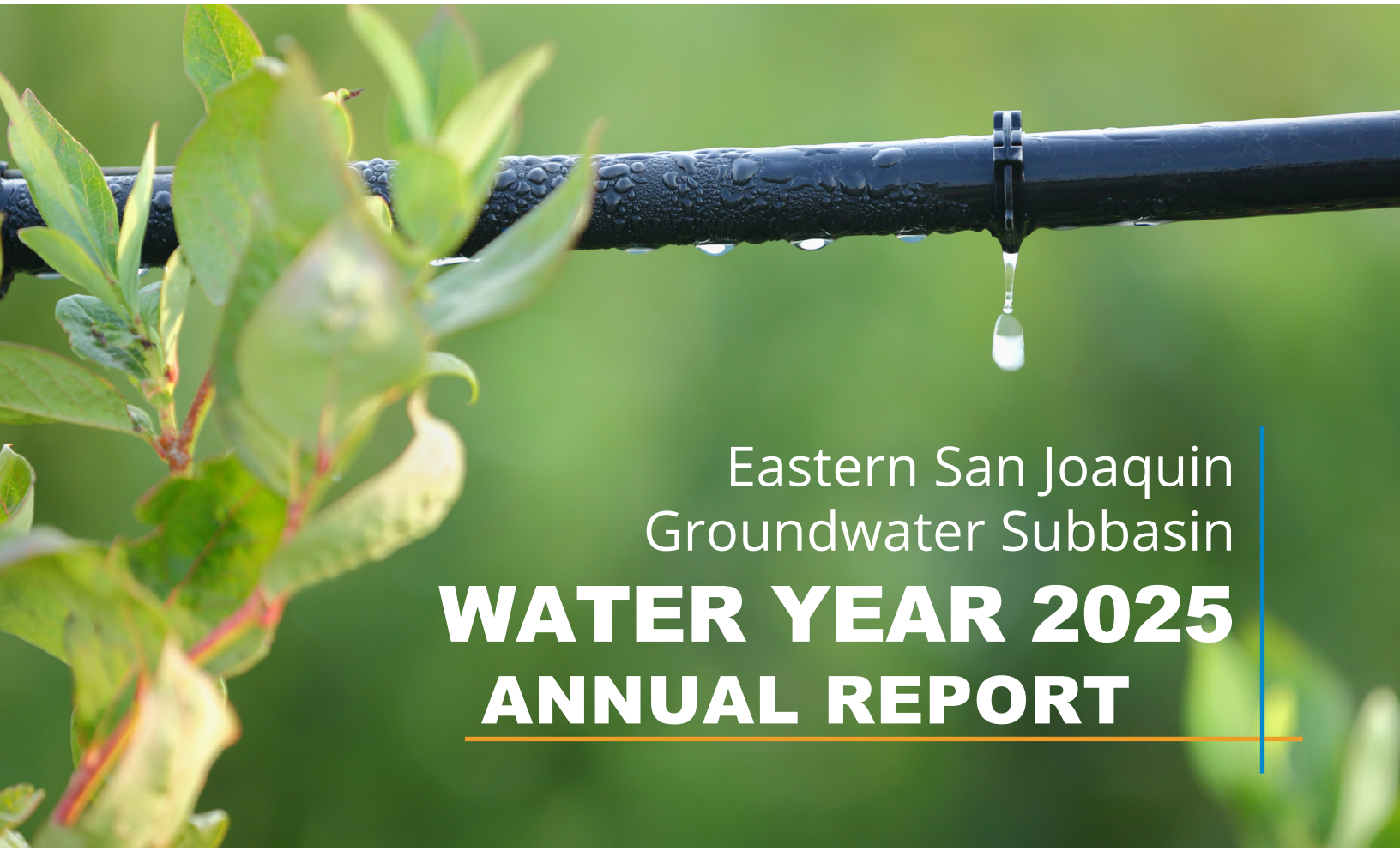
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY



Eastern San Joaquin Groundwater Subbasin

WATER YEAR 2025 ANNUAL REPORT

March 2026

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List of Abbreviations and Acronyms

AF	acre-feet
AFY	acre-feet per year
bgs	below ground surface
CALSIMETAW	California Simulation of Evapotranspiration of Applied Water
CASGEM	California Statewide Groundwater Elevation Monitoring
CCWD	Calaveras County Water District
CDWA	Central Delta Water Agency
CGPS	Continuous Global Positioning System
CIP	Capital Improvement Program
CSJWCD	Central San Joaquin Water Conservation District
Delta	Sacramento-San Joaquin River Delta
DMS	Data Management System
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EC	electrical conductivity
ESJ	Eastern San Joaquin
ESJGWA	Eastern San Joaquin Groundwater Authority
ESJWRM	Eastern San Joaquin Water Resources Model
ft/mi	feet per mile
GMP	Groundwater Management Plan
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWL	groundwater level
GWQ	groundwater quality
IDW	Inverse Distance Weighting
ISW	interconnected surface water
IWFM	Integrated Water Flow Model
LCSD	Lockeford Community Services District

LCWD	Linden County Water District
MAF	Million acre-feet
MAR	Managed Aquifer Recharge
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
msl	mean sea level
MT	minimum threshold
MUD	Municipal Utilities Department
NAVD	North American Vertical Datum
NRCS	Natural Resources Conservation Service
NSJWCD	North San Joaquin Water Conservation District
OID	Oakdale Irrigation District
PCBL	projected conditions baseline
PMA	projects and management actions
PRISM	Precipitation-Elevation Regressions on Independent Slopes Model
RMN	representative monitoring network
SC	Steering Committee
SDWA	South Delta Water Agency
SEWD	Stockton East Water District
SGMA	Sustainable Groundwater Management Act
SMC	sustainable management criteria
SMCL	Secondary Maximum Contaminant Level
SSJ GSA	South San Joaquin GSA
SSJID	South San Joaquin Irrigation District
TDS	total dissolved solids
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
VFD	variable frequency drive
WID	Woodbridge Irrigation District
WY	Water Year

EXECUTIVE SUMMARY

INTRODUCTION

The Eastern San Joaquin Groundwater Subbasin (Eastern San Joaquin Subbasin, or Subbasin) is governed by the *Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan* (GSP) (2019), which the Department of Water Resources (DWR) found adequate in 2022 in a 2023 Determination Letter. A 2024 GSP Amendment was submitted to DWR in January 2025 in response to various recommended corrective actions included in the Determination Letter. All versions of the GSP were developed to comply with the Sustainable Groundwater Management Act (SGMA) of 2014 and the GSP Emergency Regulations.

The 2020 GSP, 2022 Revised GSP, and the 2024 GSP Amendment were developed and approved by the Eastern San Joaquin Groundwater Authority (ESJGWA) and each of its member agencies. The ESJGWA is a joint powers authority of 16 groundwater sustainability agencies (GSAs) within the Eastern San Joaquin Subbasin: Central Delta Water Agency (CDWA), Central San Joaquin Water Conservation District (CSJWCD), City of Lodi, City of Manteca, City of Stockton, Eastside San Joaquin GSA (Eastside GSA) (composed of Calaveras County, Calaveras County Water District [CCWD], Stanislaus County, and Rock Creek Water District), Linden County Water District (LCWD), Lockeford Community Services District (LCSD), North San Joaquin Water Conservation District (NSJWCD), Oakdale Irrigation District (OID), County of San Joaquin GSAs (-Eastern San Joaquin 1 and -Eastern San Joaquin 2), South Delta Water Agency (SDWA), South San Joaquin GSA (composed of South San Joaquin Irrigation District [SSJID], City of Ripon, and City of Escalon), Stockton East Water District (SEWD), and Woodbridge Irrigation District (WID). Collectively, these 16 GSAs will be referred to as "GSAs."

This water year (WY) 2025 Annual Report for the Eastern San Joaquin Subbasin has been prepared in compliance with Article 7 *Annual Reports and Periodic Evaluations by the Agency*, § 356.2 *Annual Reports* of the GSP Emergency Regulations, as included in the California Code of Regulations and DWR's *A Guide to Annual Reports, Periodic Evaluations, & Plan Amendments* (CA DWR, 2023). WY 2025 covers the period from October 1, 2024 through September 30, 2025.

GROUNDWATER MANAGEMENT ACTIVITIES AND MILESTONES

The GSP sets sustainable management criteria for applicable sustainability indicators and identifies projects and management actions to aid in maintaining sustainable conditions throughout the Eastern San Joaquin Subbasin. Under SGMA, sustainable management criteria can be defined as the following:

- **Minimum Threshold** – Quantitative threshold for each sustainability indicator used to define the point at which undesirable results may begin to occur.

- **Measurable Objective** – Quantitative target that establishes a point above the minimum threshold that allows for a range of active management in order to prevent undesirable results.
- **Interim Milestones** – Targets set in increments of five (5) years over the implementation period of the GSP to put the basin on a path to achieving sustainability by 2040.
- **Margin of Operational Flexibility** – The range of active management between the measurable objective and the minimum threshold.

During WY 2025, monitoring relative to all sustainability indicators indicated the Eastern San Joaquin Subbasin was continuing to operate under sustainable conditions relative to their respective sustainability indicators and established sustainable management criteria in the GSP. The GSAs continued to implement projects identified in the GSP, as summarized in Appendix A. The Subbasin has identified 57 projects and management actions in total.

This annual report assesses sustainable management criteria against the commitments included in the 2022 Revised GSP, as this was the prevailing GSP at the time of data collection. However, a description of the changes incorporated into the 2024 GSP Amendment are included, where applicable.

GROUNDWATER MONITORING AND CONDITIONS ASSESSMENT

Hydrologic Conditions

WY 2025 was drier than average and classified as a below normal water year according to the San Joaquin River Valley Water Year Hydrologic Index. Estimated precipitation during WY 2025 was approximately 79% of the long-term (1969-2022) Subbasin average. Measured stream flows in the San Joaquin River were approximately 35% of long-term averages, whereas those in the Calaveras River were 69% of long-term averages and those in the Cosumnes River were 84% of long-term averages. Stream gage data were not available for Mokelumne and Stanislaus Rivers for WY 2025.

Groundwater Levels

Groundwater elevations generally were maintained throughout WY 2025 for almost all wells in the representative monitoring network with groundwater level data available. Out of 23 wells in the representative monitoring network for groundwater levels, 19 wells reported Fall 2024 measurements and 18 wells reported Spring 2025 measurements. Of those wells reporting data, most showed minor year-to-year fluctuations relative to Spring 2024 groundwater levels, with some wells recording slight increases and others slight decreases, consistent with typical seasonal groundwater fluctuations during Below Normal hydrologic conditions. Additionally, two wells reported groundwater levels below the minimum thresholds during Fall 2024 seasonal

low conditions; however, groundwater levels at both locations recovered above their respective minimum thresholds by Spring 2025 seasonal high conditions.

Groundwater Storage

The groundwater storage sustainability indicator for the Eastern San Joaquin Subbasin uses the groundwater level sustainable management criteria (i.e., Minimum Threshold, Measurable Objective, Interim Milestones, and Margin of Operational Flexibility) as a proxy. Therefore, the minimum thresholds for groundwater levels are designed to be protective of significant and unreasonable impacts to changes in groundwater storage. For WY 2025, groundwater storage was estimated using the Historical ESJWRM Version 3.0 with time series extended through WY 2025 (the Subbasin's integrated groundwater-surface water model). Based on these estimates, from the beginning to the end of WY 2025, storage in the Eastern San Joaquin Subbasin decreased by approximately 84,100 acre-feet (AF). This volume represents about 0.2% of the total fresh groundwater storage, which was estimated to be more than 50 million acre-feet (MAF) in 2015. Since 2015, the model estimates a cumulative decrease in groundwater storage of approximately 709,700.

