective for each well is displayed on each chart. The Y-axis displays the same maximum value of 10 mg/L for nitrate and 750 µmhos/cm for specific conductance, with the exception of red Y-axis values which denote a higher maximum value of 15 mg/L for nitrate, and 2200 µmhos/cm for specific conductance. The nitrate graphs substitute non-detect values with one half the reporting limit, and substitute estimated values with the reporting limit. The substitution of the reporting limit in these instances documents that groundwater quality is at least as good as the reporting limit. These instances are denoted on the graphs. This does not change the evaluation of groundwater quality SMCs.

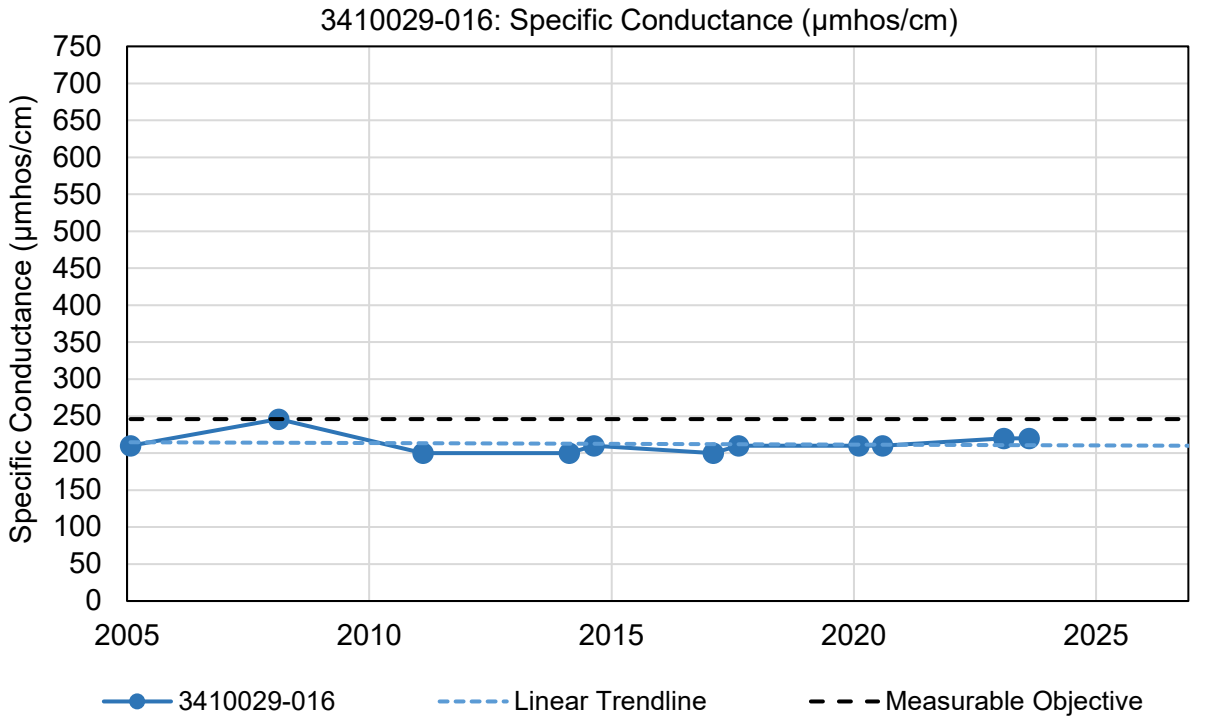

3410020-009: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410020-009
Linear Trendline
Measurable Objective

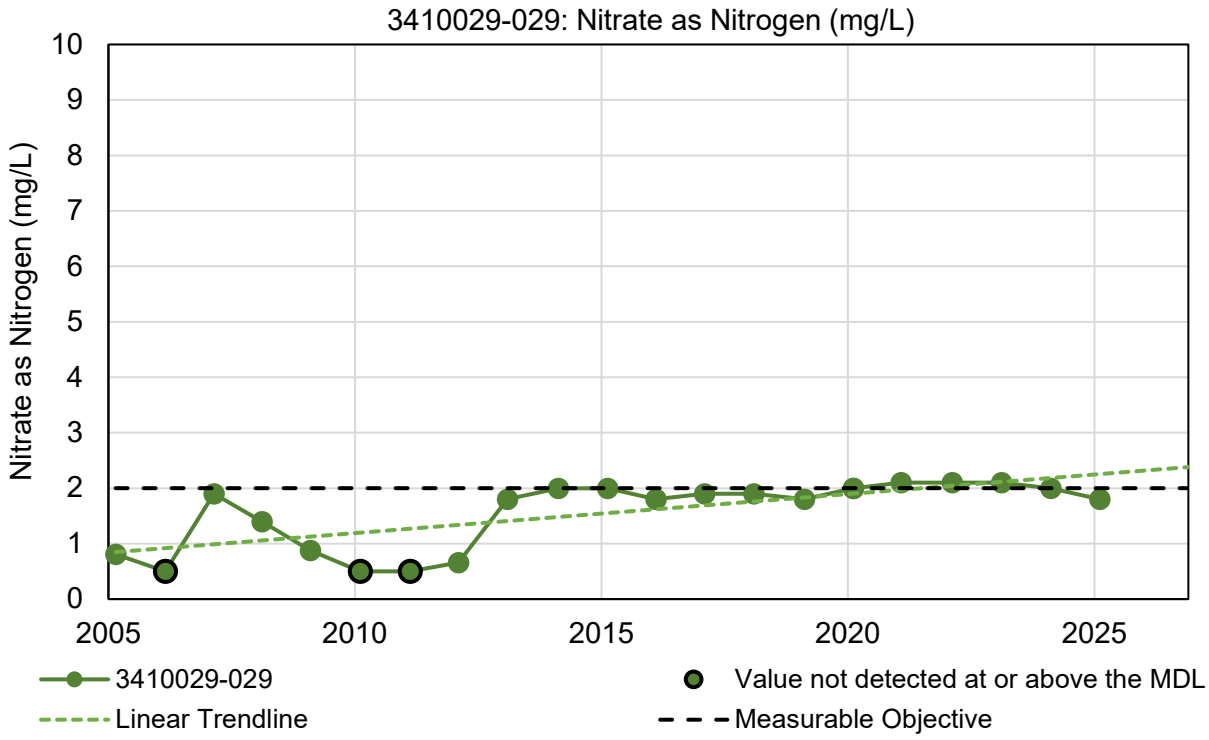

3410020-009: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410020-009
Linear Trendline
Measurable Objective

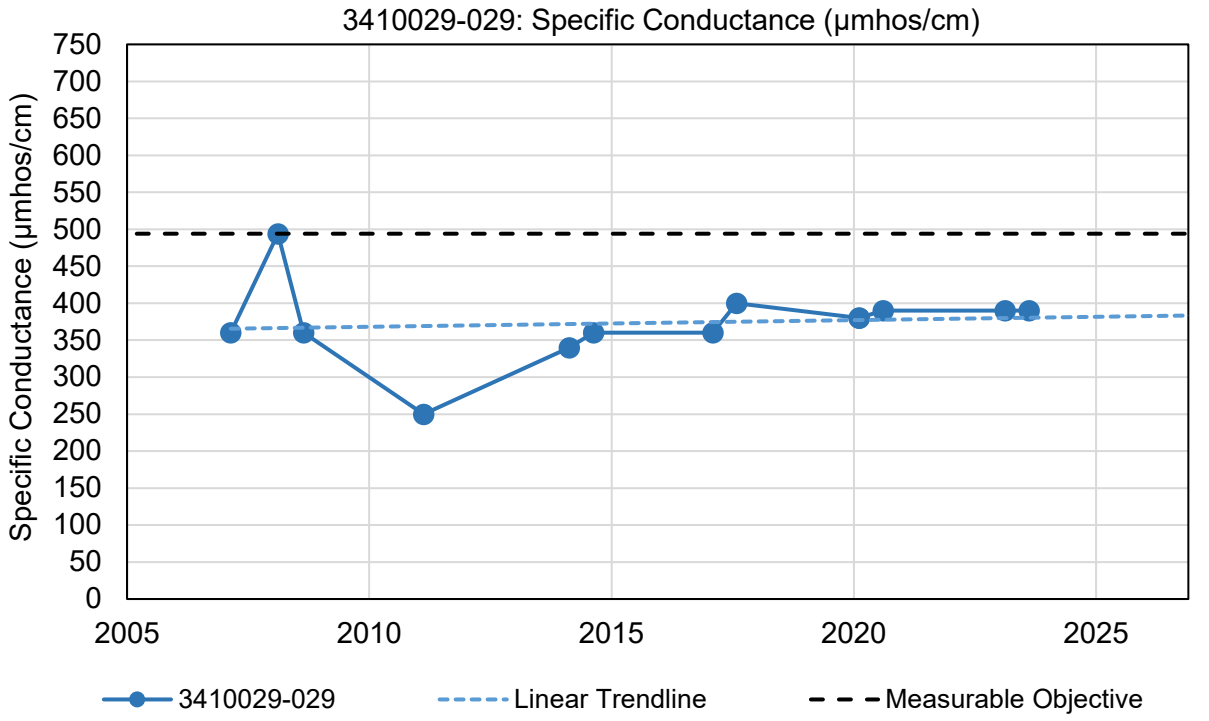

3410029-002: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-002
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

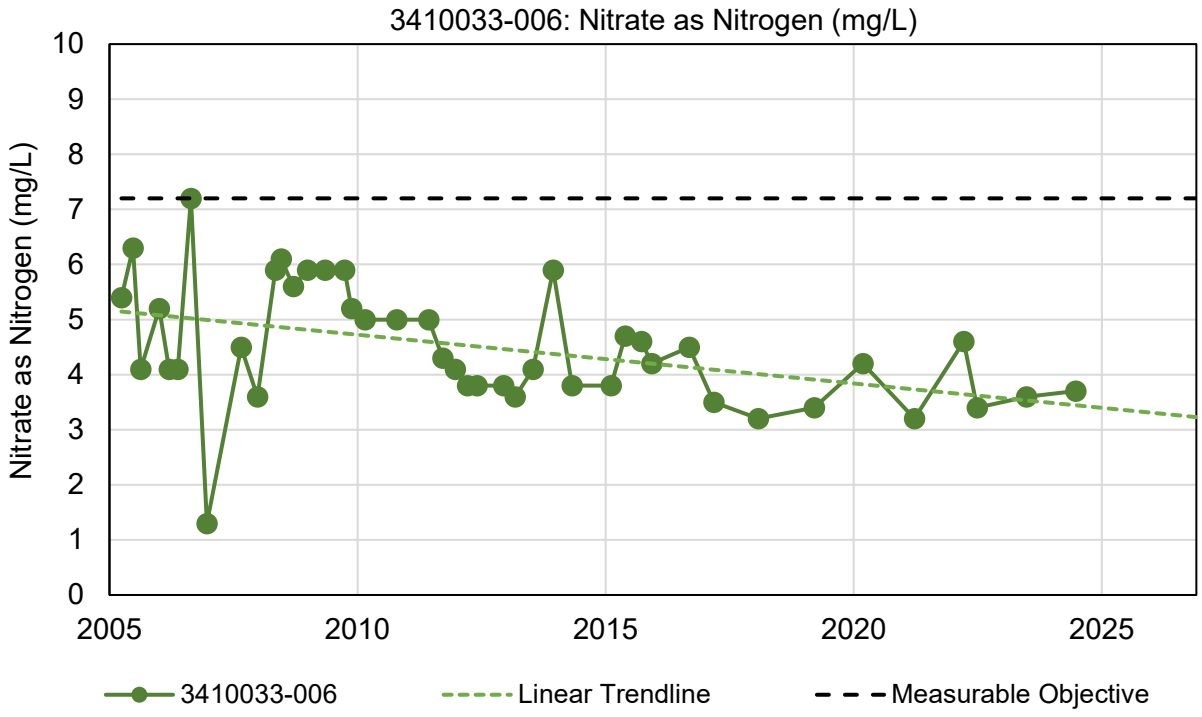

3410029-002: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410029-002
Linear Trendline
Measurable Objective

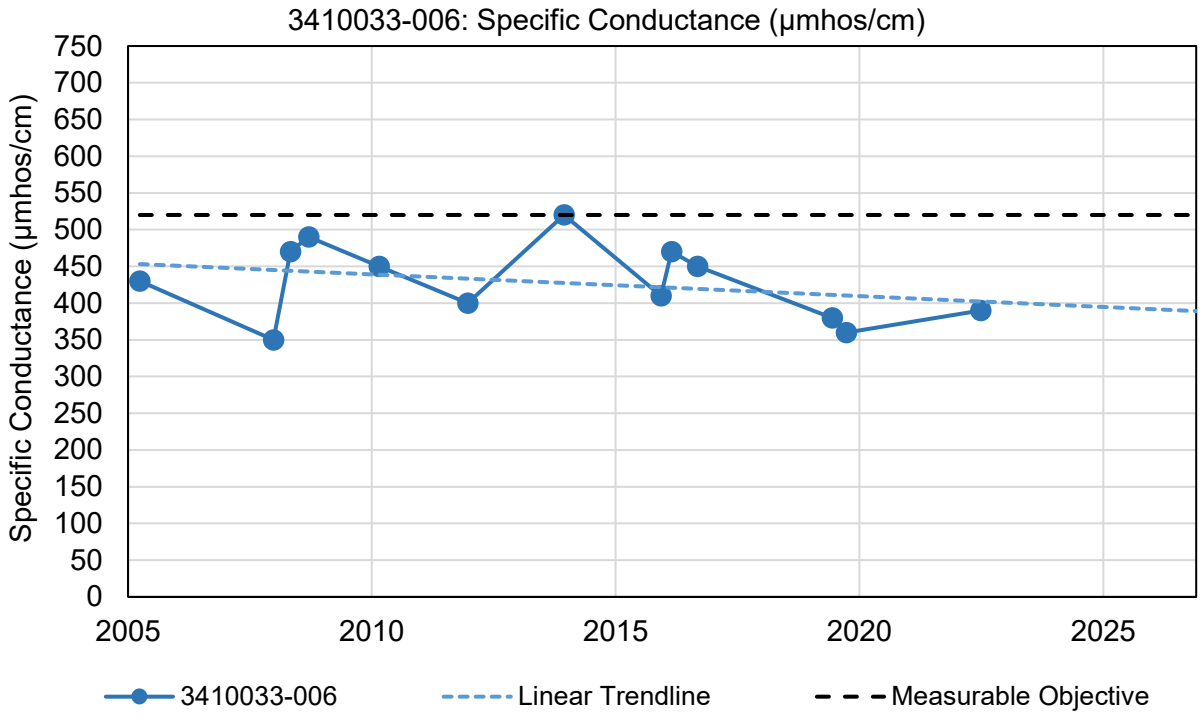

3410029-016: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-016
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