Groundwater Quality

Total Dissolved Solids (TDS) and chloride are the water quality constituents for which minimum thresholds were established in the 2024 GSP Amendment. In WY 2025, TDS measurements were reported for sixteen (16), and chloride measurements were reported for fifteen (15) of the twenty (20) wells in the groundwater quality representative monitoring network. Sampling conducted during WY 2025 reflects implementation of the expanded representative monitoring network established in the 2024 GSP Amendment. Several wells were not sampled due to property access limitations, temporary maintenance issues, or unavailable groundwater quality data. All reported TDS and chloride concentrations were below minimum thresholds established in the GSP.

Saltwater Migration

The Eastern San Joaquin Subbasin is not in a coastal area, and seawater intrusion is not currently present. Undesirable results related to seawater intrusion are not currently occurring and are not reasonably expected to occur. For this reason, the sustainable management criteria (SMC) for seawater intrusion were removed from the GSP as part of the 2025 Periodic Evaluation and Plan Amendment in response to recommended corrective actions advised by DWR in their 2023 Determination Letter. Chloride will be monitored under the groundwater quality monitoring network going forward.

Land Subsidence

The land subsidence sustainability indicator in the Eastern San Joaquin Subbasin used the groundwater level sustainable management criteria as a proxy in the 2022 Revised GSP. In the 2024 GSP Amendment, a representative monitoring network and SMC specific to subsidence

were established. Land subsidence has not historically been an area of concern in the Subbasin and there are no records of significant land subsidence caused by groundwater pumping in the Subbasin. Continuous GPS subsidence monitoring stations show long-term gradual vertical displacement trends; however, observed rates during WY 2025 were small and remained well below the established minimum threshold of 0.2 feet per year (2.4 inches per year). InSAR data released by DWR similarly indicate that subsidence across the Subbasin generally ranged between 0.01 and 0.1 feet, with localized areas of relatively greater subsidence in the central portion of the Subbasin. No minimum threshold exceedances for subsidence were identified at monitoring locations during WY 2025.

Groundwater-Surface Water Interaction

The depletions of interconnected surface water sustainability indicator in the Eastern San Joaquin Subbasin used the groundwater level sustainable management criteria as a proxy in the 2022 Revised GSP. In the 2024 GSP Amendment, a representative monitoring network and SMC specific to depletions of interconnected surface water were established.

The interconnected surface water monitoring network includes wells that overlap with the groundwater levels representative monitoring network, as well as newly constructed shallow monitoring wells intended to address data gaps. During WY 2025, evaluation was limited to wells with established minimum thresholds; monitoring at newly constructed wells has not yet commenced and is anticipated to begin in WY 2026.

Based on evaluation of available data, groundwater levels at interconnected surface water representative monitoring wells remained above their established minimum thresholds, and no undesirable results related to depletions of interconnected surface water were identified.

Total Water Use

The primary water use sectors in the Eastern San Joaquin Subbasin include urban and agriculture uses, with groundwater supplying the majority of the total water use. During WY 2025, groundwater extraction and use is estimated to be 804,122 AF for the Eastern San Joaquin Subbasin. Surface water deliveries during WY 2025 are estimated to be 599,770 AF with the majority of surface water used between May and September. Total water use is the sum of the groundwater use and surface water use; therefore, total water use during WY 2025 is estimated to be 1,403,882 AF. Groundwater pumping accounts for approximately 57% of total water use in the Subbasin, while surface water deliveries account for approximately 43%.

ANNUAL REPORT ELEMENTS

The following table presents the sections and page numbers where requirements for Annual Report elements can be found, subject to Article 7 §356.2 of the GSP Regulation Sections in the California Code of Regulations.

California Code of Regulations - GSP Regulation Sections	Annual Report Elements	Section(s) and page numbers(s) where requirements for Annual Report elements are included
Article 7	**Annual Reports and Periodic Evaluations by Agency**	
§ 356.2	**Annual Reports**	
	Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:	
	(a) General information, including an executive summary and a location map depicting the basin covered by the report.	Executive Summary, Figure 1 pg. 7:10, 17
	(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:	--
	(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:	--
	(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.	Section 3.2, Figure 3, Figure 4 pg. 36:40
	(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.	Section 3.2, Figure 2, Appendix B pg. 36:40, 111:120
	(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.	Section 3.8.1, Figure 21. Eastern San Joaquin Subbasin WY 2025 Groundwater Extraction , Table 3 pg. 60:61, 62:63
	(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.	Section 3.8.2, Table 4 pg. 61, 64

California Code of Regulations - GSP Regulation Sections	Annual Report Elements	Section(s) and page numbers(s) where requirements for Annual Report elements are included
	(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.	Section 3.8, Table 5 pg. 60:69
	(5) Change in groundwater in storage shall include the following:	--
	(A) Change in groundwater in storage maps for each principal aquifer in the basin.	Section 3.3, Figure 8 pg. 42:46
	(B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.	Section 3.3, Figure 5, Figure 6, Figure 7 pg. 42:46
	(c) A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.	Section 4, Appendix A pg. 70:84, 87:110

1. INTRODUCTION

The Eastern San Joaquin Groundwater Subbasin (Eastern San Joaquin Subbasin or Subbasin) (**Figure 1**) has been identified by the California Department of Water Resources (DWR) as a critically-overdrafted subbasin. The Eastern San Joaquin Groundwater Sustainability Plan (Eastern San Joaquin GSP, GSP, or the Plan) was developed and submitted to DWR to meet the regulatory requirements of the Sustainable Groundwater Management Act (SGMA) by the January 31, 2020, deadline for critically-overdrafted basins while reflecting local needs and preserving local control over water resources. The Eastern San Joaquin Groundwater Authority (ESJGWA) received comments on the submitted GSP from DWR in April 2022. A Revised (2022) GSP was completed and adopted by the individual GSAs with the requested revisions and subsequently submitted to DWR on July 27, 2022. In a July 6, 2023 Determination Letter, DWR concluded that the GSAs had taken sufficient actions to correct the deficiencies identified by DWR and approved the 2022 Revised Plan. However, this 2023 Determination Letter also outlined eight recommended corrective actions that the GSAs could consider addressing during preparation of the first Periodic Evaluation. The first Periodic Evaluation was prepared in 2024 and the ESJGWA determined that a GSP Amendment was required to adequately address the recommended corrective actions. A (2024) GSP Amendment was adopted by the individual GSAs in November 2024 and submitted to DWR on January 28, 2025.

While the GSP offers a significant approach to groundwater resource protection, it was developed within an existing framework of comprehensive planning efforts. Throughout the region, several separate, yet related, planning efforts have occurred or are concurrently proceeding, including integrated regional water management, urban water management, agricultural water management, watershed management, habitat conservation, and general planning and the *Eastern San Joaquin Groundwater Basin Groundwater Management Plan* (GMP) (2004). The Eastern San Joaquin GSP fits in with these prior planning efforts, building on existing local management and basin characterization.

The Eastern San Joaquin GSP provides a path to achieve and document sustainable groundwater management by 2040, promoting the long-term sustainability of locally-managed groundwater resources now and into the future. The 2020 GSP and its 2024 Amendment were developed by the ESJGWA, a joint powers authority formed by the following 16 groundwater sustainability agencies (GSAs) within the Eastern San Joaquin Subbasin. Collectively, these 16 GSAs will be referred to as "GSAs".

- Central Delta Water Agency (CDWA)
- Central San Joaquin Water Conservation District (CSJWCD)
- City of Lodi
- City of Manteca

- City of Stockton
- Eastside San Joaquin GSA (Eastside GSA) (composed of Calaveras County, Calaveras County Water District [CCWD], Stanislaus County, and Rock Creek Water District)
- Linden County Water District (LCWD)
- Lockeford Community Services District (LCSD)
- North San Joaquin Water Conservation District (NSJWCD)
- Oakdale Irrigation District (OID)
- County of San Joaquin GSA – Eastern San Joaquin 1
- County of San Joaquin GSA – Eastern San Joaquin 2
- South Delta Water Agency (SDWA)
- South San Joaquin GSA (composed of South San Joaquin Irrigation District [SSJID] including all conveyance works, Woodward Reservoir, City of Ripon, and City of Escalon)
- Stockton East Water District (SEWD)
- Woodbridge Irrigation District (WID)

Groundwater management within the Eastern San Joaquin Subbasin has evolved through implementation of the GSP and the GSP Amendment. The 2020 GSP was developed in a stakeholder-driven environment, including 69 open meetings and numerous other outreach activities; and the 2024 GSP Amendment preparation included updates to the Eastern San Joaquin Communication and Engagement (C&E) Plan and ongoing communication and outreach efforts. The result is an updated GSP that describes groundwater conditions in the Eastern San Joaquin Subbasin and includes a system of management based on quantitative thresholds, termed sustainable management criteria (SMC), for five of the six sustainability indicators: chronic lowering of groundwater levels, degraded water quality, inelastic land subsidence, change in groundwater storage, and depletions of interconnected surface water.

This Annual Report provides information on conditions in the Eastern San Joaquin Subbasin and progress towards implementing the GSP for Water Year (WY) 2025. The report has been prepared in accordance with Article 7 *Annual Reports and Periodic Evaluations by the Agency*, § 356.2 *Annual Reports* of the GSP Emergency Regulations as contained within the California Code of Regulations. Updated guidance included in DWR's *A Guide to Annual Reports, Periodic Evaluations, & Plan Amendments* was also considered in the preparation of this report (CA DWR, 2023).

The 2024 GSP Amendment was adopted in early WY 2025. Therefore, monitoring and evaluation conducted during WY 2025 reflect implementation of the updated representative monitoring networks and sustainable management criteria established in the 2024 GSP Amendment. Where

applicable, this annual report notes changes introduced in the 2024 GSP Amendment and evaluates conditions relative to the current GSP framework.

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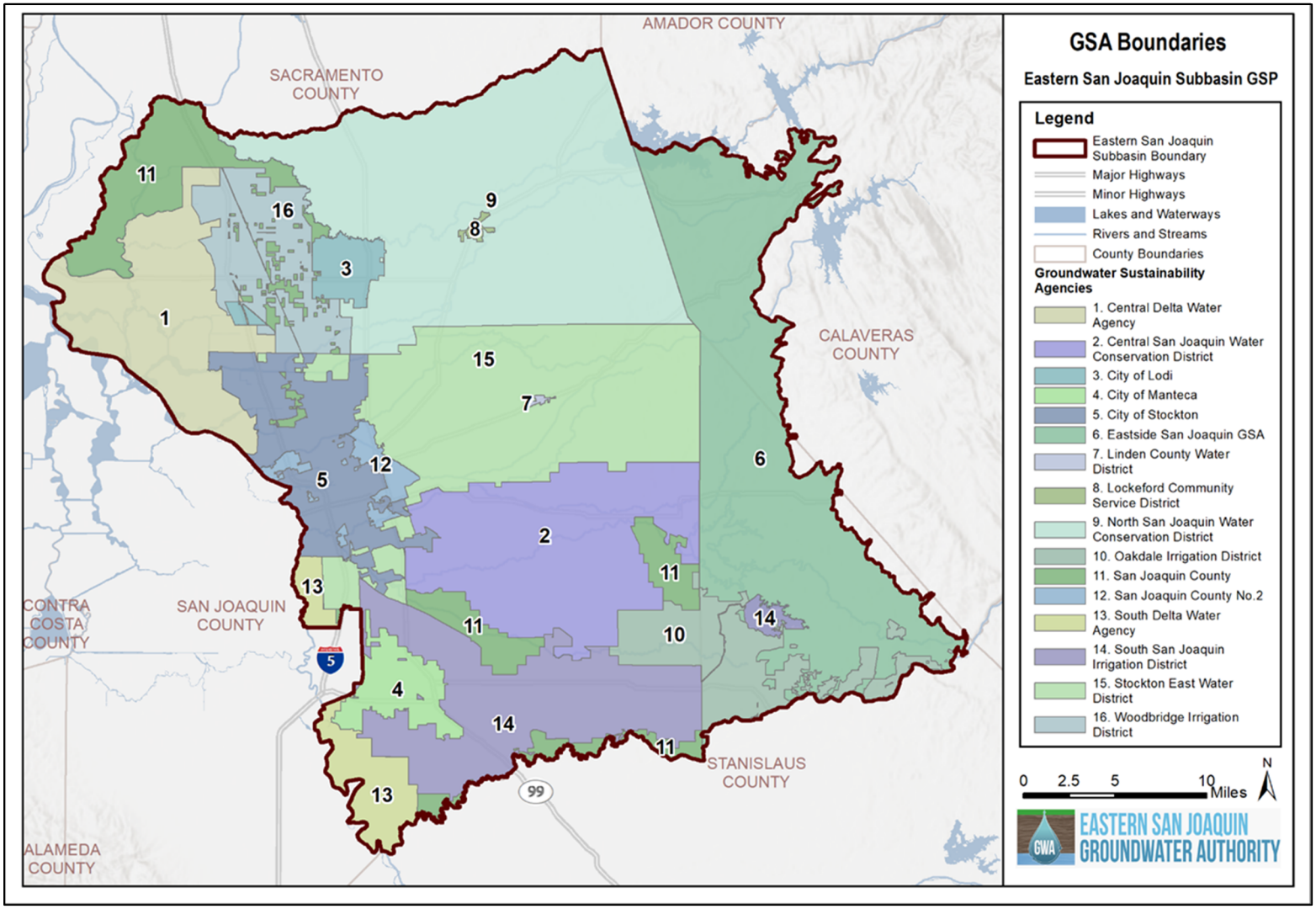

Figure 1. Eastern San Joaquin Groundwater Subbasin

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2. GROUNDWATER MANAGEMENT ACTIVITIES AND MILESTONES

This section documents the activities and milestones that have occurred since the passage of SGMA throughout GSP development and amendment in 2024, summarizes the contents of the GSP for the Eastern San Joaquin Subbasin, and documents GSP implementation progress during WY 2025.

Implementation of the GSP is underway and includes this Annual Report as well as monitoring and associated assessment of sustainable management criteria and identified projects, management actions, and adaptive management (as needed).

2.1 GROUNDWATER SUSTAINABILITY PLAN DEVELOPMENT

Preliminary development of the Eastern San Joaquin GSP began with formation of the member GSAs in 2017 and agreement to form the ESJGWA for the purpose of GSP development and implementation. The ESJGWA Board of Directors (ESJGWA Board) developed an Advisory Committee (AC) that included staff members from the GSAs. Now known as the Steering Committee (SC), the SC provides technical review and recommendations to the ESJGWA Board for ongoing Subbasin management and Eastern San Joaquin GSP implementation. The ESJGWA also developed a Groundwater Sustainability Workgroup (Workgroup) for the 2020 GSP preparation to promote stakeholder input and relied upon the Workgroup when developing the original GSP. The Workgroup began with an application process to ensure a diverse cross-section of populations were represented. Workgroup members participated and provided valuable input throughout the GSP development process.

On March 3, 2018, the GSAs filed a notice of intent to prepare a GSP with DWR. A public draft of the 2020 GSP was posted for public comment in July 2019, and a notice of intent to adopt a GSP was sent by the ESJGWA to all cities and counties in the Eastern San Joaquin Subbasin on August 16, 2019. The Final (2020) GSP, published November 5, 2019, was adopted by the individual GSAs between November 2019 and January 2020. On January 8, 2020, the ESJGWA Board passed a resolution agreeing to submit the Plan to DWR on behalf of the 16 GSAs.

The ESJGWA received comments on the submitted 2020 GSP from DWR in April 2022. A Revised (2022) GSP was completed and adopted by the individual GSAs and re-published in June 2022 with revisions to address DWR's comments incorporated. In a July 6, 2023, Determination Letter, DWR concluded that the GSAs had taken sufficient actions to correct the deficiencies identified by DWR and approved the 2022 Revised Plan. This 2023 Determination Letter also outlined eight recommended corrective actions that the GSAs could consider addressing during preparation of the first Periodic Evaluation. In preparing that Periodic Evaluation in 2024, the ESJGWA determined that a GSP Amendment was required to adequately address the recommended corrective actions. A (2024) GSP Amendment was adopted by the individual GSAs and re-published in November 2024 with revisions in response to DWR's recommended corrective actions as contained in the 2023 Determination Letter.

2.2 GROUNDWATER SUSTAINABILITY PLAN CONTENTS SUMMARY

The 2020 GSP, 2022 GSP and the 2024 GSP Amendment were prepared in compliance with all relevant elements of the SGMA Regulations and GSP Emergency Regulations, Article 5 *Plan Contents*. The subsections below summarize the contents of the GSP relevant to assessing changing conditions in the Eastern San Joaquin Subbasin for the purposes of evaluating GSP implementation progress in this Annual Report.

2.2.1 Plan Area

The GSP's plan area encompasses the Eastern San Joaquin Subbasin (5-22.01), as defined by DWR's Final 2018 Basin Boundary Modifications (released February 11, 2019). The Eastern Subbasin is located at the north end of the larger San Joaquin Valley Groundwater Basin to the east of the Sacramento-San Joaquin River Delta (Delta) and is generally bounded by the Sierra Nevada foothills to the east, the San Joaquin River to the west, Dry Creek to the north, and Stanislaus River to the south. Major river systems traversing the Subbasin include the Calaveras, Mokelumne, and Stanislaus Rivers. Multiple smaller streams also flow through the Subbasin to the San Joaquin River.

The plan area covers areas of San Joaquin County east of the San Joaquin River, including the cities of Stockton, Lodi, Manteca, Escalon, and Ripon, and portions of Calaveras and Stanislaus Counties. The Subbasin is bordered by Sacramento, Amador, and Contra Costa Counties. Land use patterns in the Eastern San Joaquin Subbasin are dominated by agricultural uses, including nut and fruit trees, vineyards, row crops, grazing, and forage. Irrigated crop acreage in the Subbasin is approximately 48% fruit and nut trees, 21% vineyards, and 8% alfalfa and irrigated pasture, according to 2022 DWR statewide crop mapping (LandIQ, 2022).

2.2.2 Hydrogeologic Conceptual Model

One principal aquifer exists across the Eastern San Joaquin Subbasin that is composed of three water production zones. The zones are:

- **Shallow Zone** that consists of the alluvial sands and gravels of the Modesto, Riverbank, and Upper Turlock Lake Formations. Depths for this zone range from the land surface to approximately -300 feet above mean sea level (ft. above MSL).
- **Intermediate Zone** that consists of the Lower Turlock Lake and Laguna Formations. Depths for this zone range from approximately -400 ft. above MSL to approximately -800 ft. above MSL.
- **Deep Zone** that consists of the consolidated sands and gravels of the Mehrten Formation. Depths for this zone range from approximately -800 ft. above MSL to approximately -1,600 ft. above MSL..

The Stockton Fault is the largest fault in the Eastern San Joaquin Subbasin. It is a large reverse fault with displacements of up to 3,600 feet. The Vernalis Fault is a reverse fault with a northwest-southeast trend that bounds the Tracy-Vernalis anticlinal trend that is mapped outside of the west boundary of the Eastern San Joaquin Subbasin. Additionally, the Stockton Arch is a broad transverse structure that underlies the southern half of the Eastern San Joaquin Subbasin. The base of fresh water (encountered saline) has been observed as shallow as 650 feet below ground surface (bgs) in the eastern part of the Subbasin to over 2,000 feet bgs in the northern part of the Subbasin (Williamson, 1989).

2.2.3 Existing Groundwater Conditions

Groundwater levels in some portions of the Subbasin have been declining for many years, while groundwater levels in other areas of the Subbasin have remained stable or increased in recent years. The change in groundwater levels varies across the Subbasin, with the greatest declines occurring in the central portion of the Subbasin. The western and southern portions of the Subbasin have experienced less change in groundwater levels, in part due to the minimal groundwater pumping in the Delta area to the west and the import of surface water for agricultural and urban uses.

In many areas of the Subbasin, groundwater levels reached their lowest in Fall 1992. In numerous cases, areas that experienced undesirable results in 1992 put mitigation measures in place thereafter, often deepening wells, meaning that 1992 groundwater levels would no longer trigger undesirable effects. Groundwater levels in some areas of the Subbasin have recovered since 1992; however, groundwater levels in other portions of the Subbasin declined further below 1992 levels in 2015-2016 and again between 2020 and 2022.

A central pumping depression exists east of the City of Stockton. Groundwater generally flows from the outer edges of the Subbasin towards the depression in the middle of the Subbasin. Along the eastern side of the Subbasin, the lateral gradient of groundwater levels ranges from approximately 21 feet per mile (ft/mi) during the seasonal high to 6 ft/mi during the seasonal low. Along the western side of the Subbasin, the lateral gradient is approximately 6 ft/mi during both the seasonal high and seasonal low. The steeper gradients on the east side of the Subbasin compared to the west side is primarly due to the steeper aquifer units in that area, combined with a lack of head influence from the Delta.

Groundwater quality in the Subbasin varies by location. Areas along the western margin have historically had higher levels of salinity. Salinity may be naturally occurring or the result of human activity. Sources of salinity in the Subbasin include Delta sediments, deep saline (connate) groundwater, and irrigation return water. Elevated concentrations of other constituents, such as nitrate, arsenic, and point-source contaminants, are generally localized and not widespread, and are generally related to natural sources or land use activities.

While the total volume of groundwater in storage in the Subbasin has declined over time, groundwater storage reduction has not historically been an area of concern in the Subbasin as

there are large volumes of fresh water stored in the aquifer. As estimated in the 2024 GSP, the total volume of fresh groundwater in storage was estimated to be 74 million acre-feet (MAF) in 2015 (Woodard & Curran, 2024, page 2-91). This volume was updated from the 53 MAF reported in the 2020 GSP as a result of model refinements and recalculation (Woodard & Curran, 2024, Technical Memorandum No. 4, page 1). Significant impacts to groundwater beneficial uses and users were estimated (via modeling for the 2024 GSP Amendment) to occur if reductions in groundwater storage of between 10 to13 MAF occurred, triggering undesirable results relating to groundwater levels.

Inelastic land subsidence has not historically been an area of concern in the Subbasin, and there are no records of significant land subsidence directly caused by groundwater pumping in the Subbasin. Subsidence concerns, if any, are focused on the non-Delta area of the Subbasin as the Delta region contains peaty soils, which can subside when the soils dewater and oxidize. Oxidation of peaty soils is not a mechanism caused by groundwater overdraft.

Within the Eastern San Joaquin Subbasin, there are three primary sources of subsidence data, each with different periods of record and methods of data collection:

- Continuous GPS (CGPS) vertical displacement data from the DWR SGMA Data Viewer
- InSAR subsidence rates from the DWR SGMA Data Viewer
- Survey benchmarks from U.S. Geological Survey (USGS), the U.S. Army Corps of Engineers (USACE), California Department of Transportation (CalTrans), the San Joaquin County Department of Public Works, and other local agencies.

The three Continuous GPS subsidence monitoring stations in the Subbasin and DWR's InSAR data all indicated less than 0.2 feet in subsidence during WY 2025. Recent subsidence data further support the conclusion that inelastic land subsidence is not currently an area of concern in the Subbasin. However, to be protective of future changes in land subsidence, a monitoring network and SMC for subsidence based on land surface elevations were established as part of the 2024 GSP Amendment in response to DWR's recommended corrective actions (see Section 3.3.5, Land Subsidence, and Section 4.5, Monitoring Network for Land Subsidence, in the 2024 GSP Amendment).

The status of interconnected surface waters (ISWs) was assessed in all prior annual reports using groundwater elevations as a proxy. Recognizing a lack of data, the Subbasin GSAs have worked actively to fill these data gaps to better assess where ISWs exist and the linkages between groundwater extraction and ISW conditions. As part of the first Periodic Evaluation and 2024 GSP Amendment, additional efforts were undertaken to assess ISWs in coordination with DWR's recently released guidance documents.