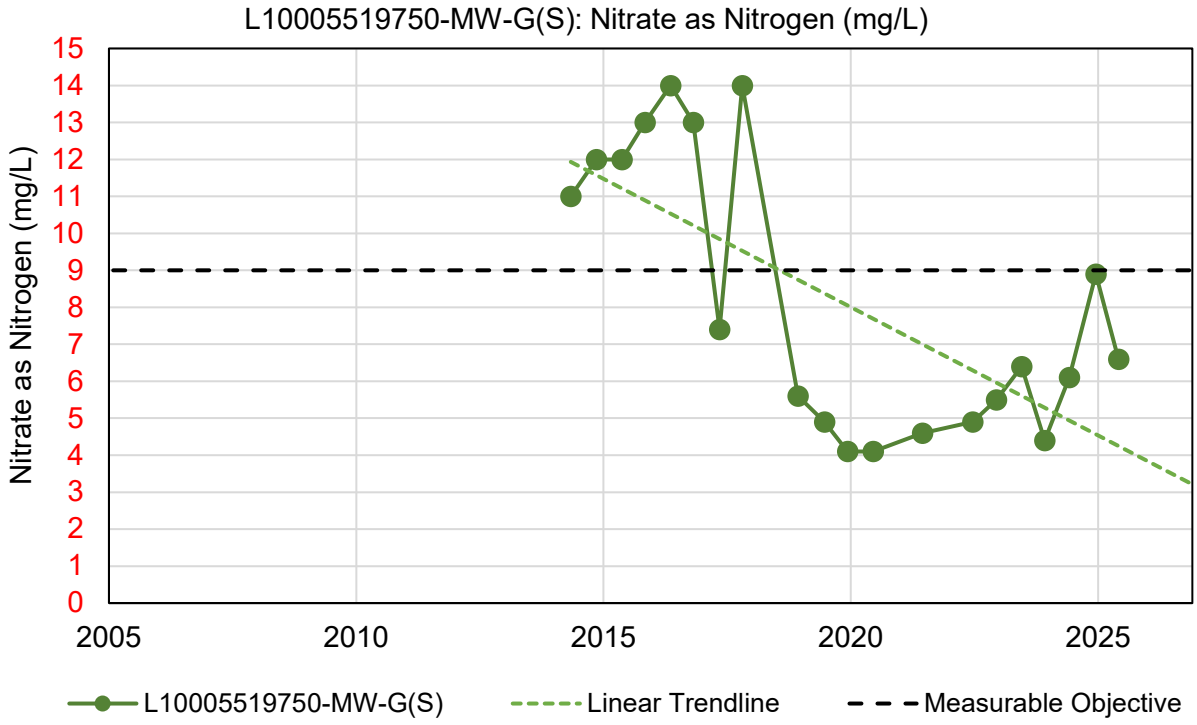

3410029-016: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410029-016
Linear Trendline
Measurable Objective

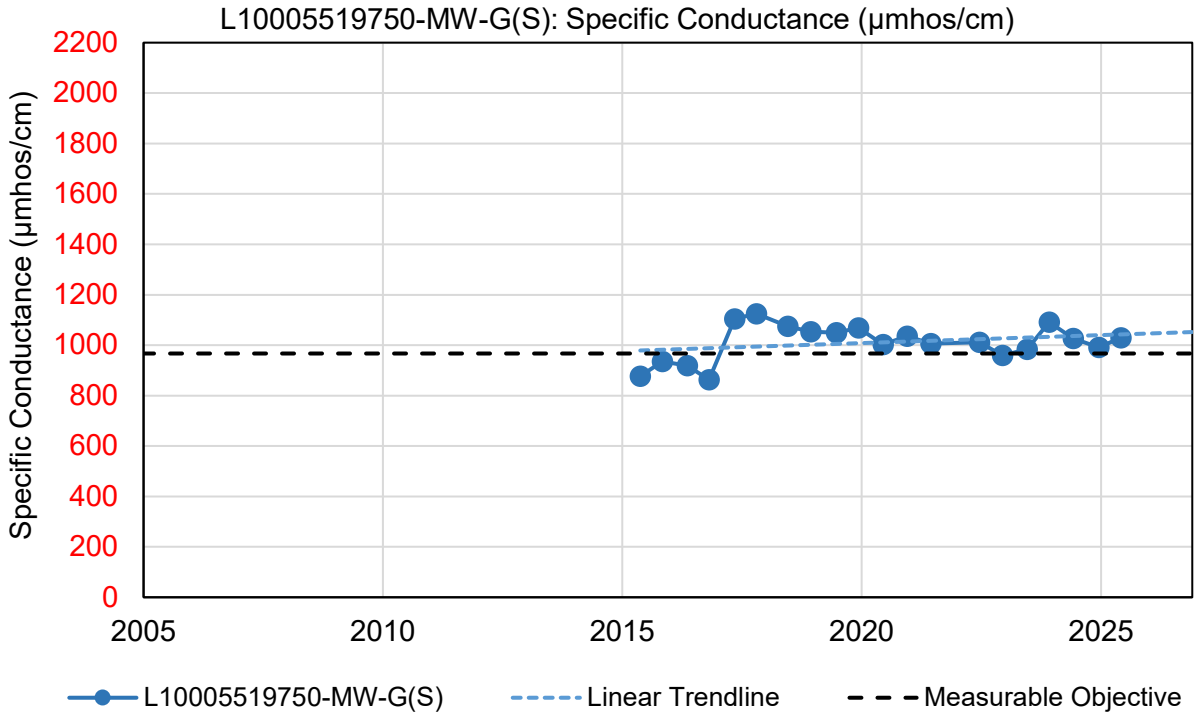

3410029-029: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-029
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

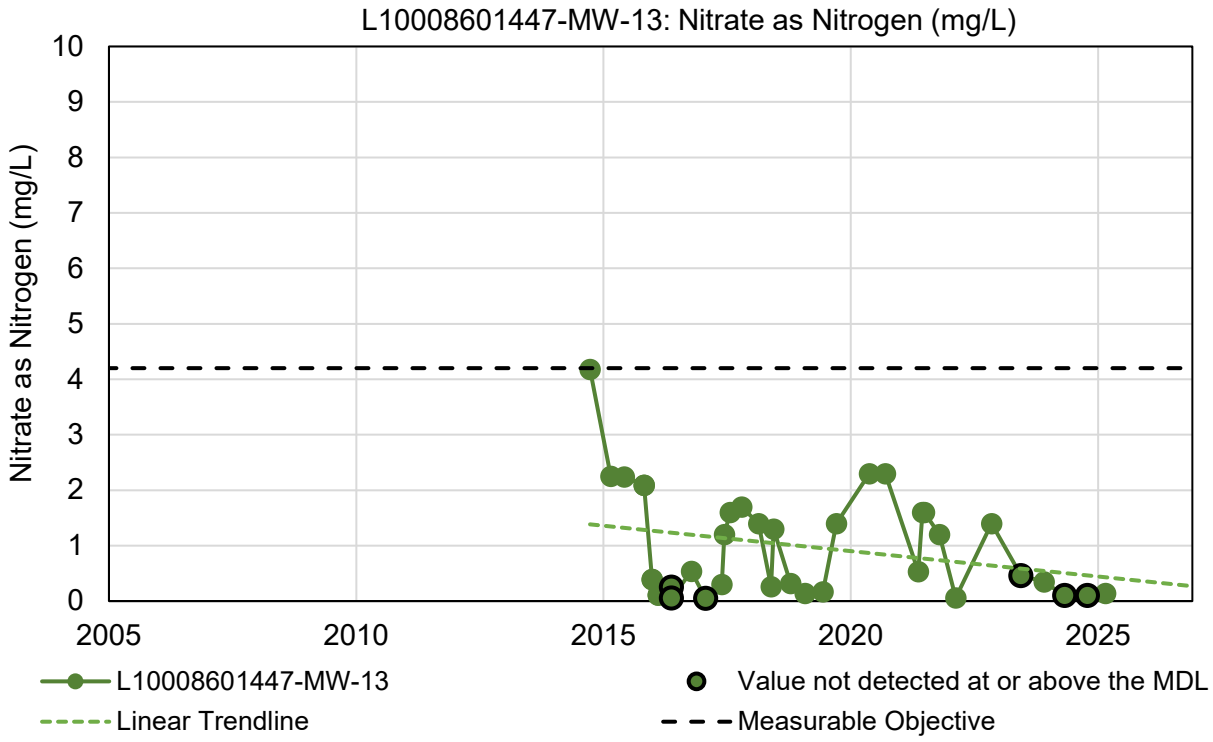

3410029-029: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410029-029
Linear Trendline
Measurable Objective

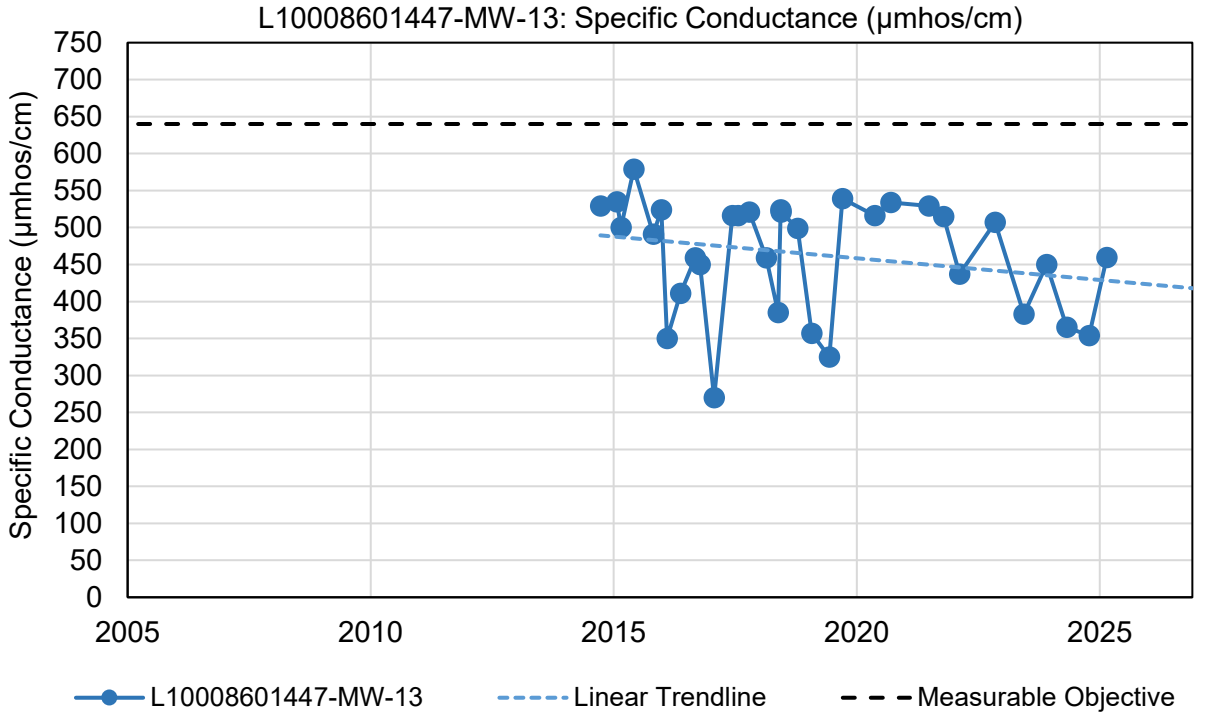

3410033-006: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410033-006
Linear Trendline
Measurable Objective