The ISW evaluation conducted in response to DWR's recommended corrective action as part of the 2024 GSP Amendment noted that there remained a lack of shallow monitoring wells and associated historic data near the rivers and creeks across the Subbasin, which translates to a low

degree of confidence in interpretations of model output because model calibration around these surface water features contains significant uncertainty. However, the GSP regulations require the identification of ISWs within a basin (and therefore identification of the degree of connectivity) and an estimate of the timing and quantity of depletions of those systems, where depletions are defined as "conditions where groundwater pumping results in reductions in flow or water levels of ISW." Therefore, a good faith effort was conducted as part of the 2024 GSP Amendment to isolate stream depletions in the Subbasin due solely to groundwater pumping.

The analyses resulted in an inconclusive understanding of depletions due to pumping since an equilibrium was not reached within the simulation period and depletions were heavily influenced by initial and boundary conditions. Therefore, the analyses contained in the 2024 GSP Amendment relied on the standard definition of depletions as stream losses to the aquifer system regardless of cause. This allows the GSAs to have more confidence in the results and to be able to manage and report depletions in future Annual Reports without limitations and uncertainties from the existing toolset. At the time of the 2024 GSP Amendment, the additional guidance documents anticipated from DWR (*Techniques for Estimating Depletions of Interconnected Surface Water* and *Examples of Approaches for Estimating Depletions of Interconnected Surface Water*) had not yet been released.

The GSAs understand that an ISW may be seasonally connected and/or connected in only wetter water year types. The GSAs currently do not have sufficient data to determine if or when streams or reaches are connected to the groundwater table with this level of granularity. The GSAs will be collecting more data with newly constructed ISW monitoring wells to help inform this analysis going forward. Using Historical ESJWRM Version 3.0, which was the best available tool at the time of analysis, the numerical flow model indicates that the streams that are connected 75% of the time are the Mokelumne River, Stanislaus River, and lower San Joaquin River. Streams that are not connected at least 75% of the time are Dry Creek, Calaveras River, and Mormon Slough. Other smaller creeks are not represented in ESJWRM Version 3.0 due to a lack of streamflow monitoring sites with historical data for calibration purposes.

The timing, location, and volume of depletions in the ESJ Subbasin will be revised at a later date in coordination with further guidance from DWR. In the meantime, a new monitoring network was established in the 2024 GSP Amendment specifically for interconnected surface water. The monitoring network wells include a selection of newly drilled shallow wells adjacent to streams, as well as a few additional wells from the groundwater level network. Monitoring is anticipated to begin at the new wells in WY 2026.

Seawater intrusion is not present in the Subbasin. While the Delta ecosystem evolved with a natural salinity cycle that brought brackish tidal water in from the San Francisco Bay, current management practices endeavor to maintain freshwater flows through a combination of hydraulic and physical barriers and alterations to existing channels.

Major river systems in the Subbasin are highly managed to meet instream flow requirements for fisheries, water quality standards, and the water rights of users downstream. Many smaller streams run through the Subbasin that provide contributions to both groundwater, riparian habitat, and the major river systems. The interconnection between reaches of these streams and the groundwater system will be better understood through monitoring as the 2024 GSP Amendment is implemented.

2.2.4 Water Budgets

Water budgets provide a quantitative accounting of precipitation, surface water and groundwater entering and leaving the Eastern San Joaquin Subbasin under historical, current, projected, and projected with climate change conditions. The water budgets in the 2024 GSP Amendment were estimated using the ESJWRM Version 3.0. The primary components of the groundwater budget are:

- Inflows:
    - Deep percolation from precipitation, applied water (surface water and groundwater) for agricultural lands, and applied water (surface water and groundwater) for outdoor use in the urban areas or industrial purposes
    - Stream seepage (i.e., losses to the groundwater system)
    - Other recharge (including unlined canals/reservoir seepage, local tributaries seepage, and Managed Aquifer Recharge [MAR] projects)
    - Subsurface inflow
- Outflows:
    - Groundwater outflow to streams (i.e., stream gain from the groundwater system)
    - Groundwater pumping
    - Subsurface outflow
- Change in Groundwater Storage (Inflows Minus Outflows)

Some municipalities have implemented management actions and projects to reduce water demand and groundwater extractions within their jurisdictions. Despite implementation of these management actions, the average annual groundwater storage is shown as decreasing in the 2024 GSP Amendment under historical, current, projected, and projected with climate change conditions, suggesting conditions of overdraft without the implementation of additional projects and/or management actions to address this situation.

Groundwater pumping under sustainable conditions for the Eastern San Joaquin Subbasin was calculated through development of an ESJWRM sustainable conditions scenario (also called ESJWRM PCBL-DR Version 3.0) in which the goal was to generate a long-term (55-year) change in Subbasin groundwater storage of zero, a conservative approach as a change in storage of greater than zero could occur without causing undesirable results. Based on this analysis, to achieve a simulated long-term average change in storage of 0 acre-feet per year (AFY), the

Subbasin-wide pumping would be approximately 704,000 AFY ± 10%. This assumes that hydrology and surface water conditions continue as modeled and no projects are implemented.

Groundwater pumping under sustainable conditions is discussed further in Section 3.8.1.

2.2.5 Sustainable Management Criteria

SGMA allows several pathways to meet the distinct local needs of each groundwater basin, including development of sustainable management criteria, usage of other sustainability indicators as a proxy, and identification of indicators as not being applicable to the basin. Sustainable management criteria (SMC) were developed based on information about the Subbasin in the hydrogeologic conceptual model, the descriptions of current and historical groundwater conditions, the water budgets (historical and projected), and input from stakeholders during the GSP development process.

The sustainability goal for the Eastern San Joaquin Subbasins is:

> *…to maintain an economically viable groundwater resource for the beneficial use of the people of the Eastern San Joaquin Subbasin by operating the Subbasin within its sustainable yield or by modification of existing management to address future conditions. This goal will be achieved through the implementation of a mix of supply and demand type projects consistent with the GSP implementation plan.*

The method prescribed by SGMA to measure undesirable results and achieve the sustainability goal involves setting minimum thresholds (MTs) and measurable objectives (MOs) for a series of representative monitoring sites. These representative sites are a subset of the monitoring network developed as part of the GSP. The sustainable management criteria for the Subbasin are summarized in

Table 1.

Of the six sustainability indicators identified under SGMA, the chronic lowering of groundwater levels is the driver for sustainable groundwater management in the Subbasin as several other indicators all correlated with groundwater levels. Measurable objectives, minimum thresholds, and interim milestones were developed for each of the identified representative wells.

Minimum thresholds for groundwater levels were developed with reference to historical drought low conditions and domestic well depths. Specifically, minimum thresholds were established based on the 2015 groundwater level low with a buffer of 100% of the historical range or the 10th percentile domestic well depth, whichever is shallower. This methodology established levels that are protective of approximately 90% of domestic wells. In municipalities with ordinances requiring the use of municipal water (water provided by a city's municipal wells) for domestic users, the 10th percentile municipal well depth is used in place of the 10th percentile domestic well depth criteria. Measurable objectives were established based on the 2015 groundwater level low and provide a buffer above the minimum threshold. A table summarizing minimum thresholds and measurable objectives is included in the 2024 GSP Amendment. Graphs showing the minimum threshold and measurable objective for each of the representative wells are contained in an appendix to the 2024 GSP Amendment and included herein as **Appendix B**. These SMC were updated as part of the 2025 Periodic Evaluation and Plan Amendment in response to recommended corrective actions advised by DWR in their 2023 Determination Letter.

The Eastern San Joaquin Subbasin is not in a coastal area, and seawater intrusion is not currently present. Undesirable results related to seawater intrusion are not currently occurring and are not reasonably expected to occur. For this reason, the SMC for seawater intrusion were removed from the GSP as part of the 2025 Periodic Evaluation and Plan Amendment in response to recommended corrective actions advised by DWR in their 2023 Determination Letter. Instead, SMC for chloride were established under the groundwater quality sustainability indicator and therefore will continue to be monitored going forward.

Minimum thresholds for water quality were defined by considering two primary beneficial uses at risk of undesirable results related to salinity: drinking water and agriculture uses. Minimum thresholds of 1,000 milligrams per liter (mg/L) Total Dissolved Solids (TDS) were set for each representative monitoring well, consistent with the upper limit secondary maximum contaminant level (SMCL) for TDS. Crop tolerances in the Subbasin range by crop type from 900 mg/L TDS for almonds up to 4,000 mg/L TDS for wheat, assuming a 90% yield. The TDS SMC are unchanged from the 2020 GSP. The minimum threshold for chloride was set at 250 mg/l, consistent with the SMCL, or the chloride concentration measured in 2015 at each representative monitoring location, whichever is greater. The chloride SMC were designed to avoid worsening groundwater quality from 2015 conditions. The chloride SMC were re-evaluated as part of the 2025 Periodic Evaluation and Plan Amendment in response to recommended corrective actions advised by DWR in their 2023 Determination Letter.

Substantial work was completed as part of the 2025 Periodic Evaluation and Plan Amendment to quantify timing, location, and volume of depletions of interconnected surface water. Minimum thresholds and measurable objectives for groundwater levels were used as a proxy in the 2020 GSP and 2022 Revised GSP. In the 2024 GSP Amendment, a separate monitoring network and plan for establishing SMC were developed for interconnected surface water in order to focus on wells adjacent to streams. All work related to interconnected surface water as part of the 2024 GSP Amendment was based on minimal guidance from DWR and may be reevaluated in future GSPs.

Six wells from the groundwater level monitoring network were kept in the new interconnected surface water representative monitoring network and their SMC are set to be the same as those of the groundwater levels indicator SMC. Six newly constructed shallow wells were also added to the monitoring network for interconnected surface water. Without historical data at these wells, there were insufficient data from which to establish SMC for these wells in the 2024 GSP Amendment. An approach for developing future SMC was delineated in the 2024 GSP Amendment, to be implemented once sufficient groundwater level data are collected.

Both the 2020 GSP and 2022 Revised GSP used groundwater level SMC as a proxy for inelastic land subsidence. SMC for subsidence based on measured land elevations were developed as part of the 2025 Periodic Evaluation and Plan Amendment in response to DWR's recommended corrective actions.

Undesirable results from inelastic land subsidence are defined as those causing significant and unreasonable impacts to the critical infrastructure, specifically conveyance infrastructure and major roads. Inelastic land subsidence related to groundwater pumping occurs due to the dewatering of fine-grained geologic materials, such as clay, leading to structural collapse and loss of void spaces. Although there is no significant historical evidence of subsidence in the Subbasin, SGMA requires that the GSP considers the potential consequences of undesirable results. Per information from GSAs on how much subsidence local infrastructure can withstand, and given that approximately 10 years have elapsed since the implementation of SGMA commenced in 2015, and assuming that the Subbasin will achieve significant progress towards sustainability in the next 10 years, it was estimated that an additional 24 inches of total subsidence (or a 5-year average rate of 2.4 inches/year) can occur until 2040 without experiencing undesirable results relating to inelastic land subsidence. The measurable objective for subsidence was set at 0 inches of total subsidence.

Table 1. Summary of Sustainable Management Criteria[1]

Sustainability Indicator	Undesirable Results	Identification of Undesirable Results	Measurable Objective	Minimum Threshold
Chronic lowering of groundwater levels	An undesirable result is experienced if sustained groundwater levels are too low to satisfy beneficial uses and users within the Subbasin over the planning and implementation horizon of the GSP.	Undesirable results occur when more than 25% of representative monitoring wells fall below their minimum elevation thresholds for two consecutive years.	At each of 23[1] representative wells, the measurable objective was defined based on the 2015 groundwater low level values.	The deeper of 2015 groundwater levels with a buffer of 100% of historical range applied, or the 10th percentile domestic well depth within a 3-mile radius of the monitoring well,[2] whichever is shallower. In municipalities with ordinances requiring the use of municipal water, the 10th percentile municipal well depth is used in place of the 10th percentile domestic well depth criteria.
Reduction in groundwater storage	An undesirable result is experienced if sustained groundwater storage volumes are insufficient to satisfy beneficial uses and users within the Subbasin over the planning and implementation horizon of the GSP.	Undesirable results would occur if groundwater storage volumes were depleted by between 10 and 13 MAF.	Management of reduction in groundwater storage is performed using groundwater levels as a proxy; therefore, the measurable objectives are the same as for the chronic lowering of groundwater levels sustainability indicator.	Management of reduction in groundwater storage is performed using groundwater levels as a proxy. Impacts would be experienced under the definition of undesirable results for groundwater levels when between 10 and 13 MAF would have been removed from the Subbasin.