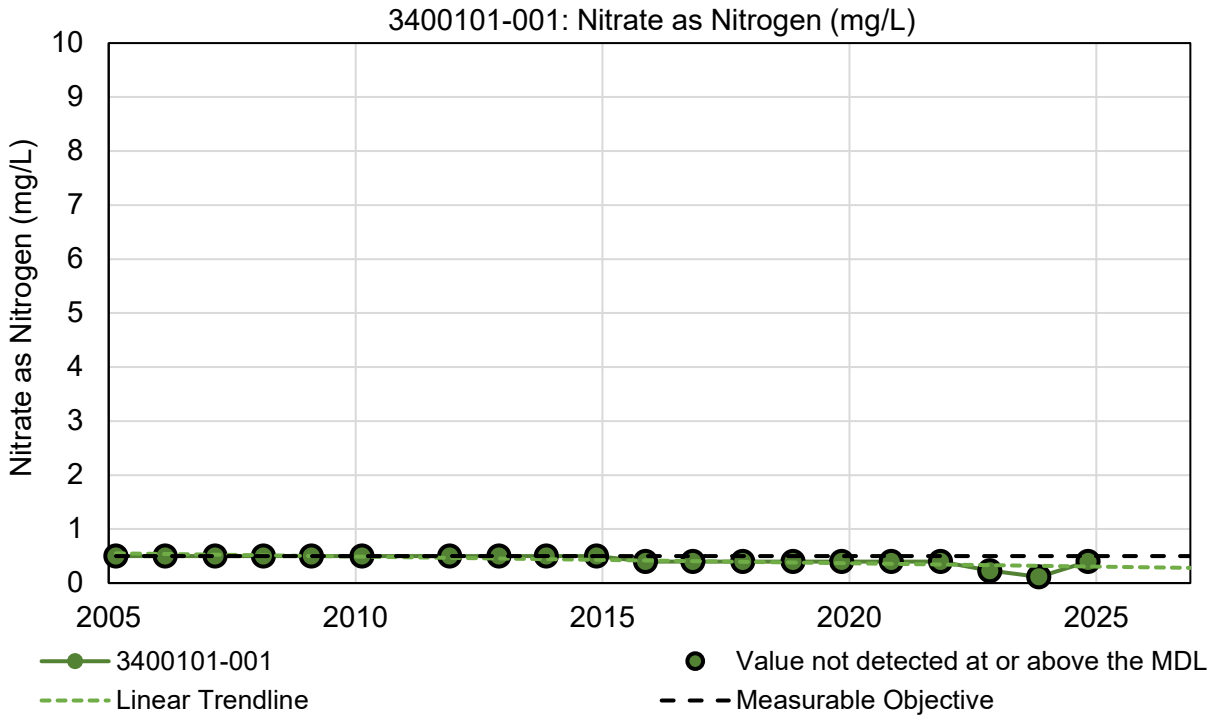

3410033-006: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410033-006
Linear Trendline
Measurable Objective

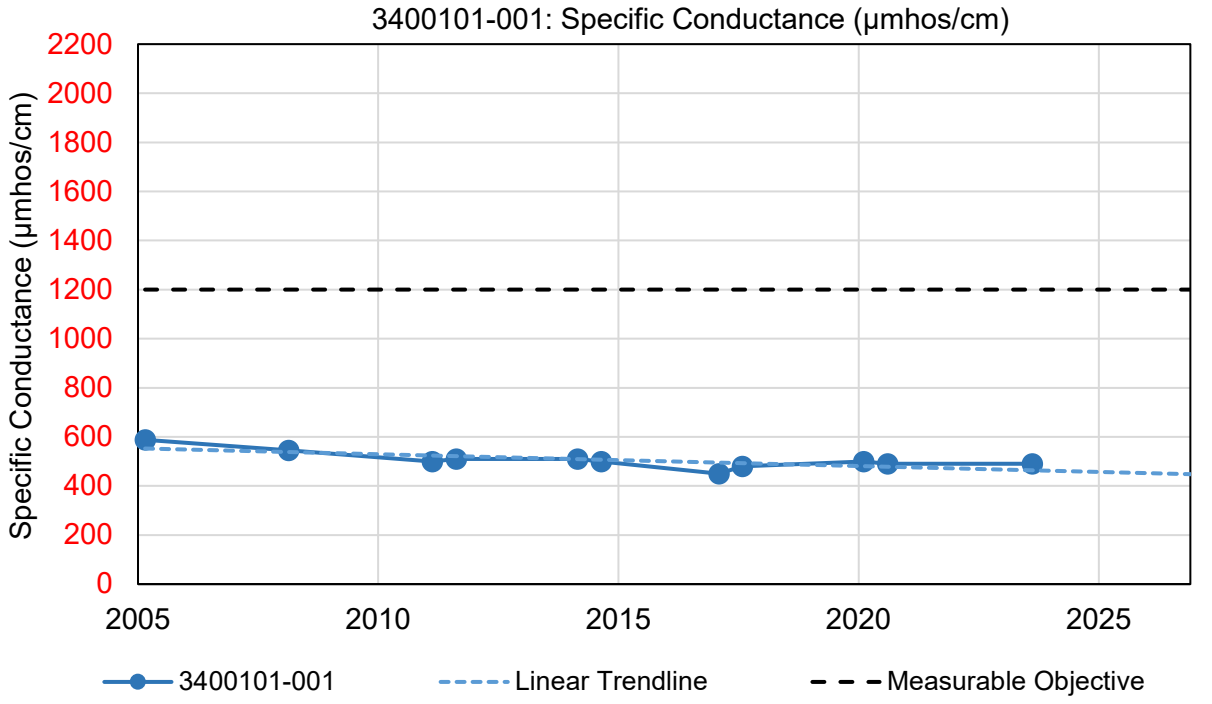

L10005519750-MW-G(S): Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
L10005519750-MW-G(S)
Linear Trendline
Measurable Objective

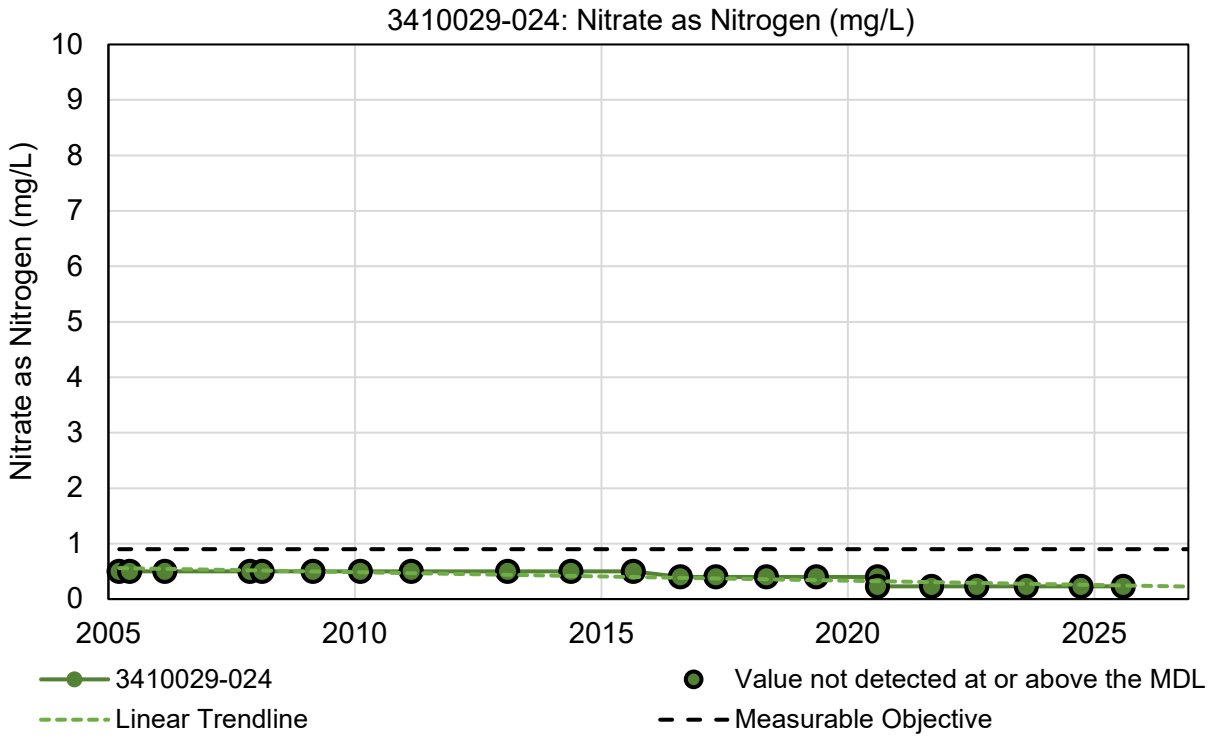

L10005519750-MW-G(S): Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2005
2010
2015
2020
2025
L10005519750-MW-G(S)
Linear Trendline
Measurable Objective

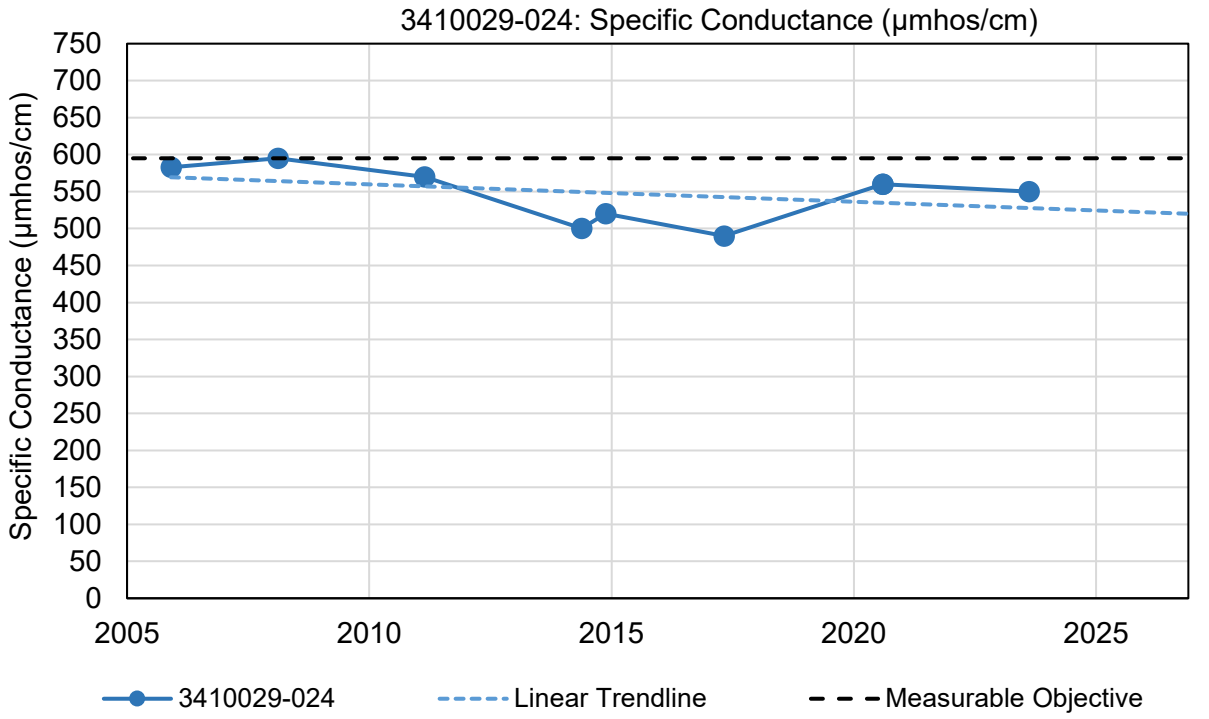

L10008601447-MW-13: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
L10008601447-MW-13
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

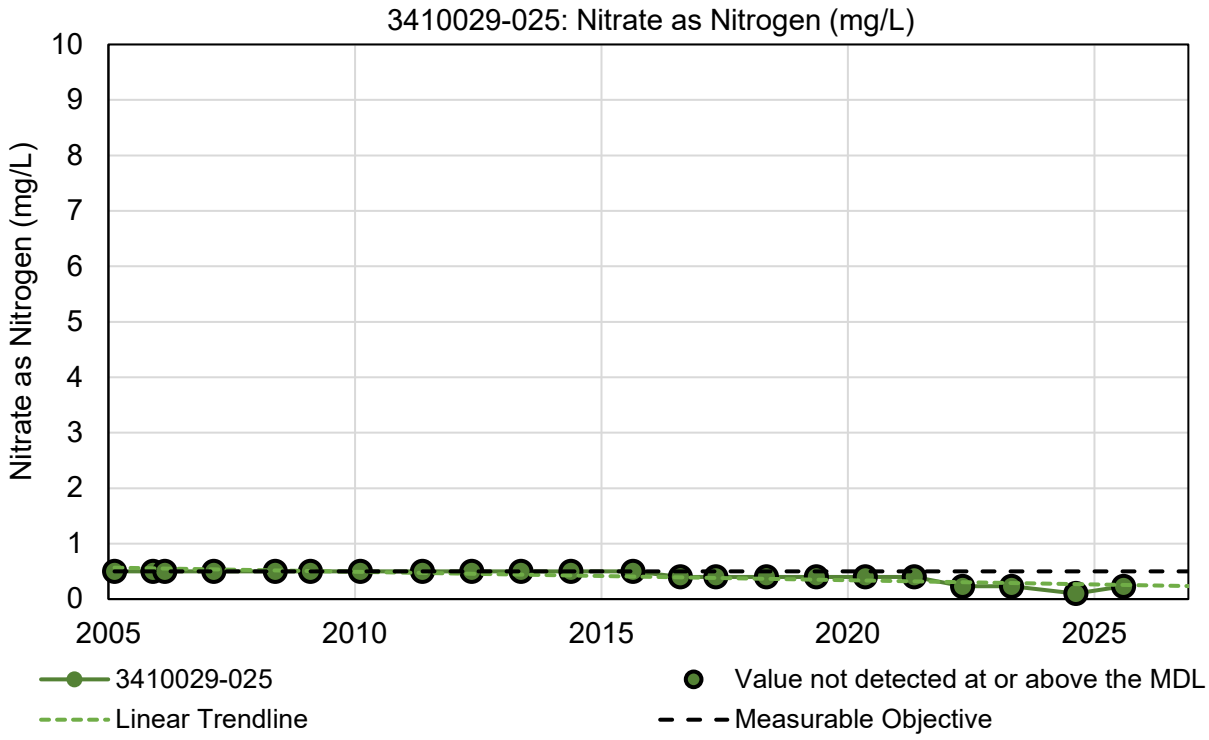

L10008601447-MW-13: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
L10008601447-MW-13
Linear Trendline
Measurable Objective

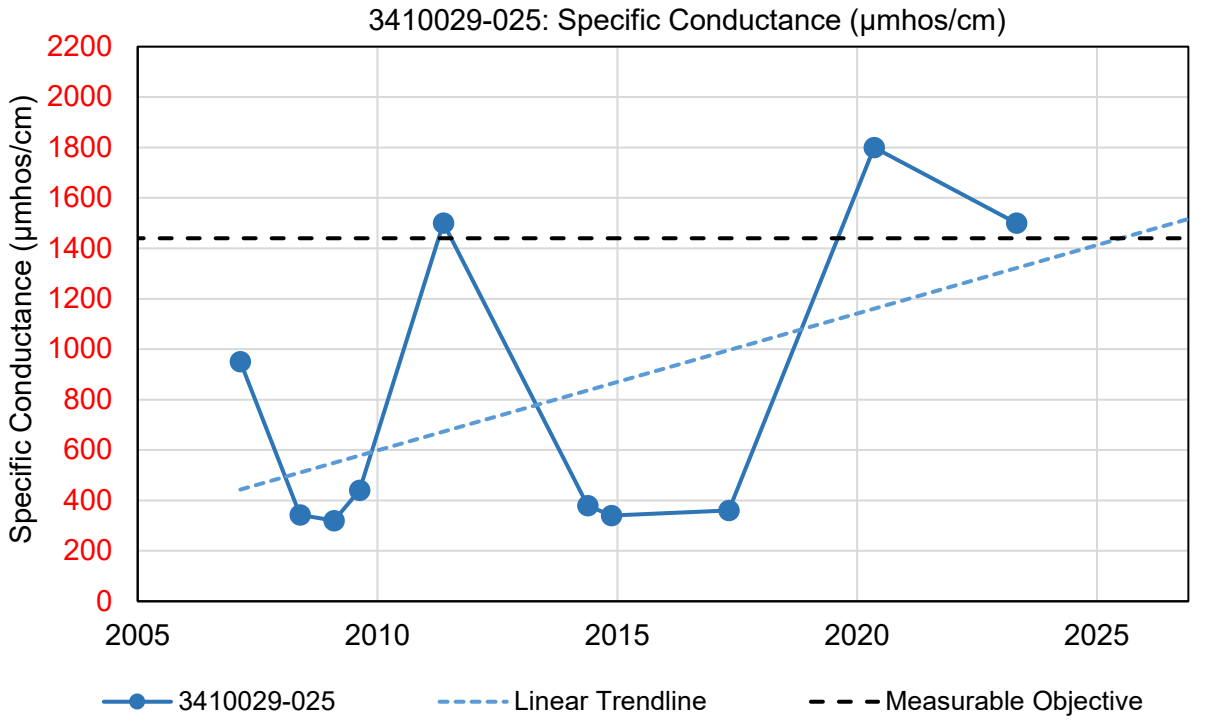

3400101-001: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3400101-001
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

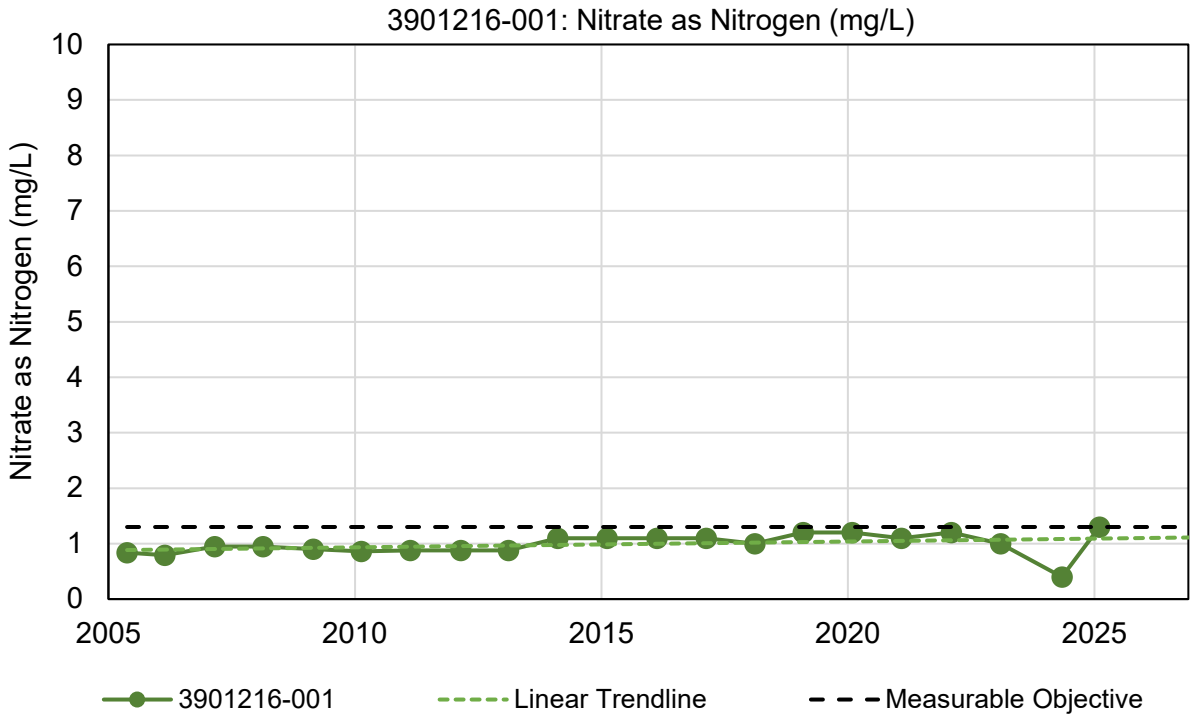

3400101-001: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2005
2010
2015
2020
2025
3400101-001
Linear Trendline
Measurable Objective

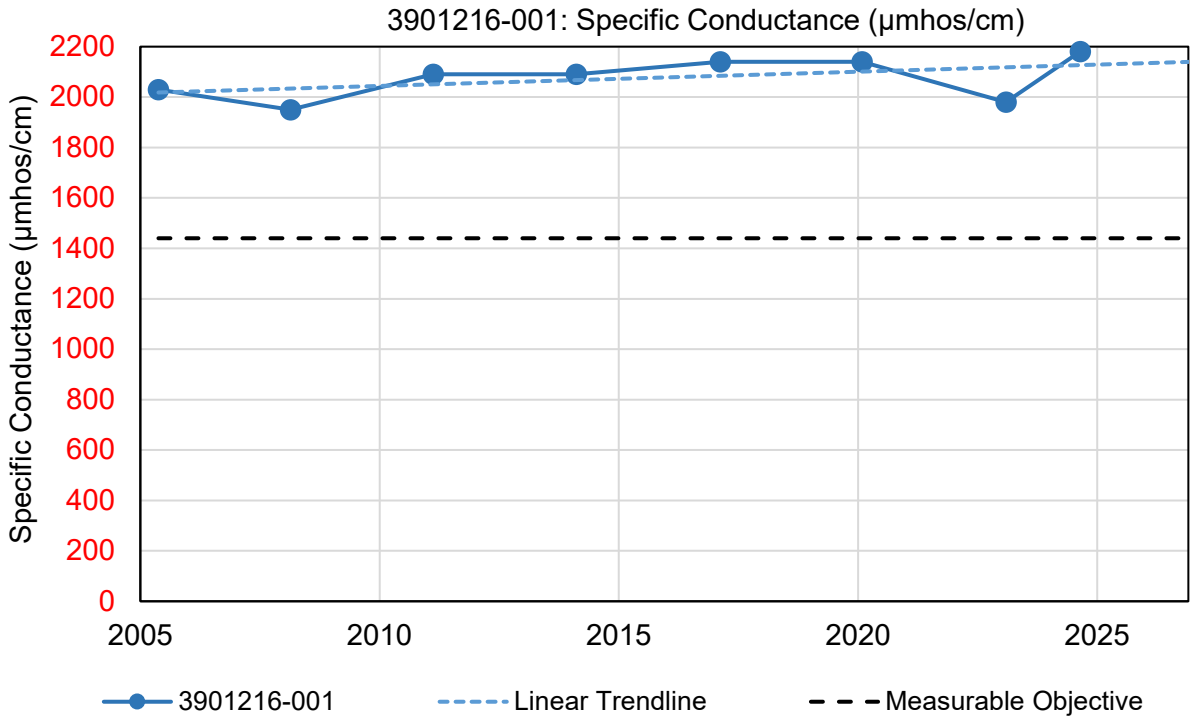

3410029-024: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-024
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

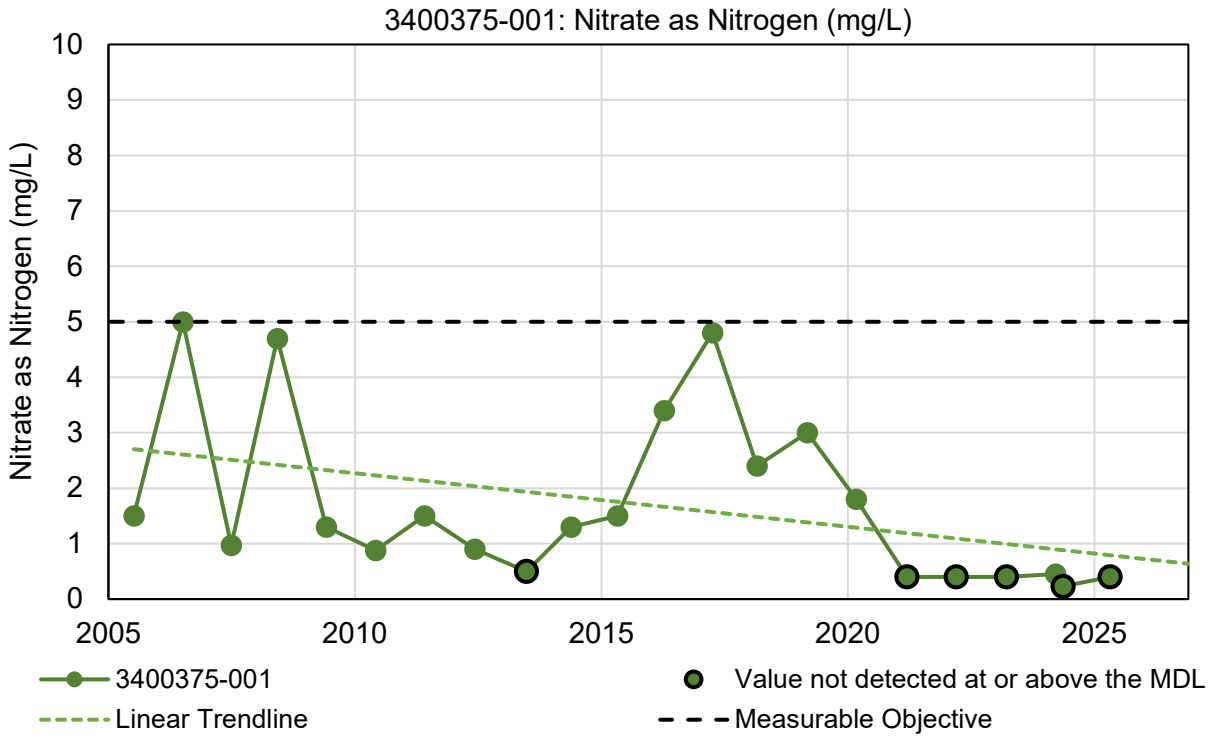

3410029-024: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410029-024
Linear Trendline
Measurable Objective

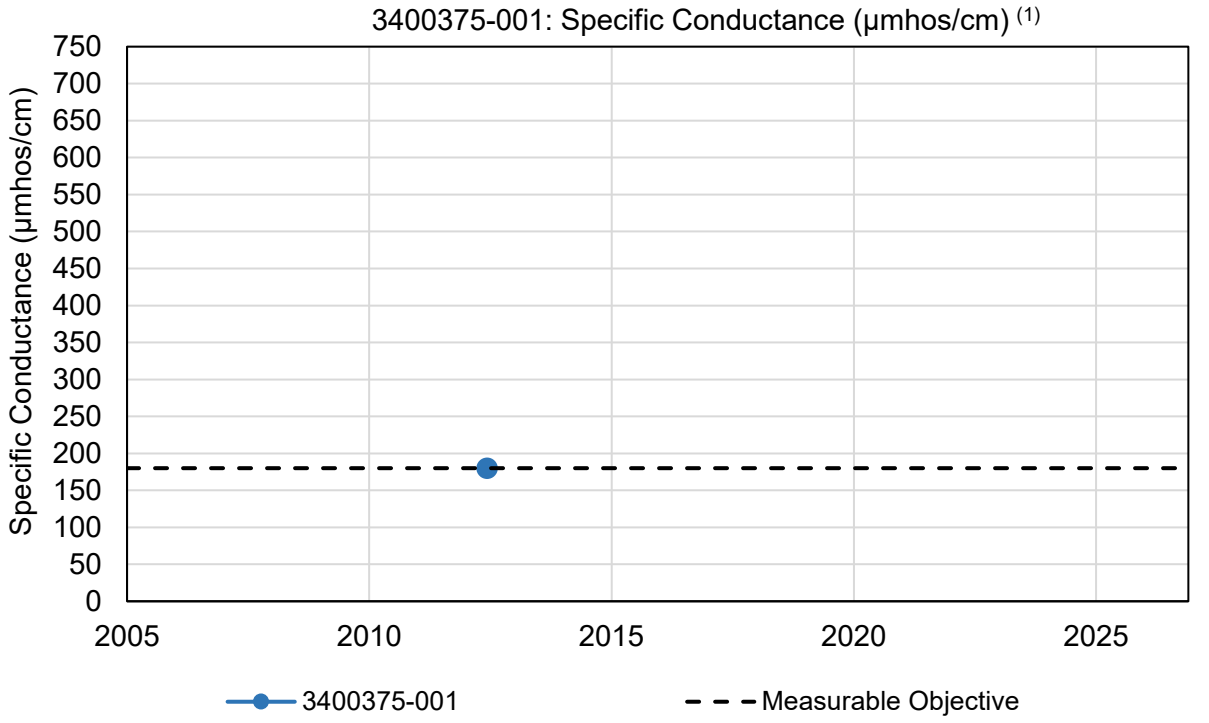

3410029-025: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-025
Value not detected at or above the MDL
Linear Trendline
Measurable Objective