[1] These SMCs represent those established in the 2024 GSP Amendment.

Sustainability Indicator	Undesirable Results	Identification of Undesirable Results	Measurable Objective	Minimum Threshold
Degraded water quality	An undesirable result is experienced if SGMA-related groundwater management activities cause significant and unreasonable impacts to the long-term viability of domestic, agricultural, municipal, environmental, or other beneficial uses over the planning and implementation horizon of the GSP.	Undesirable results occur when more than 25% of representative monitoring wells exceed the minimum thresholds for water quality for two consecutive years and where these concentrations are the result of groundwater management activities.	At each of 20 representative wells, 600 mg/L TDS and the maximum recent historical conditions (2015-2023) for chloride. The measurable objective is close to the recommended SMCL for TDS of 500 mg/L and significantly below the upper limit SMCL of 1,000 mg/L.	At each of 20 representative wells, 1,000 mg/L TDS and 250 mg/L chloride (or 2015 chloride concentrations, whichever is greater), consistent with the upper SMCL and developed based on the TDS crop tolerances for fruit and nut trees and vineyards.
Saltwater migration	Seawater intrusion is not considered an applicable sustainability indicator for the Eastern San Joaquin Subbasin as the Subbasin is not in a coastal area and seawater intrusion is not currently present and is not reasonably expected to occur due to the active management of the 'X2' salinity barrier by the State.			

Sustainability Indicator	Undesirable Results	Identification of Undesirable Results	Measurable Objective	Minimum Threshold
Land subsidence	An undesirable result is experienced if the occurrence of land subsidence substantially interferes with beneficial uses and users of groundwater and infrastructure within the Subbasin over the planning and implementation horizon of the GSP.	An undesirable result occurs when subsidence substantially interferes with beneficial uses or users of groundwater and surface land uses and/or when substantial interference with land use occurs, including significant damage to canals, pipes, or other water conveyance facilities.	0 ft of inelastic land subsidence by 2040.	No more than 0.2 foot/year (2.4 inches/year) in any five-year period between 2020 and 2040, resulting in no more than a total additional 2 feet (24 inches) of land subsidence by 2040.

Sustainability Indicator	Undesirable Results	Identification of Undesirable Results	Measurable Objective	Minimum Threshold
Depletions of interconnected surface water (ISW)	An undesirable result is experienced if the depletions of ISW causes significant and unreasonable adverse effects on beneficial uses or users of surface water within the Subbasin over the planning and implementation horizon of the GSP.	The undesirable result for depletions of ISW is depletions that result in reductions in flow or levels of major rivers and streams that are hydrologically connected to the basin such that the reduced surface water flow or levels have a significant and unreasonable adverse impact on beneficial uses and users of the surface water.	For wells with historical groundwater level observations, measurable objectives are the same as for the chronic lowering of groundwater levels minimum thresholds. For new wells without historical data sets, measurable objectives will be established after at least four years of data have been collected, including data for at least one wet year and one dry or critical year during that time period. If wet and dry/critical years do not occur during this initial period, then additional years of data collection may be required before establishing SMCs.	For wells with historical groundwater level observations, minimum thresholds are the same as for the chronic lowering of groundwater levels minimum thresholds. For wells without historical data sets, minimum thresholds will be calculated as: $Minimum\ Threshold = Observed\ Recent\ Dry/Critical\ GWL - (Simulated\ Recent\ Dry\ Year\ GWLs - Simulated$ 2015 $GWLs)$

Notes:
1 20 wells were included in the representative monitoring network for groundwater levels in the 2020 GSP. As of the 2024 GSP Amendment, 23 wells are included in the representative network for groundwater levels in an effort to fill identified data gaps in the Subbasin.
2 A radius of 2 miles was used for well 03N07E21L003 to reflect domestic well depths in close proximity to the Mokelumne River.

2.2.6 Monitoring Networks

Monitoring networks were developed for the sustainability indicators that apply to the Eastern San Joaquin Subbasin leveraging existing monitoring that has been conducted locally and in cooperation with DWR. The objective of these monitoring networks is to monitor conditions across the Subbasin so that the GSAs can continue to manage groundwater sustainably. Specifically, the monitoring networks were developed to do the following:

- Monitor impacts to the beneficial uses or users of groundwater.

- Monitor changes in groundwater conditions relative to measurable objectives and minimum thresholds.
- Demonstrate progress toward achieving measurable objectives described in the GSP.
- Support estimation of annual changes in water budget components.

To achieve these objectives, the monitoring networks incorporate sites and frequencies that can detect seasonal and long-term trends for each applicable sustainability indicator. This includes selection of an appropriate temporal frequency and spatial density to evaluate groundwater conditions related to the effectiveness of the GSP.

There are four monitoring networks established within the 2024 GSP Amendment, one each for water levels, groundwater quality, interconnected surface water, and subsidence. Monitoring well data from the representative monitoring networks, as well as land surface elevation survey data for subsidence, are used to determine compliance with the minimum thresholds set forth in the 2024 GSP Amendment.

Wells in the monitoring networks are measured on a semi-annual schedule (spring and fall) for both groundwater levels and water quality via the representative monitoring networks for groundwater levels, groundwater quality, and interconnected surface water. Data from four CGPS stations are collected annually, along with annual data collection (starting in 2026) from six new survey benchmarks. Historical measurements have been entered into the Subbasin's Data Management System (DMS), and future data will also be stored in the DMS.

A summary of the monitoring points in the representative monitoring networks is provided in **Table 2** below.

Table 2. Summary of Monitoring Network Wells

Representative Networks	Monitoring Location Count
Groundwater Levels	23
Groundwater Quality	20
Interconnected Surface Water (Groundwater Levels)	12
Subsidence (CGPS Stations)	4
Subsidence (Survey Benchmarks)	6

2.2.7 Projects and Management Actions

Achieving sustainability in the Subbasin requires implementation of projects and management actions. The Subbasin will achieve sustainability by implementing water supply projects that either replace groundwater use or supplement groundwater supplies to attain the current estimated pumping offset and/or recharge targets identified in the 2024 GSP Amendment. In addition, various projects have been identified that support demand-side reduction activities through conservation measures, including water use efficiency upgrades. Currently, no pumping restrictions have been proposed for the Subbasin; however, the Subbasin GSAs maintain the flexibility to implement such demand-side management actions in the future if needed. While it is still the priority of the Subbasin to implement projects and management actions, a demand management program is currently in development that can be activated if the benefits of the projects and management actions are not realized.

Additional management activities are:

- Monitoring and recording of groundwater levels, groundwater quality, and subsidence data
- Maintaining and updating the DMS with newly collected data
- Annual monitoring of progress toward sustainability
- Annual reporting of Subbasin conditions to DWR as required by SGMA

As part of the effort to respond to DWR's comments on the 2020 GSP, projects and management actions were incorporated into a version of the ESJWRM Projected Conditions Baseline (PCBL) Version 2.0 and ESJWRM Projected Conditions Baseline with Climate Change (PCBL-CC) Version 2.0 to evaluate the impacts of such projects on the overall water budget of the Subbasin. Initially, all the projects from the 2020 GSP and 2022 Sustainable Groundwater Management (SGM) Grant Program's SGMA Implementation Round 1 application were considered. Based on updates in previous annual reports and information from representatives

of the GSAs, these projects have been categorized as Category A or B based on the following criteria:

- Category A projects - projects that were completed or are anticipated to advance in the next five years and have existing water rights or agreements.
- Category B projects - projects that are not anticipated to advance in the next five years, but may be implemented in the future, particularly if Category A projects do not fully achieve stated recharge and/or offset targets or do not produce a response as simulated in the model.

A call for projects was completed as part of the 2025 Periodic Evaluation and Plan Amendment to add additional projects as necessary. As of the 2024 GSP Amendment, Category A included 16 projects (summarized in the table in **Appendix A**); 12 of those projects were simulated in ESJWRM and tested against varying hydrologic, water supply, and demand conditions in the PCBL Version 3.0 and PCBL-CC Version 3.0 scenarios.

2.2.8 Implementation

Implementation of the GSP includes monitoring of conditions, comparing monitoring data against sustainable management criteria, reporting of those conditions, implementing adaptive management strategies, implementing projects and management actions, and funding of these activities. Data are collected through monitoring on a prescribed schedule for each monitoring network. The data collected are used to improve the understanding of the Subbasin, as well as for comparison with the sustainable management criteria. Each representative monitoring site included in each representative monitoring network has defined quantitative measurable objectives and minimum thresholds. Comparison of monitoring data and measurable objectives allow for assessment and tracking of desired conditions. Comparisons with minimum thresholds allow for assessment and tracking of undesirable results.

While undesirable results are not anticipated, should measured data at representative monitoring sites begin to approach minimum thresholds, the ESJGWA will convene a working group to evaluate adaptive management strategies, such as the implementation of groundwater pumping curtailments, land fallowing, etc. Further, the total percentage of representative monitoring sites exceeding minimum thresholds will be calculated and compared against the percentage which has been identified as reflective of undesirable results. As part of the 2024 GSP Amendment, the ESJGWA developed a framework for a Demand Management Program intended as a backstop to achieving the Subbasin's sustainability goals (Appendix 6-B). This program is expected to be developed and adapted over the next three years and implemented by the GSAs by December 31, 2028. Adaptive management is a key component of the program. A program that is flexible and developed to adapt to changing conditions will be the most effective. There are many uncertainties in meeting demand management goals, including hydrology, PMA implementation schedule, PMA benefits, and modeling uncertainty. Given these unknowns, the program will be reassessed on an annual basis. Each year, the hydrologic

conditions will be evaluated through the existing annual report process. Progress toward reaching PMA goals will be reported by GSAs as well. The ESJWRM flow model will be updated annually to incorporate the latest hydrologic conditions and demand assumptions. It will then be used to calculate a new demand reduction target. Through this iterative approach, the Subbasin will be able to adjust the approach to the natural conditions and accommodate any project delays. A Dry Domestic Well Mitigation Program was also approved by the ESJGWA at its September 11, 2024 Board Meeting. The resolution and details of the program are included as Appendix 3-J of the 2024 GSP Amendment.

The Eastern San Joaquin Subbasin applied for funding under the Proposition 68 Sustainable Groundwater Planning Grant Program, Round 3. The ESJGWA was awarded $500,000 on January 24, 2020 and used the grant funding to improve monitoring data collection and upload to the DMS, for the construction of a nested monitoring well adjacent to the Sacramento-San Joaquin River Delta (Delta) to assess cross-boundary flows in the area, and to develop a tool to facilitate fiscal planning for GSP implementation. Additionally, the ESJGWA received funding under the Proposition 68 Sustainable Groundwater Management Grant Program – Critically Overdrafted Basin SGMA Implementation Round 1 to identify and implement projects that enhance direct recharge in the Subbasin. Projects in the Subbasin are being implemented at the GSA level and include monitoring and reporting, model verification efforts, and public engagement and outreach. Finally, the ESJGWA submitted a grant application under the Proposition 68 Sustainable Groundwater Management Grant Program Round 2 for additional funding to further implementation of the identified projects. Unfortunately, the Subbasin's funding application was not successful.

Implementation activities are reported in annual reports due April 1st of each year and include conditions and activities from the previous water year. This WY 2025 report is the seventh annual report to be prepared following GSP submittal on January 31, 2020. Evaluation reports are also developed every five years to document progress on implementation and to reconsider elements of the GSP. The first Periodic Evaluation was submitted to DWR on January 28, 2025. The 2024 GSP Amendment was also submitted on January 28, 2025, with updates to the GSP in response to DWR's recommended corrective actions as contained in their 2023 Determination Letter.

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3. GROUNDWATER DATA ANALYSIS SUMMARY

This section discusses hydrologic conditions, trends in groundwater elevation, groundwater quality, subsidence, and groundwater-surface water interaction in the Eastern San Joaquin Subbasin.