3410029-025: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2005
2010
2015
2020
2025
3410029-025
Linear Trendline
Measurable Objective

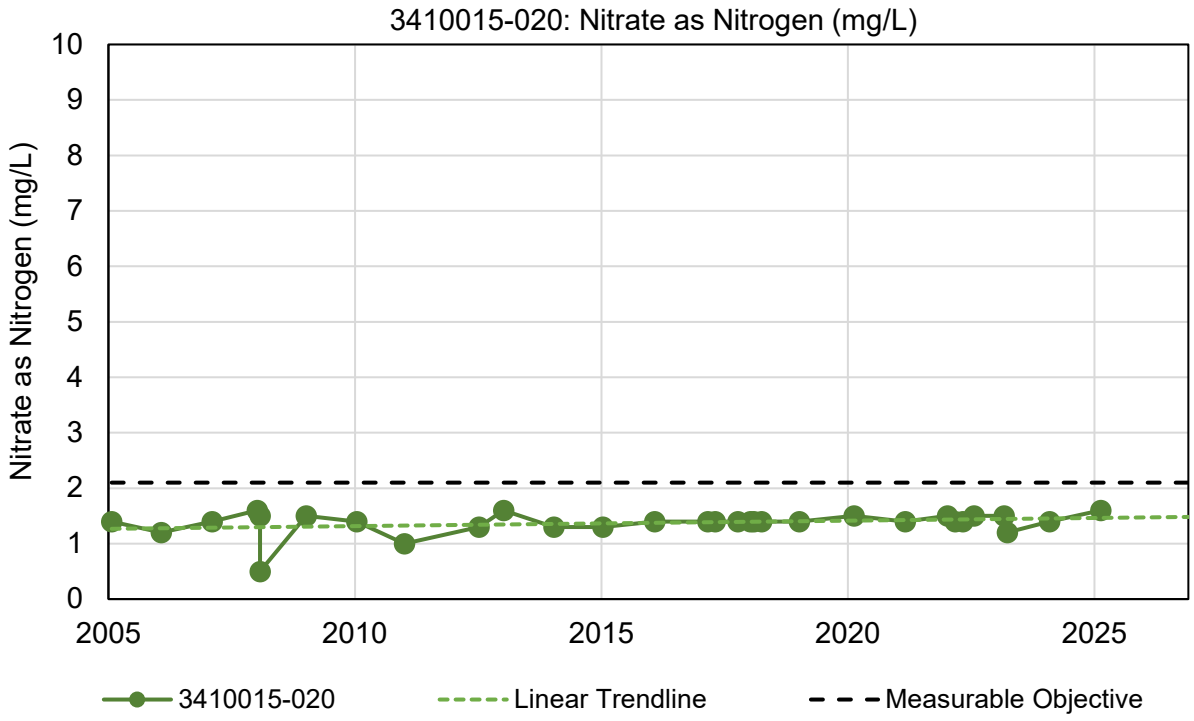

3901216-001: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3901216-001
Linear Trendline
Measurable Objective

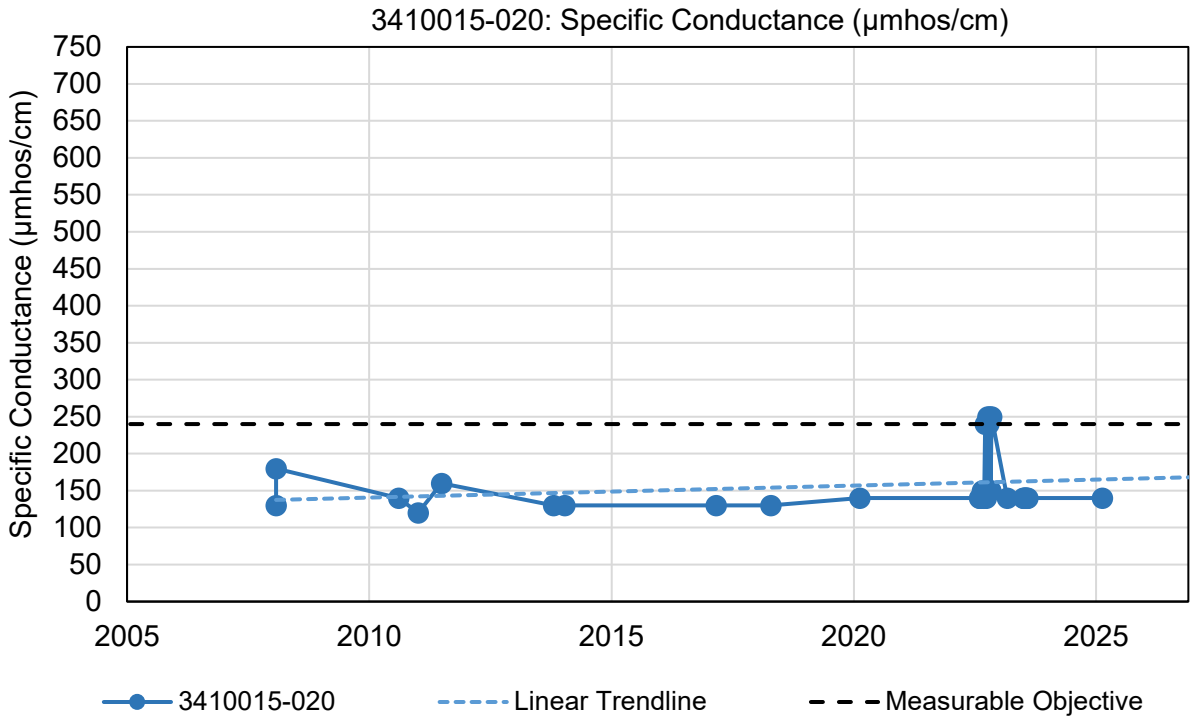

3901216-001: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2005
2010
2015
2020
2025
3901216-001
Linear Trendline
Measurable Objective

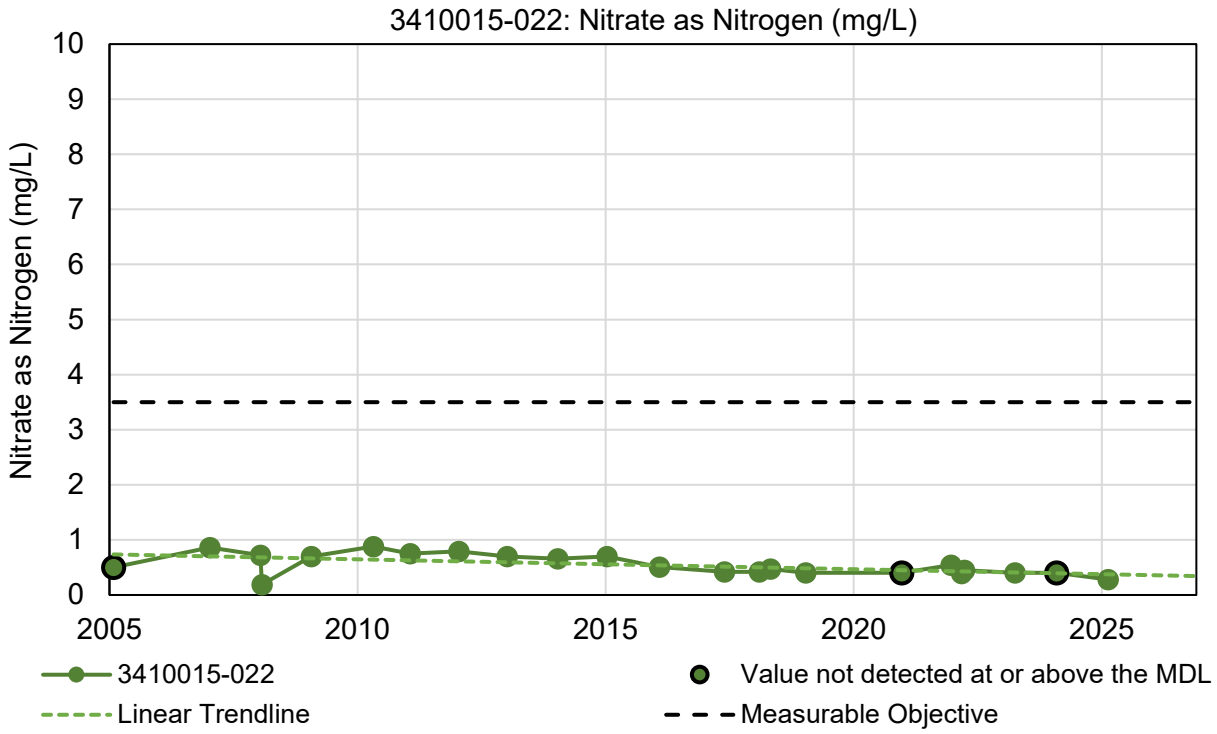


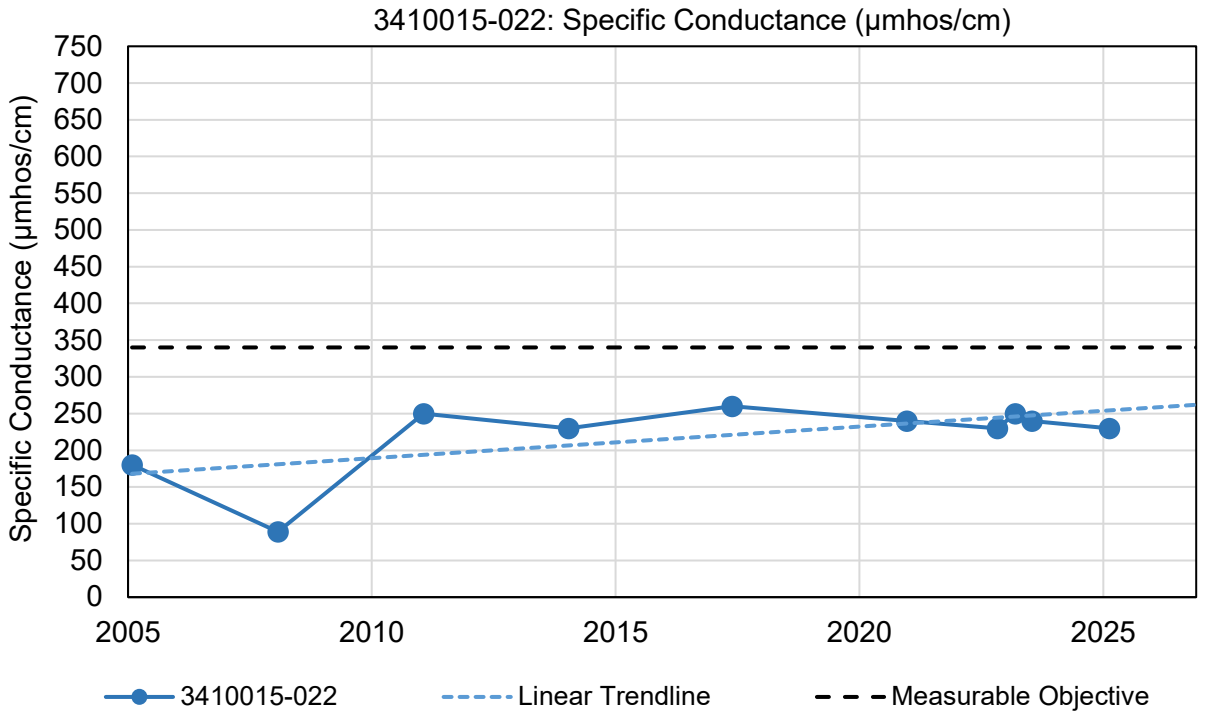


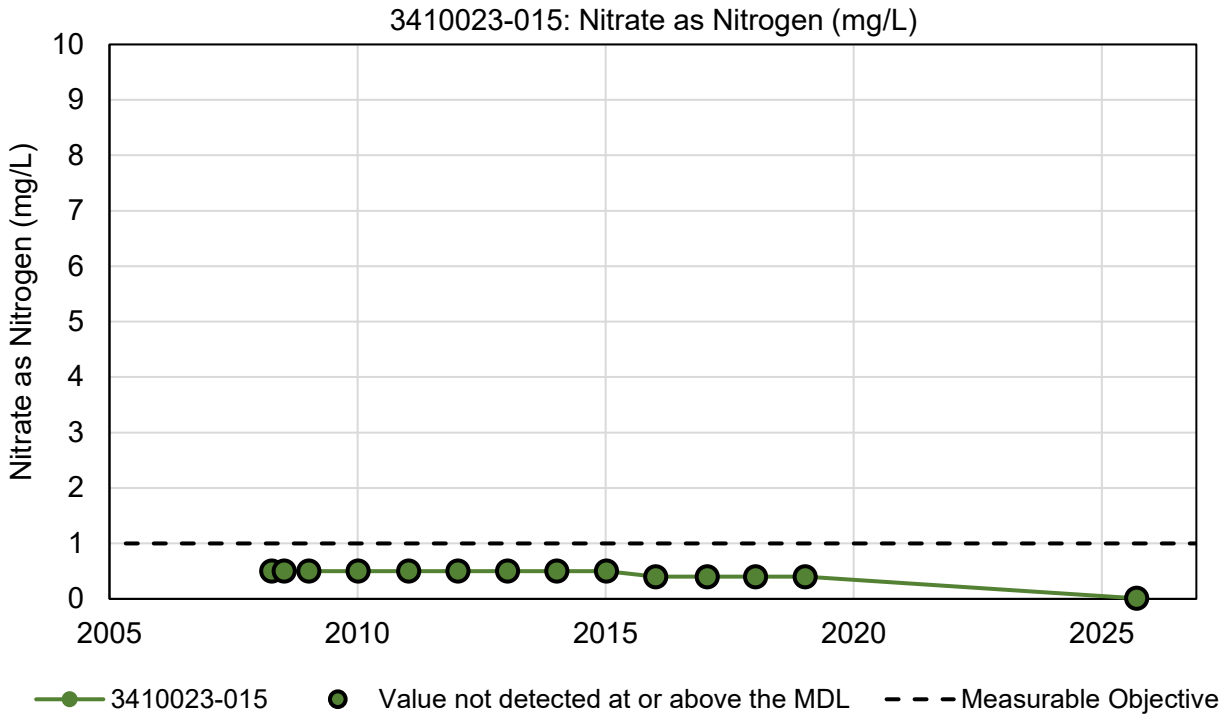
1) Monitoring entity, Slavic Missionary Church, stopped measurement of specific conductance due to a change in management. An inquiry has been made to determine if specific conductance can be monitored and reported annually in the future. A response has not yet been received.

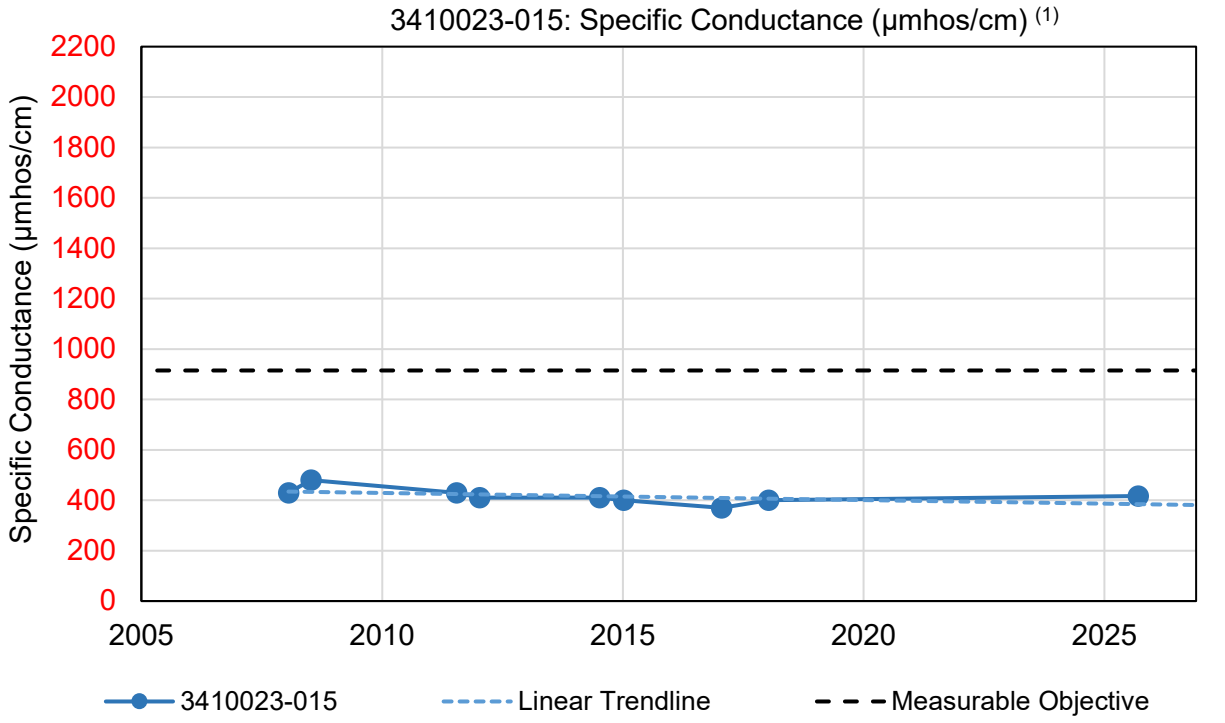

3410015-020: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410015-020
Linear Trendline
Measurable Objective

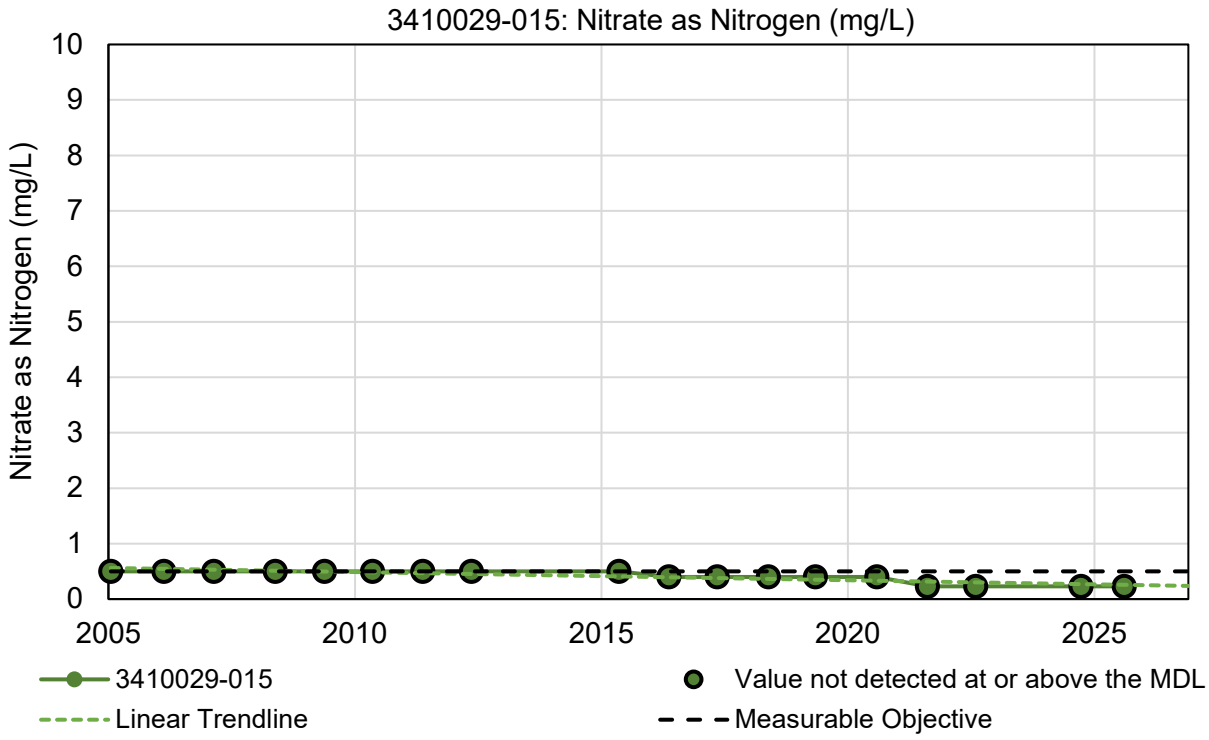

3410015-020: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410015-020
Linear Trendline
Measurable Objective

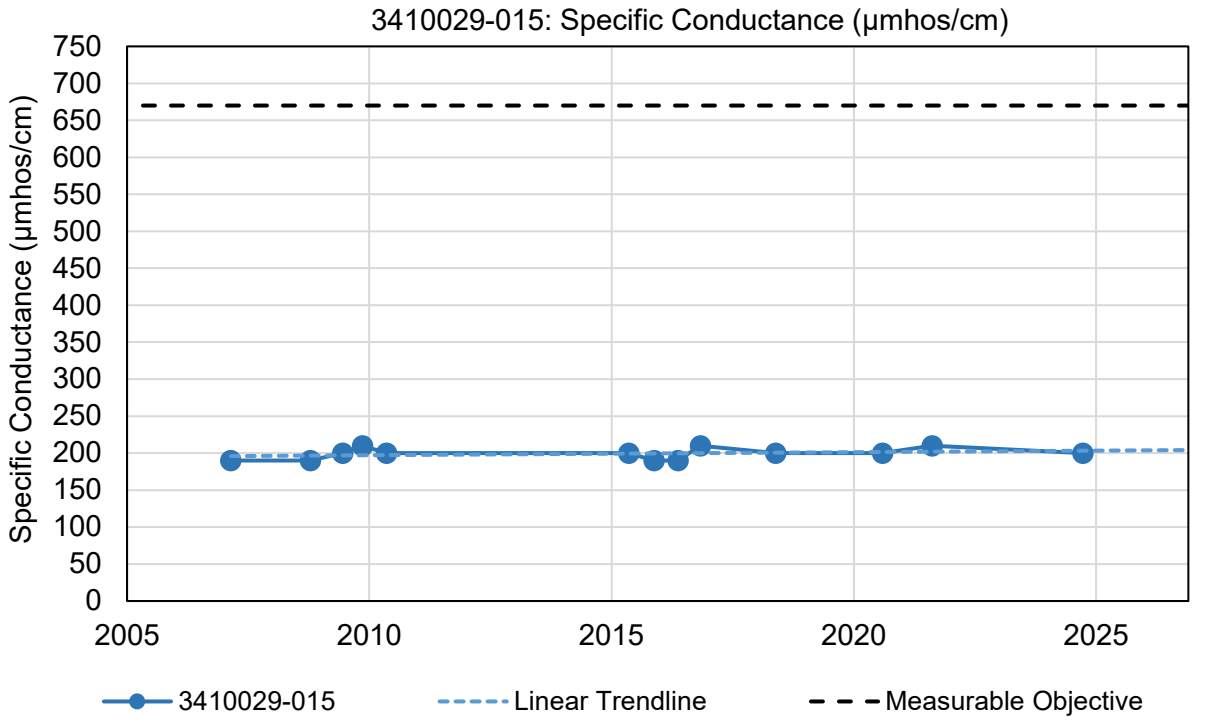

3410015-022: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410015-022
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

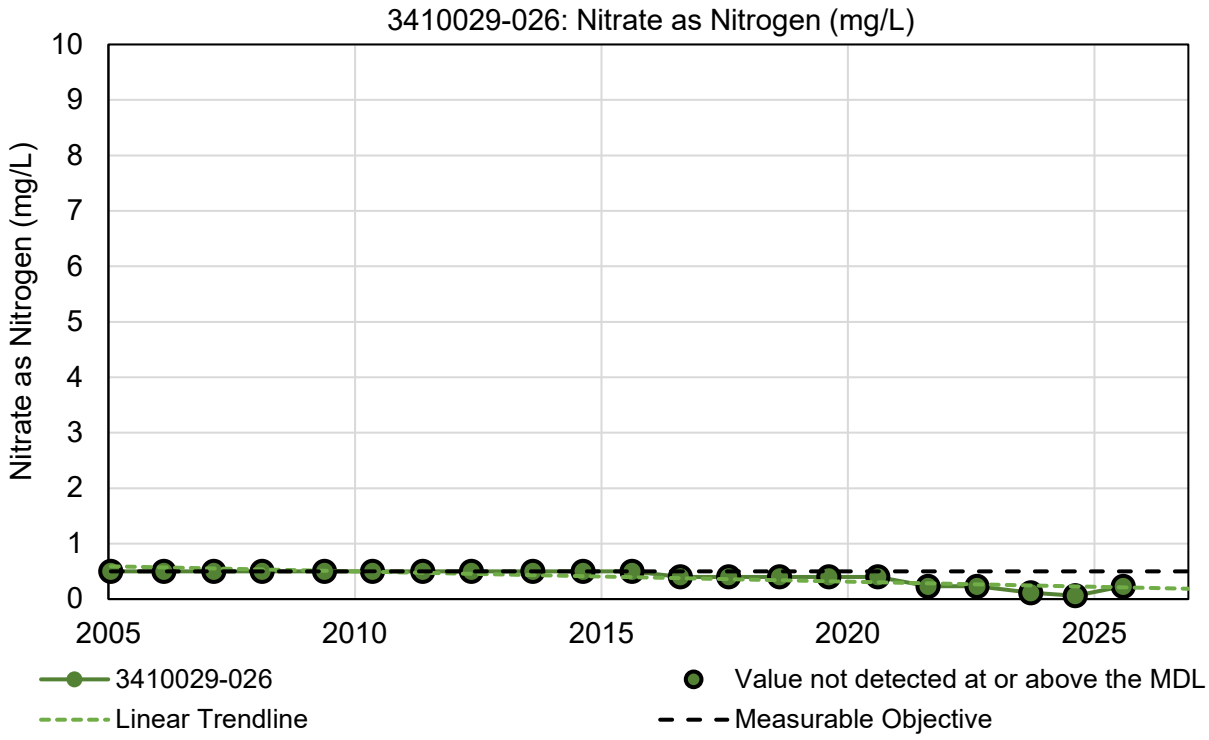

3410015-022: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410015-022
Linear Trendline
Measurable Objective