3.1 HYDROLOGIC CONDITIONS:

Rainfall data derived from the PRISM (Precipitation-Elevation Regressions on Independent Slopes Model) dataset of the DWR's California Simulation of Evapotranspiration of Applied Water (CALSIMETAW) model indicates that the Subbasin averaged of 12.5 inches of rainfall during WY 2025 (a Below Normal water year). This represents approximately 79% of the long-term (WY 1969-2022) Subbasin average precipitation of 15.9 inches. San Joaquin River flow at Vernalis for the same period had an average monthly discharge of approximately 92 thousand acre-feet, representing about 35% of the long-term (WY 1965-2025) average flow at that location (USGS, 2026). The Cosumnes River at Michigan Bar for this period had an average monthly discharge of approximately 27 thousand acre-feet, representing about 84% of the long-term (WY 1965-2025) average flow at that location (USGS, 2026); and the Calaveras River flow below New Hogan Dam had an average monthly discharge of approximately 9 thousand acre-feet, representing about 69% of the long-term (WY 1965-2025) average flow at that location (US Army Corps of Engineers, 2026). USGS stream gage data was not available for Mokelumne and Stanislaus Rivers for WY 2025.

3.2 GROUNDWATER LEVELS:

Figure 2 shows the location of the representative monitoring wells identified in the GSP monitoring network for the chronic lowering of groundwater levels. Individual hydrographs[2], charts of groundwater levels over time, for these wells are included in **Appendix B**. The hydrographs display historical trends in groundwater levels in the Subbasin through WY 2025, contingent upon data availability. All available data are shown (DWR, 2025). Hydrographs for representative monitoring wells also display the quantitative minimum threshold and measurable objective that were documented in Chapter 3 (Sustainable Management Criteria) of the 2024 GSP Amendment.

All hydrographs show yearly cycles of groundwater level declines in summer due to typical patterns in groundwater pumping, and recharge during winter recovery. Of the 23 representative monitoring wells, 19 wells reported groundwater levels for Fall 2024, and 18 wells reported groundwater levels in Spring 2025 as shown in **Table 7**. Wells that were not monitored

[2] Except where noted, groundwater levels in hydrographs were converted to the North American Vertical Datum of 1988 (NAVD88), consistent with CASGEM groundwater data reporting.

were noted as "Inaccessible" during these two time periods and therefore measurements could not be collected.

Two representative monitoring wells recorded groundwater levels below their established minimum thresholds during Fall 2024 seasonal low conditions. However, groundwater levels at both locations recovered above their respective minimum thresholds by Spring 2025 seasonal high conditions. These short-term declines are consistent with typical groundwater level fluctuations and reflect localized responses to hydrologic conditions and groundwater use. A detailed evaluation of groundwater level conditions relative to SMC is provided in Section 4.1.1.

When comparing Spring 2025 groundwater levels to historical spring measurements, most wells show only minor year-to-year changes relative to Spring 2024. Some wells recorded slight increases, while others recorded slight decreases. These relatively minor changes are generally consistent with Below Normal hydrologic conditions, during which groundwater levels typically exhibit seasonal fluctuations without widespread or persistent declines.

According to DWR's Dry Well Reporting System, no water shortages associated with dry wells were reported in the Eastern San Joaquin Subbasin in the 365 days prior to the preparation of this report (DWR, 2026).

All monitoring data collected in WY 2025 are included in a table in **Appendix C**.

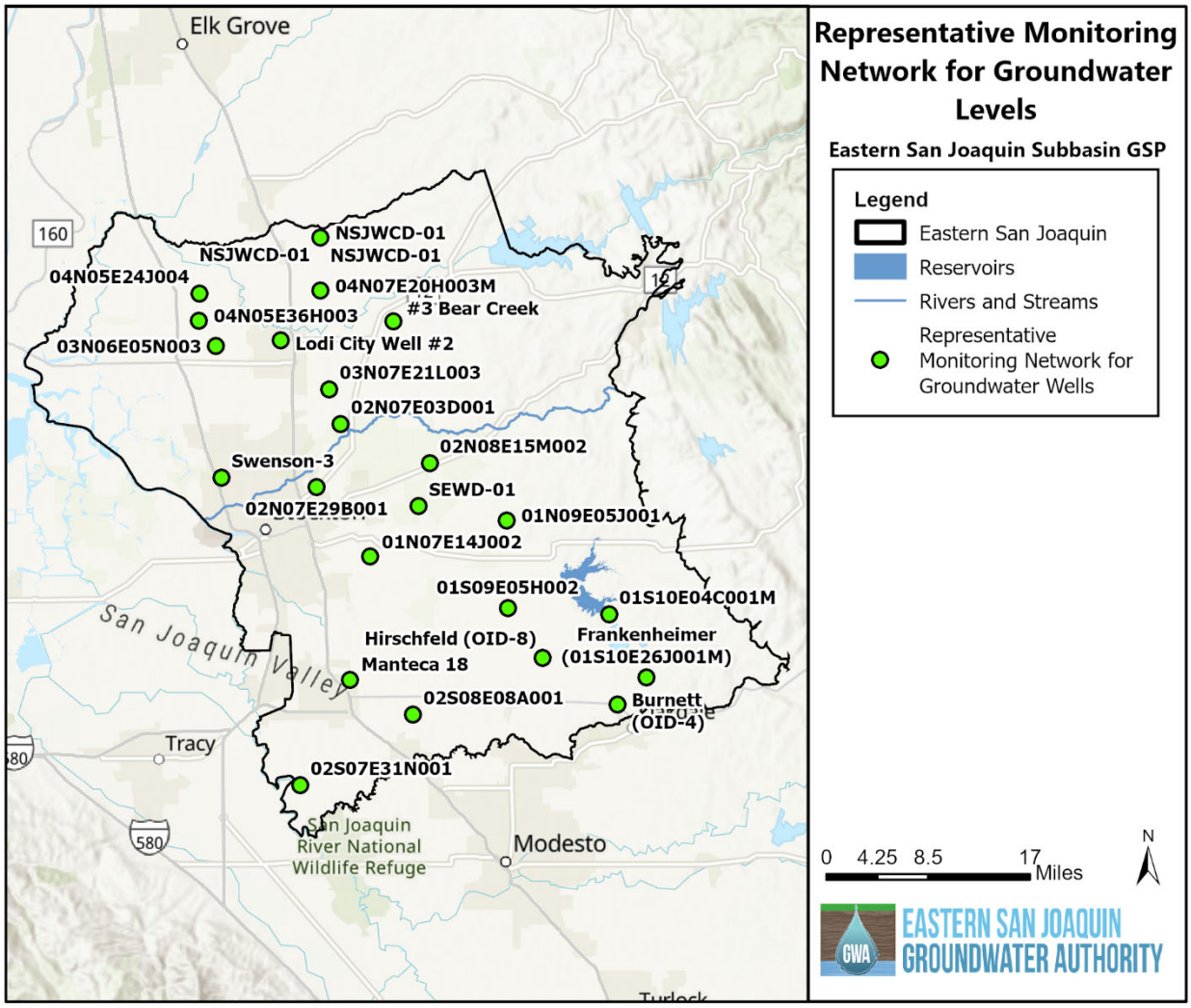

Figure 2. Groundwater Level Representative Monitoring Well Locations

3.2.1 Groundwater Level Contour Maps:

Seasonal groundwater level contour maps were prepared to represent both seasonal low and seasonal high groundwater conditions. Groundwater elevation contour maps for Fall WY 2025 (September-November 2024) and Spring WY 2025 (March-May 2025) are provided in **Figure 3** and **Figure 4**.

Previous work expanded the groundwater level period to include September and May for seasonal low and seasonal high readings, respectively. This definition was used again in this year's annual report. This approach reduces the impact of disruptions to the monitoring data quality used to develop the groundwater contour map by increasing the number of groundwater level measurements considered during contour development. This also allowed the analysis to capture a larger dataset and better represent current conditions.

Groundwater levels in the central portion of the Subbasin declined between Spring 2024 seasonal high and the beginning of WY 2025 (Fall 2024). Between Fall 2024 and Spring 2025, groundwater levels increased, particularly in the center of the basin, reflecting a typical rebound of water levels in the wetter season. The seasonal low in WY 2025 remained lower than the seasonal low observed in WY 2024, reflecting the influence of relatively drier year conditions in WY 2025.

The groundwater elevation contours shown in **Figure 3** and **Figure 4** were generated using the Inverse Distance Weighting (IDW) interpolation method, which provided better representation of the updated monitoring dataset than the spline method used in the 2020 GSP. Areas with limited WY 2025 data are indicated with hash marks on both figures. A notable data gap persists along the eastern side of the Subbasin. Although targeted efforts have been made since 2020, this region of the Subbasin continues to be identified as a critical data gap requiring ongoing management attention.

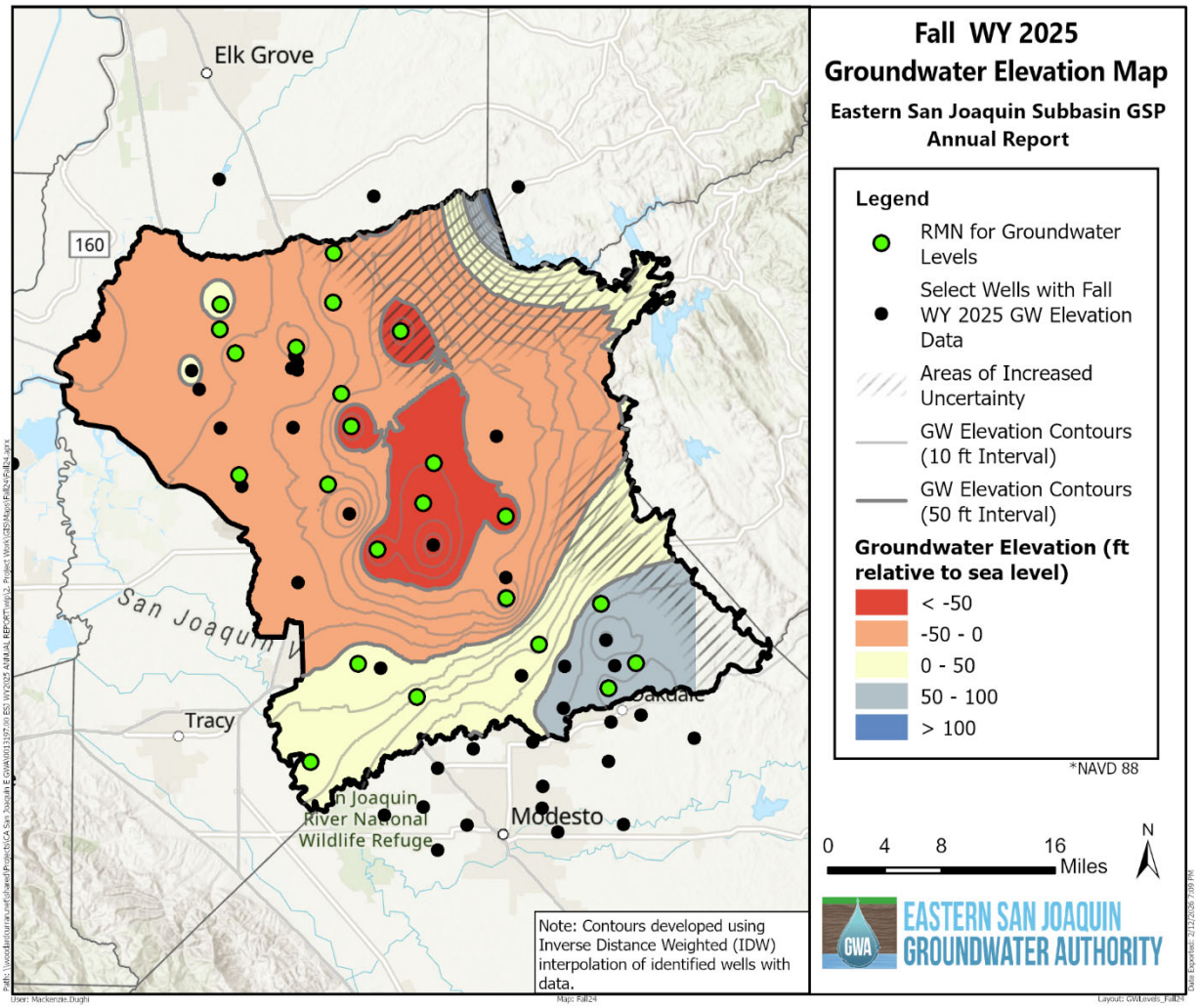

Figure 3. Seasonal Low Groundwater Levels in the Eastern San Joaquin Subbasin, based on data from September 2024 (WY 2024), October 2024 (WY 2025), and November 2024 (WY 2025)

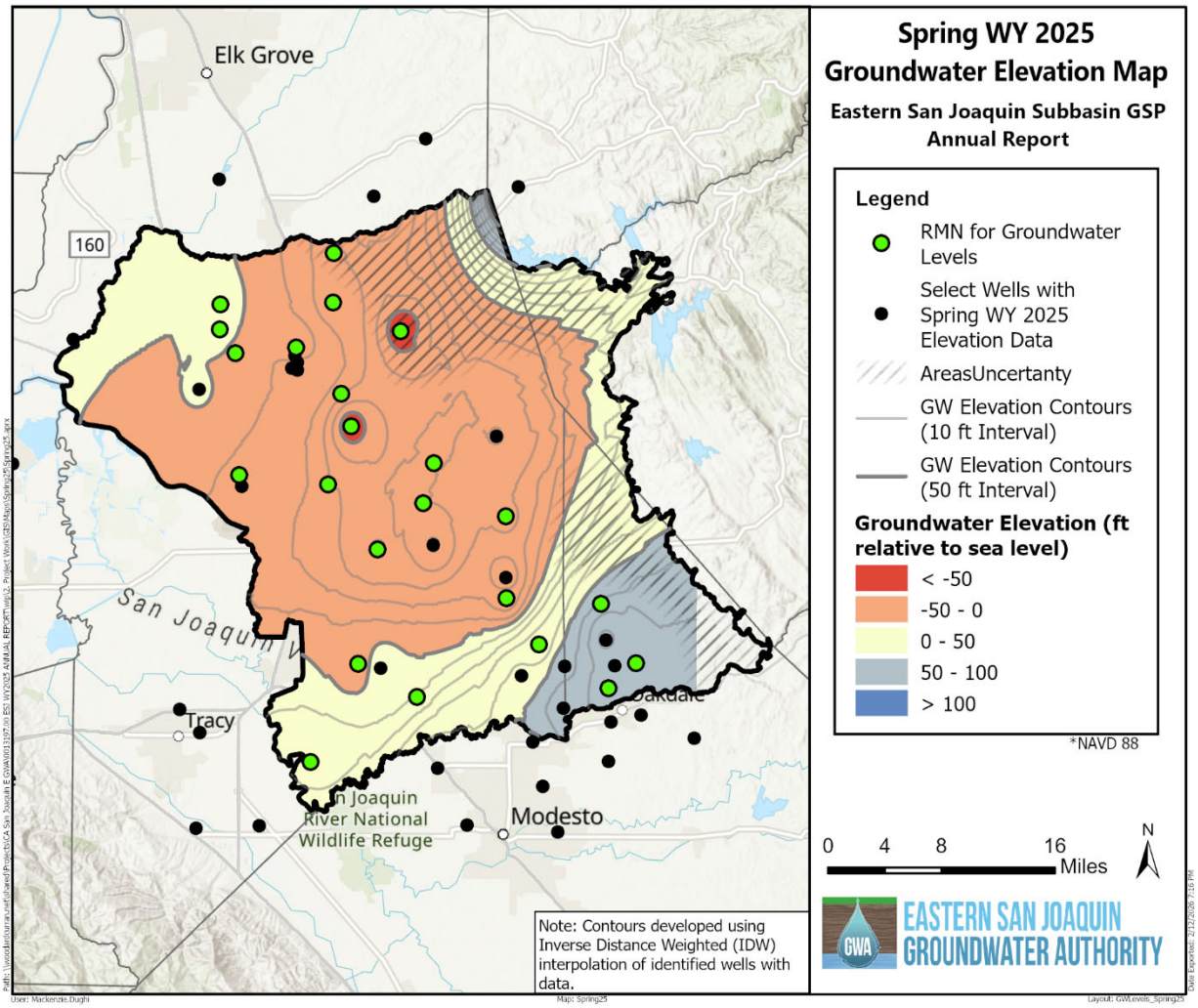

Figure 4. Seasonal High Groundwater Levels in the Eastern San Joaquin Subbasin, based on data from March, April, and May 2025 (WY 2025)

3.3 CHANGE IN GROUNDWATER STORAGE

Change in groundwater storage is estimated using the Historical ESJWRM Version 3.0 with time series extended through WY 2025. **Figure 5** shows the annual and cumulative change in storage from WY 1996 to 2025 for the Eastern San Joaquin Subbasin. In WY 2025 (October 1, 2024 to September 30, 2025), the Eastern San Joaquin Subbasin had a decrease in groundwater in storage of approximately 84,100 AF, reflecting the below normal conditions of the year. **Figure 5** indicates positive "Change in Storage", meaning that inflows (consisting of deep percolation, recharge, flow from streams, and boundary inflows) were smaller than outflows in WY 2025. **Figure 6** adds all inflows together to highlight the annual change in storage. **Figure 7** shows this inverse "Change in Storage" plotted with "Groundwater Pumping" and "Cumulative Change in Storage." Since 2015, ESJWRM estimates there has been a cumulative decrease in storage of approximately 709,700 AF.

Figure 8 shows the change in groundwater storage for the Eastern San Joaquin Subbasin by ESJWRM element between October 1, 2024, and September 30, 2025. On an ESJWRM element basis, groundwater storage was estimated to decrease by 0.1 feet on average over much of the Subbasin, with small areas of decrease of up to almost 0.8 feet in the western portion of the Subbasin and closer to the foothills. The northwestern portion of the Subbasin experienced the largest increase in storage in comparison to WY 2024, with up to a 0.85-foot increase during WY 2025. Though change in storage varied on an ESJWRM element basis, there was an overall net decrease in groundwater storage in the Eastern San Joaquin Subbasin during WY 2025, as previously stated and reflected in **Figure 5** to **Figure 7** and mapped in **Figure 8**.

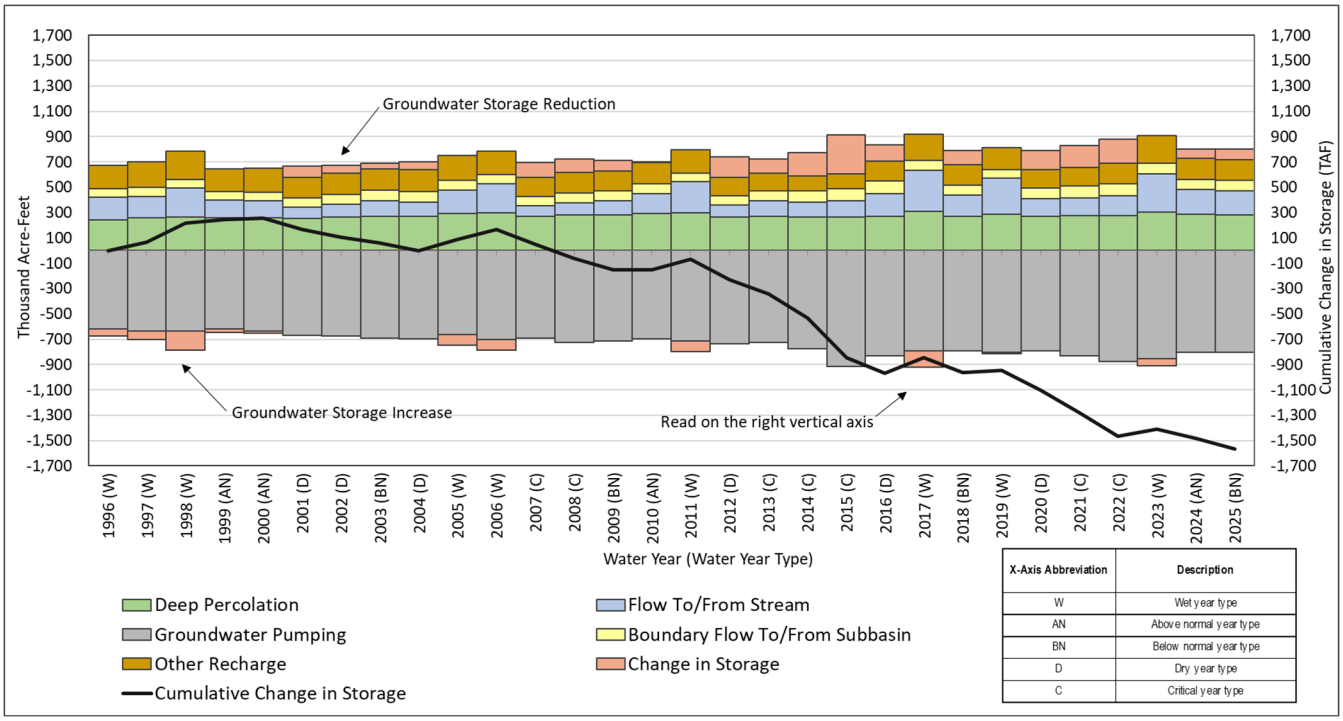

Figure 5. Modeled Change in Annual Storage with Water Use and Year Type

Notes:

1. Water Year Types based on San Joaquin Valley Water Year Index (CA DWR, 2026). Water Year 2025 classification is below normal (BN) based on the hydrologic conditions for this analysis; however, the San Joaquin Valley Water Year Index has not yet published the official WY 2025 designation.
2. "Other Recharge" includes managed aquifer recharge, recharge from unlined canals and/or reservoirs, and recharge from ungauged watersheds.
3. "Change in Storage" balances the water budget. For instance, if annual outflows (-) are greater than inflows (+), there is a decrease in storage, but this would be shown as storage depletion on the positive side of the bar chart to balance out the increased outflows on the negative side of the bar chart.
4. The uncertainty associated with estimating change in storage using Historical ESJWRM Version 2.0 was evaluated using sensitivity analysis. This analysis indicates that the average difference in change in storage estimates varies approximately 47% across all sensitivity runs.