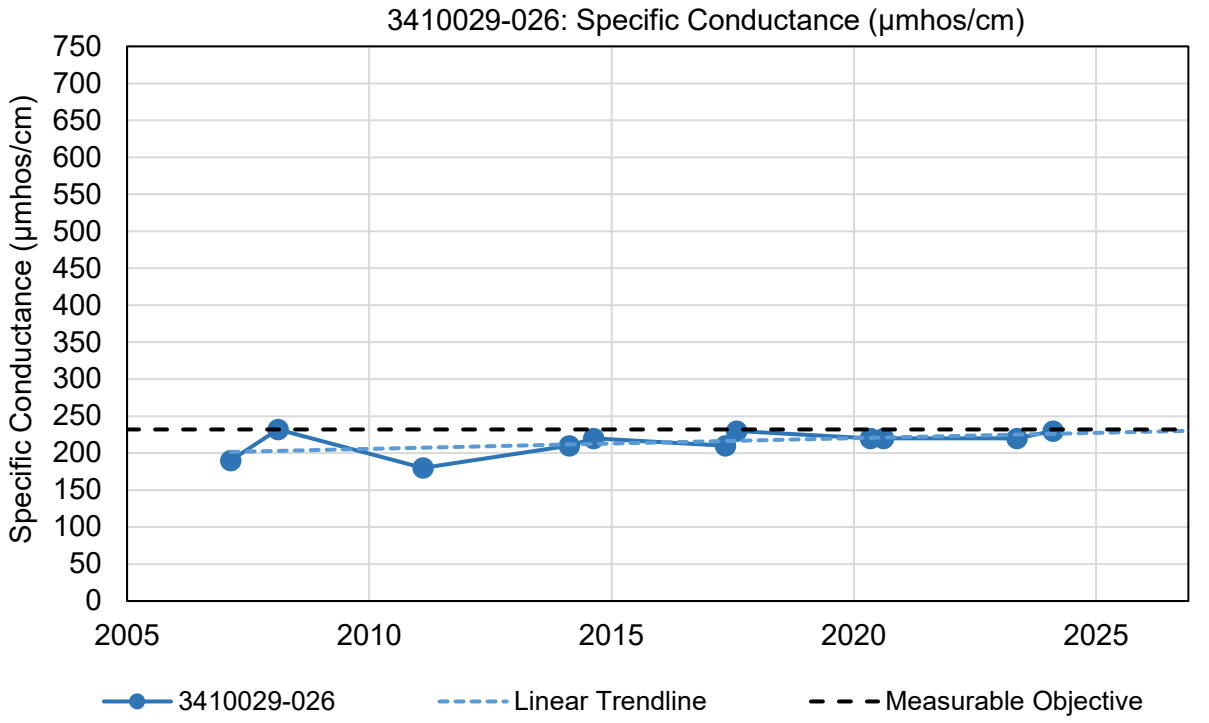

3410023-015: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410023-015
Value not detected at or above the MDL
Measurable Objective

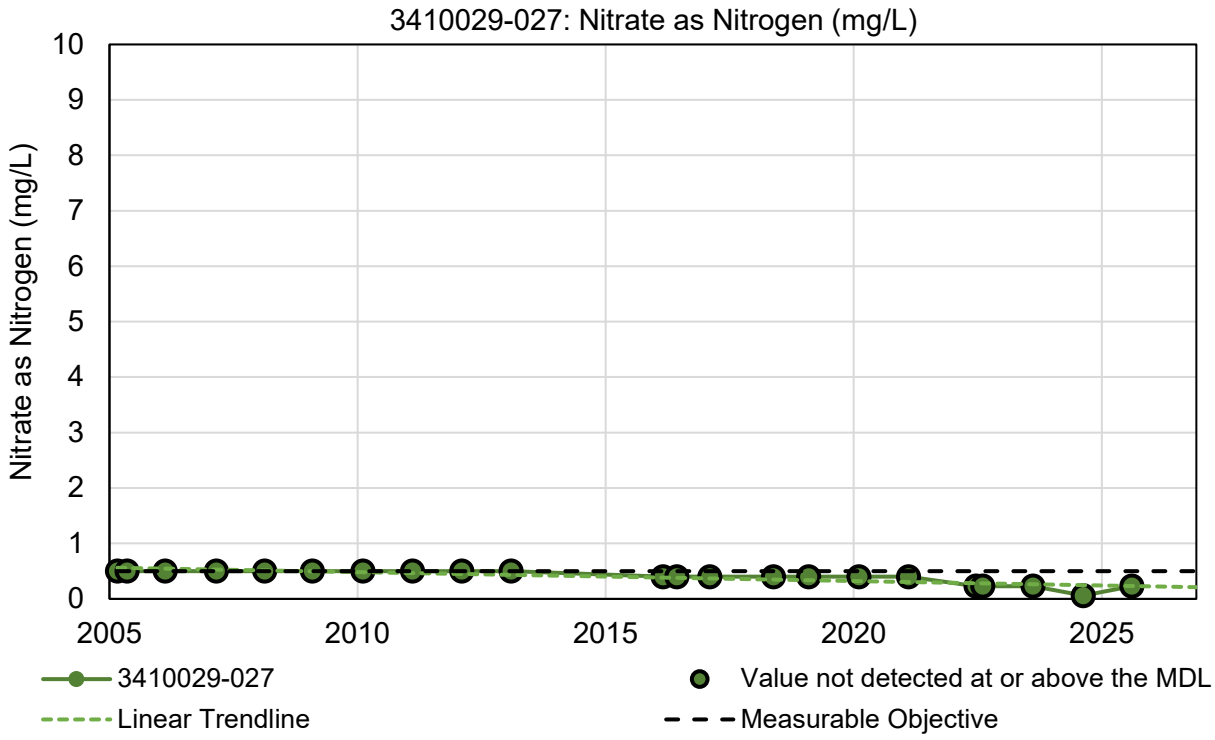

3410023-015: Specific Conductance (µmhos/cm) (1)
Specific Conductance (µmhos/cm)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2005
2010
2015
2020
2025
3410023-015
Linear Trendline
Measurable Objective

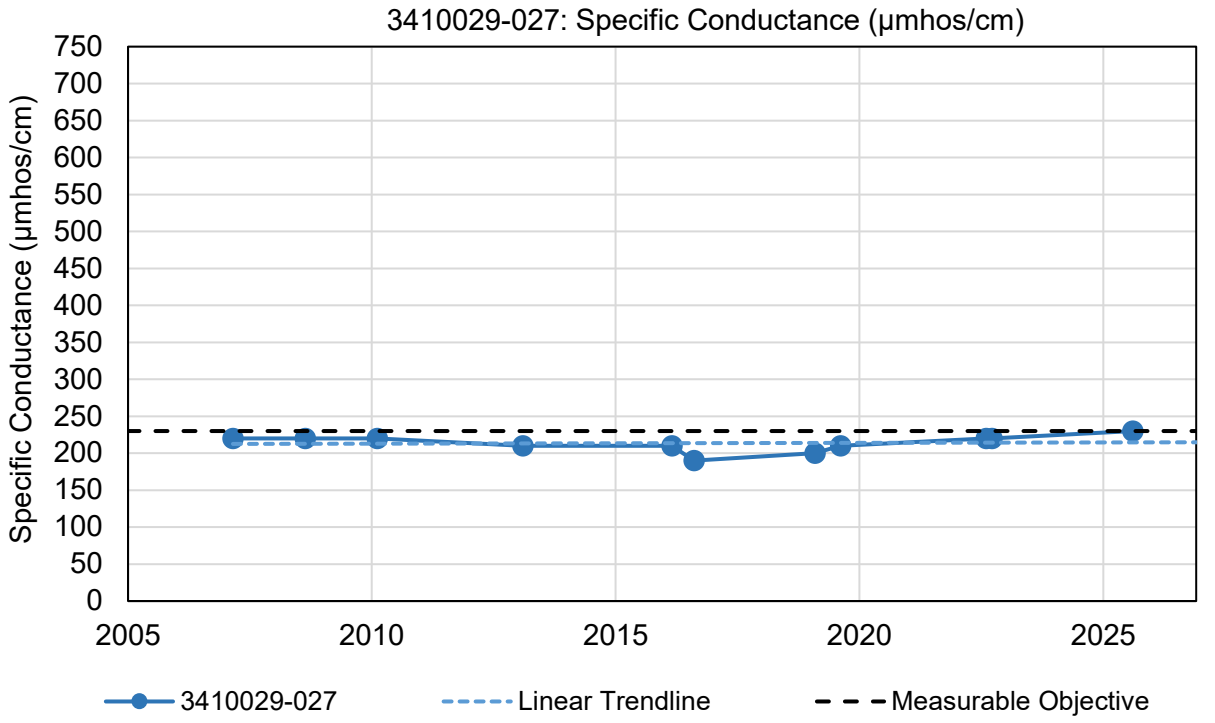

3410029-015: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-015
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

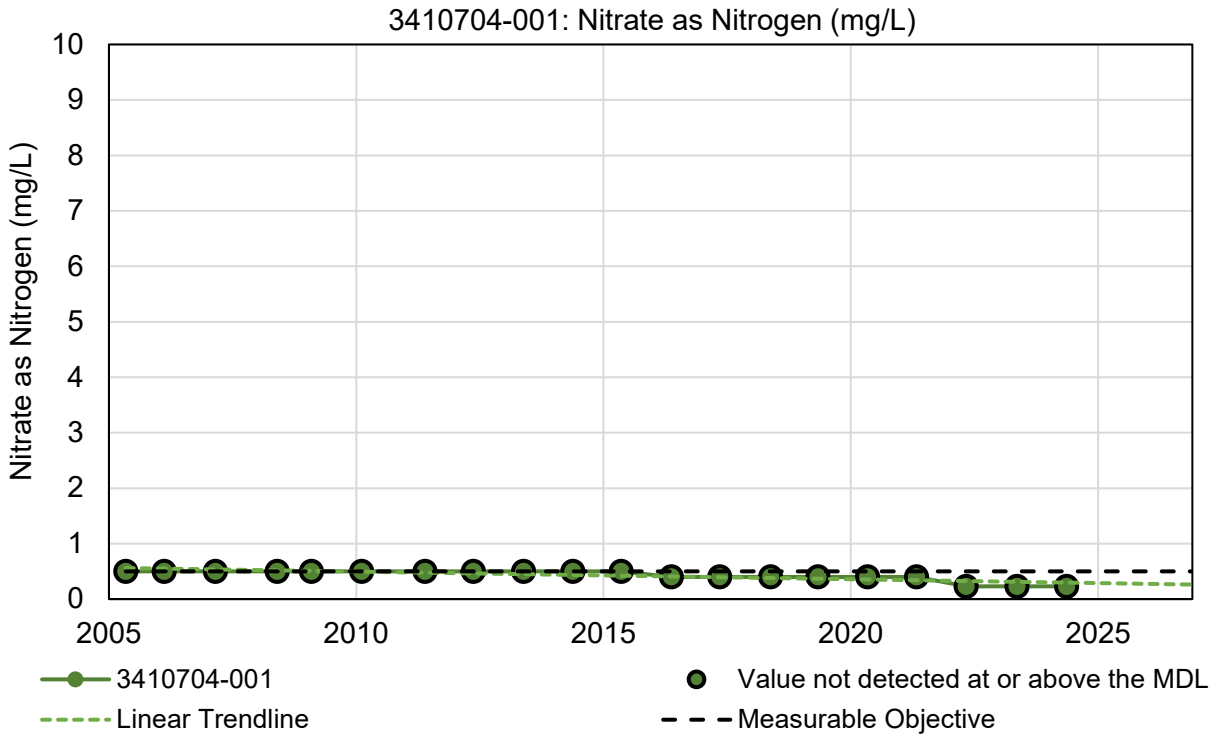

3410029-015: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410029-015
Linear Trendline
Measurable Objective

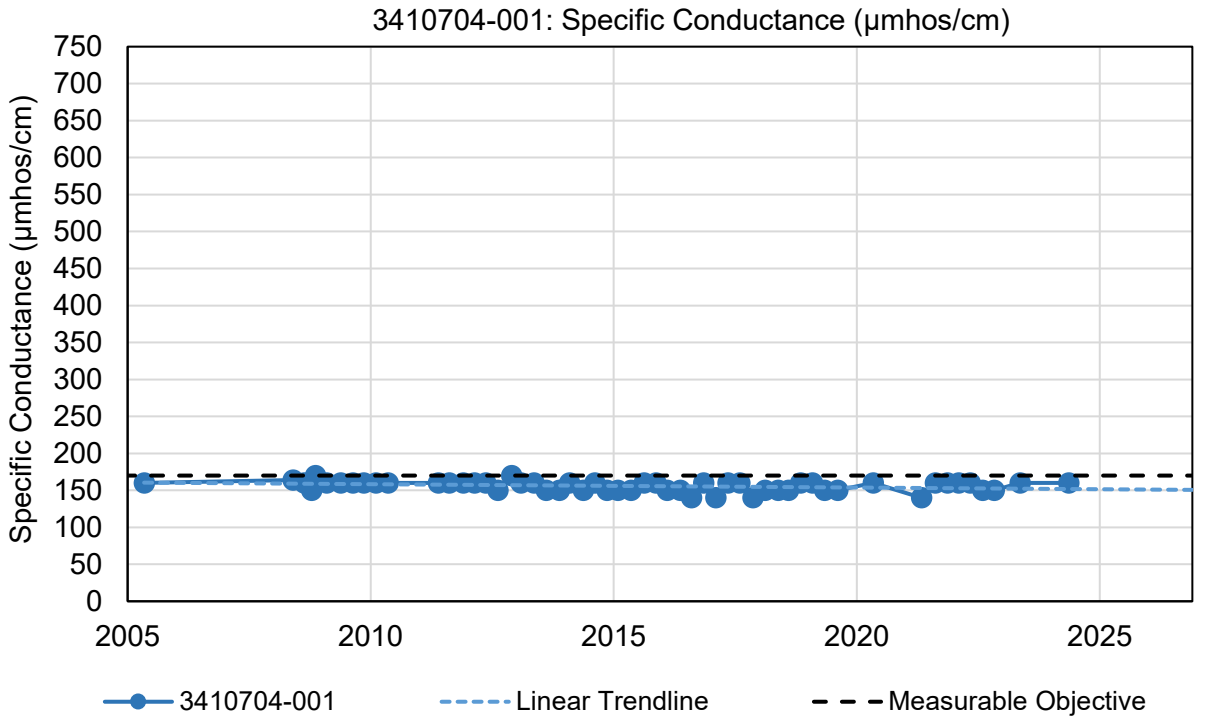

3410029-026: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-026
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

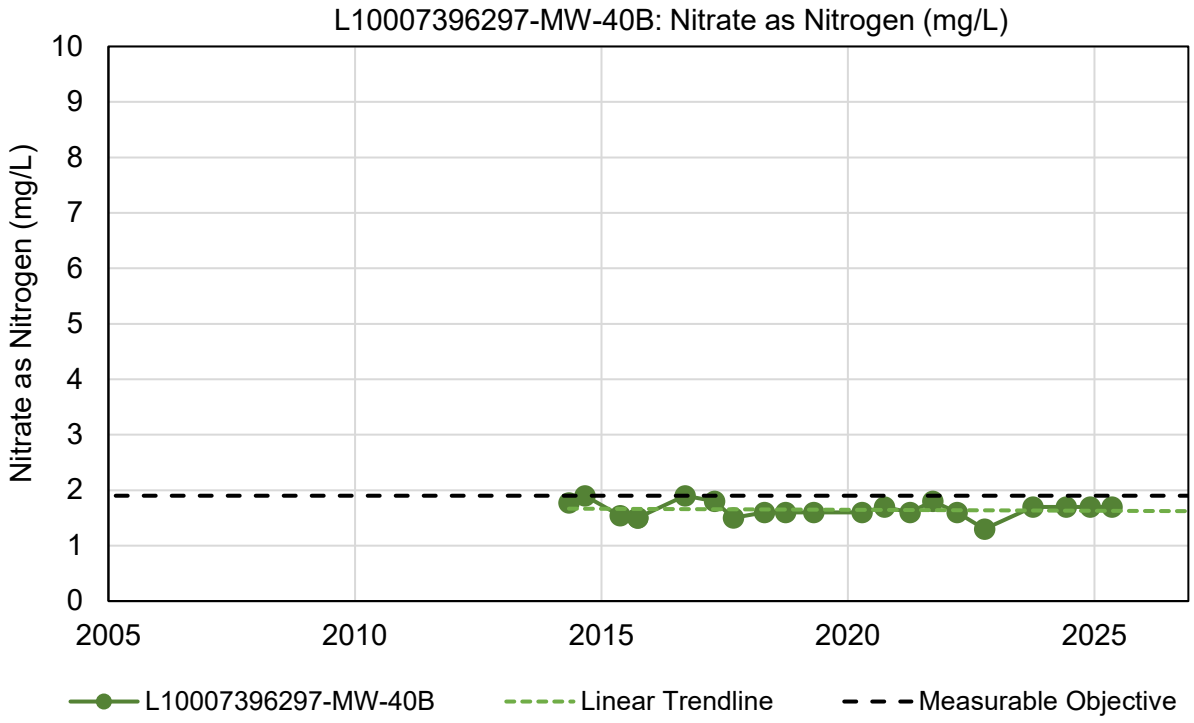

3410029-026: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410029-026
Linear Trendline
Measurable Objective

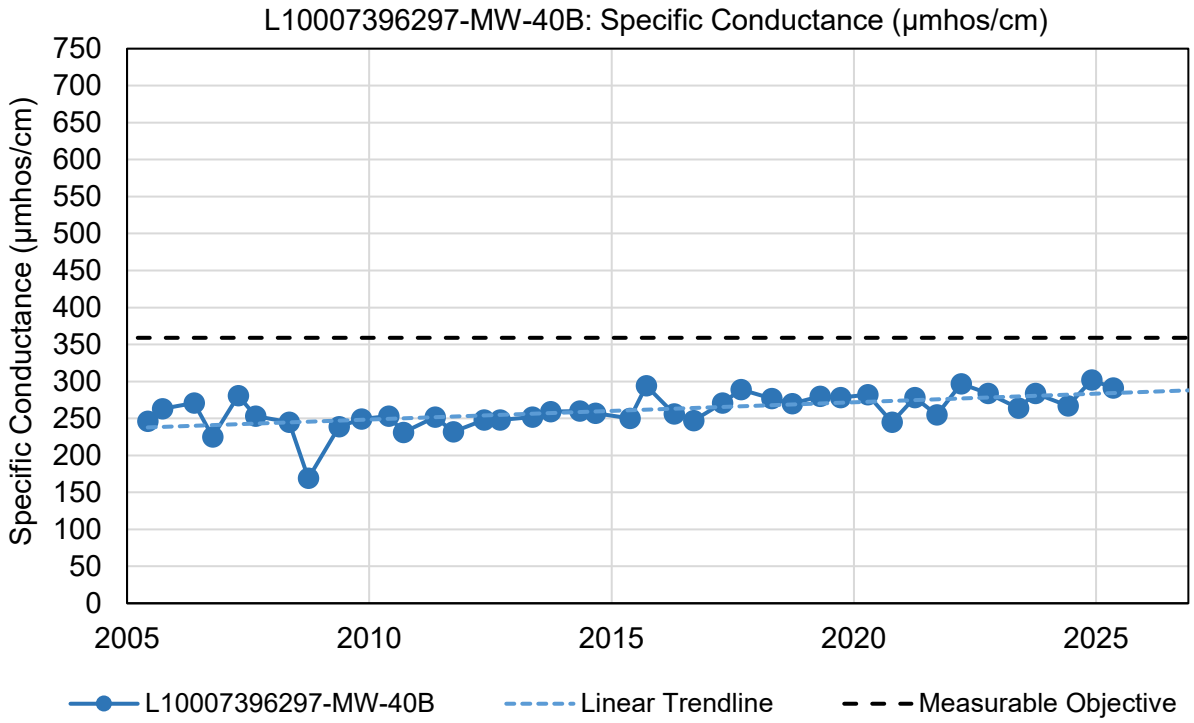

3410029-027: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410029-027
Value not detected at or above the MDL
Linear Trendline
Measurable Objective

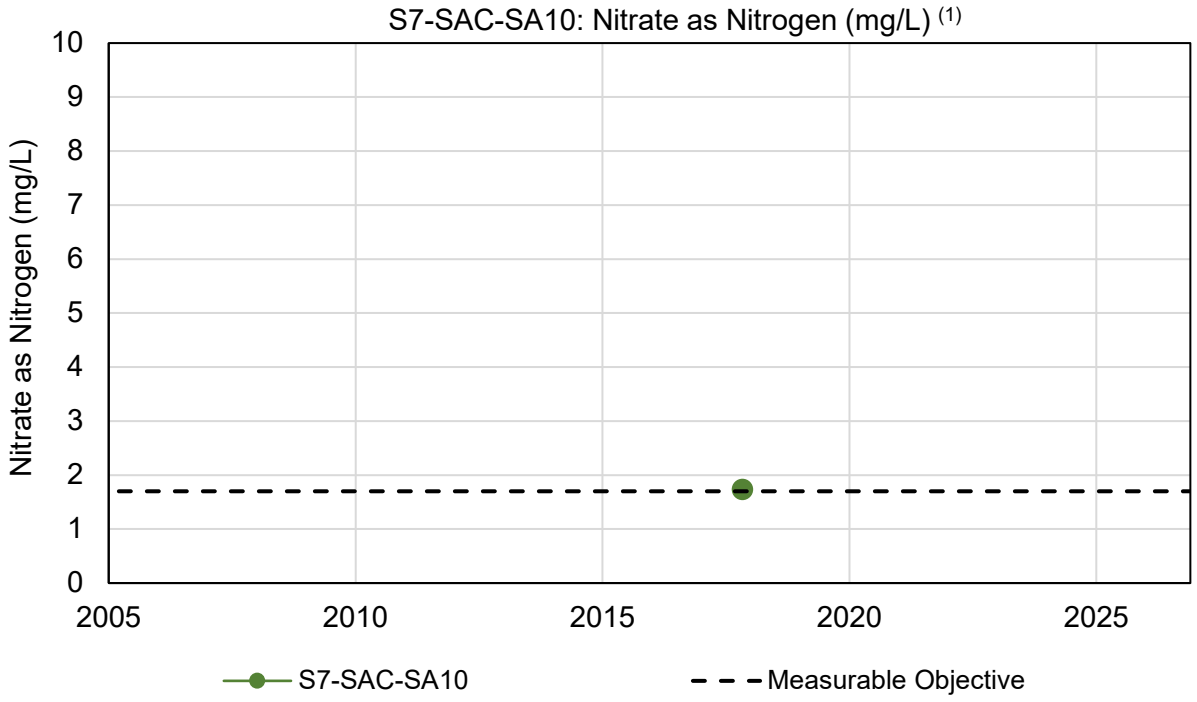

3410029-027: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410029-027
Linear Trendline
Measurable Objective

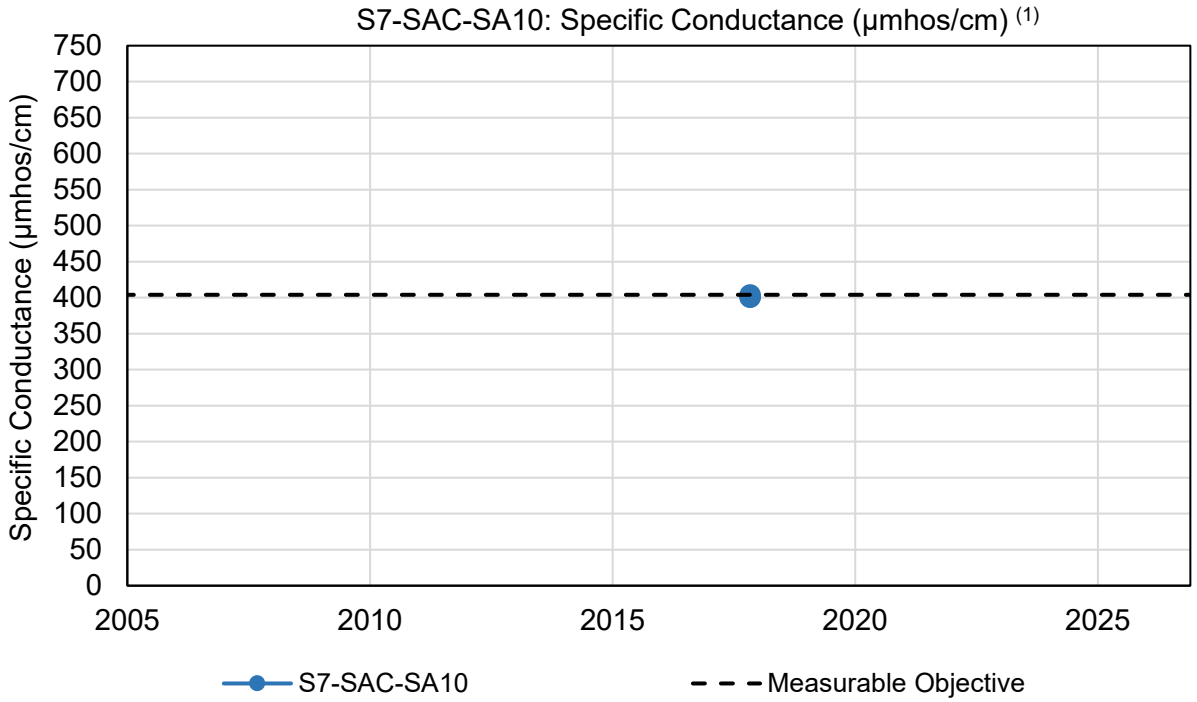

3410704-001: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
3410704-001
Value not detected at or above the MDL
Linear Trendline
Measurable Objective


3410704-001: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
3410704-001
Linear Trendline
Measurable Objective


L10007396297-MW-40B: Nitrate as Nitrogen (mg/L)
Nitrate as Nitrogen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2005
2010
2015
2020
2025
L10007396297-MW-40B
Linear Trendline
Measurable Objective


L10007396297-MW-40B: Specific Conductance (µmhos/cm)
Specific Conductance (µmhos/cm)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2005
2010
2015
2020
2025
L10007396297-MW-40B
Linear Trendline
Measurable Objective





1) This well is a domestic well with no available information regarding the owner. The well was last sampled in 2017. It is recommended that this well be removed from the groundwater quality monitoring network as no contact with the owner can be made.