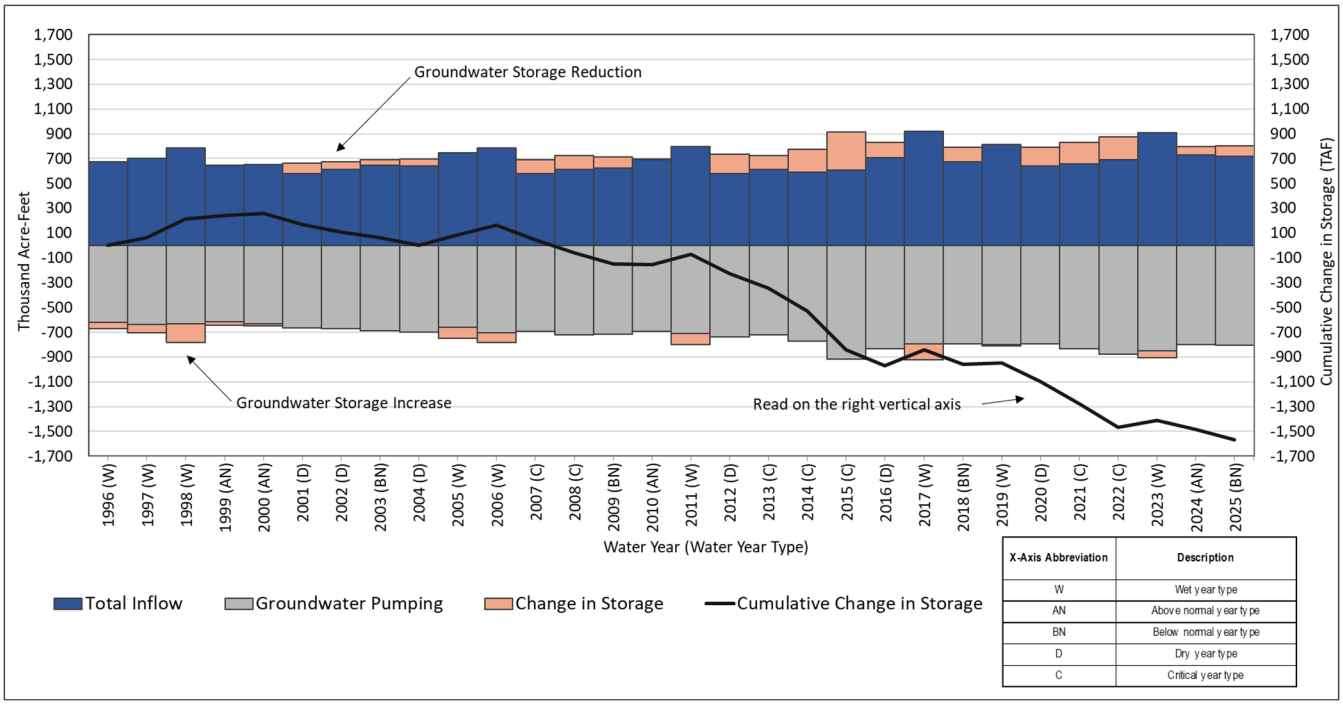

Figure 6. Modeled Change in Annual Storage with Inflows and Year Type

Notes:

1. Water Year Types based on San Joaquin Valley Water Year Index (CA DWR, 2026). Water Year 2025 classification is below normal (BN) based on the hydrologic conditions for this analysis; however, the San Joaquin Valley Water Year Index has not yet published the official WY 2025 designation.
2. "Total Inflow" includes "Deep Percolation", "Flow To/From Stream", "Other Recharge", and "Boundary Flow To/From Subbasin" from **Figure 5**.
3. "Change in Storage" balances the water budget. For instance, if annual outflows (-) are greater than inflows (+), there is a decrease in storage, but this would be shown as storage depletion on the positive side of the bar chart to balance out the increased outflows on the negative side of the bar chart.

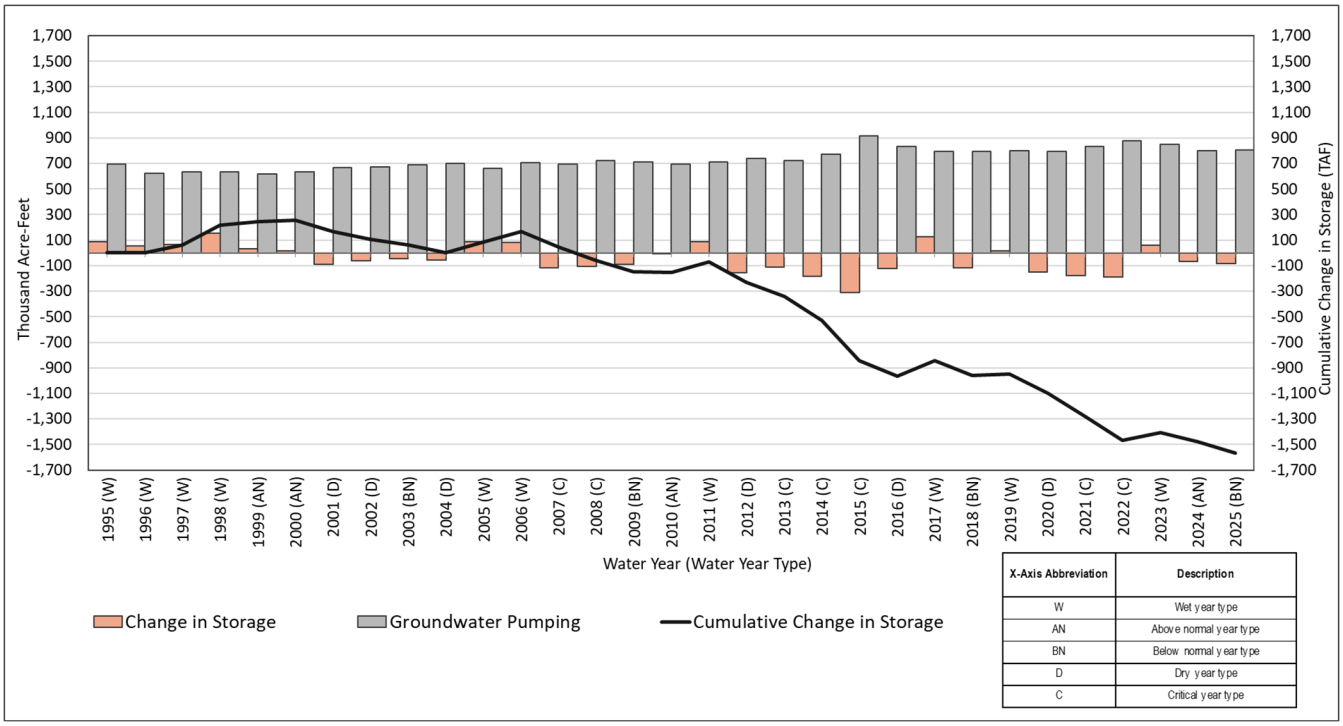

Figure 7. Modeled Change in Annual Storage with Groundwater Pumping and Year Type

Notes:

1. Water Year Types based on San Joaquin Valley Water Year Index (CA DWR, 2026). Water Year 2025 classification is below normal (BN) based on the hydrologic conditions for this analysis; however, the San Joaquin Valley Water Year Index has not yet published the official WY 2025 designation.
2. "Groundwater Pumping" and "Change in Storage" are the inverse of what is shown in **Figure 5** and **Figure 6**. In this figure, a positive "Change in Storage" indicates an increase in groundwater storage, while a negative "Change in Storage" indicates a decrease in groundwater storage. These changes are directly reflected in the "Cumulative Change in Storage" line. The annual "Groundwater Pumping" is shown adjacent to the "Change in Storage" for the same year.

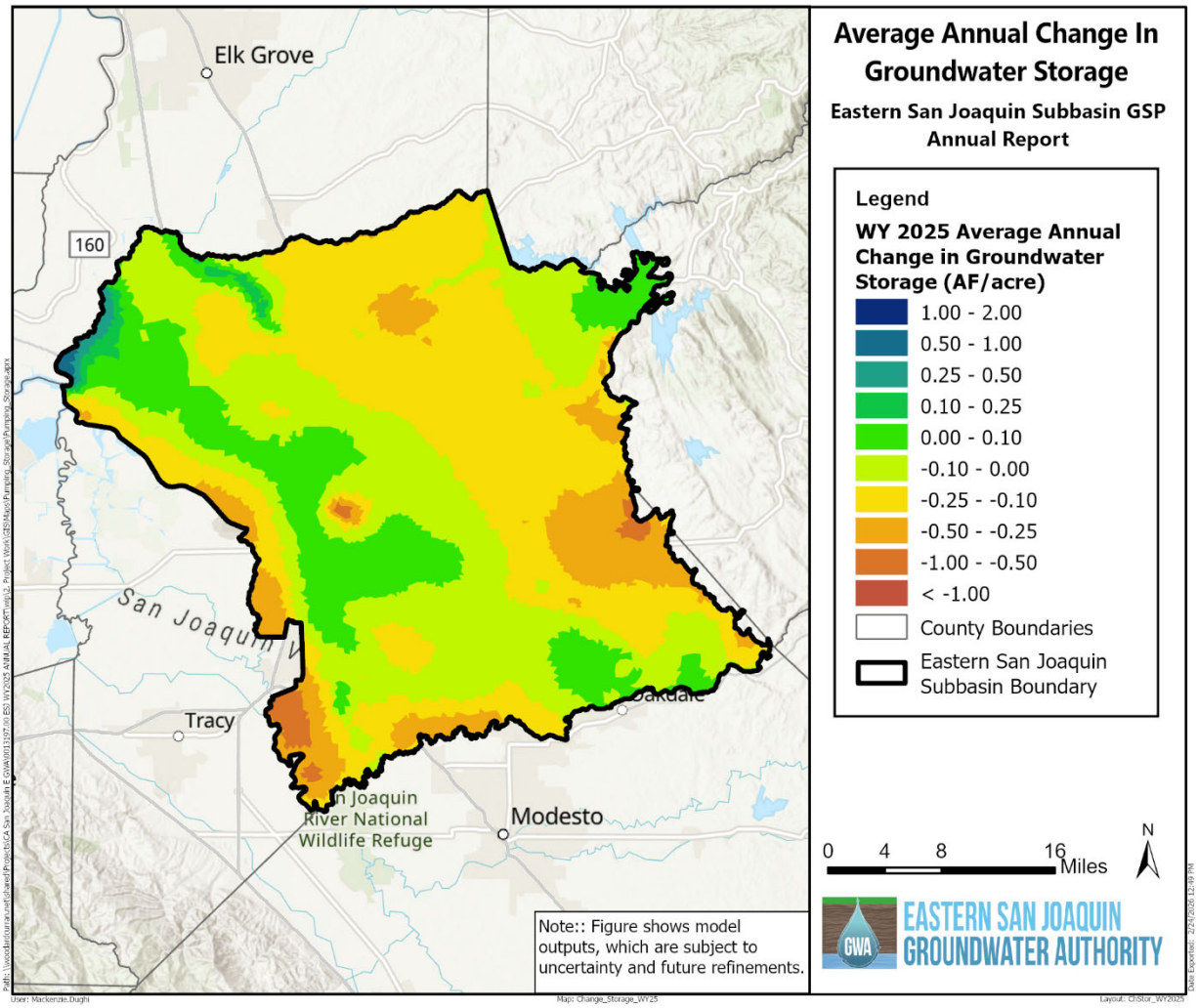

Figure 8. Eastern San Joaquin Subbasin WY 2025 Change in Storage

3.4 GROUNDWATER QUALITY

Groundwater quality in the Eastern San Joaquin Subbasin generally remains adequate to support beneficial uses and is currently on track to meet established measurable objectives. However, several constituents of concern – both naturally occurring and anthropogenic – either presently affect groundwater use or may pose risks in the future. These constituents vary in extent from localized issues to broader regional trends.

The monitoring network for water quality monitors for TDS and chloride, as defined in the 2024 GSP Amendment. Other water quality constituents are monitored through regulatory programs, (e.g., Irrigated Lands Regulatory Program), and data from these external programs are considered in the annual evaluation of Subbasin groundwater quality. If monitoring results indicate violations of existing regulations or show emerging water quality concerns, the ESJGWA will coordinate with relevant regulatory agencies and evaluate whether to establish minimum thresholds and measurable objectives for those constituents. Future amendments to the GSP will continue to document observed trends in monitored constituents and identify opportunities for coordination with existing programs, as needed.

Ten representative monitoring wells were selected for the representative monitoring network for groundwater quality in the 2020 GSP. As part of the 2024 GSP Amendment, ten additional wells were added to address data gaps within the network. To improve consistency and data quality, the ESJGWA GSAs jointly elected to contract with a single monitoring entity, beginning in Fall 2024, to conduct groundwater quality sampling across all network wells. **Figure 9** shows the representative monitoring network for groundwater quality.

Groundwater quality sampling that occurred in WY 2025 is summarized in **Table 8** and **Table 9** in Section 4.1.3, Progress Toward Implementation of this Annual Report. Groundwater quality conditions were evaluated using seasonal monitoring periods consistent with groundwater level assessments to facilitate comparison across sustainability indicators. Fall conditions represent samples collected between September and November 2024, corresponding to seasonal low groundwater levels, and Spring conditions represent samples collected between March and May 2025, corresponding to seasonal high groundwater levels. Where multiple samples were collected within a monitoring period, the median concentration was used to represent seasonal conditions; where only two samples were available, the higher concentration was reported. These tables also include the status of wells that were not sampled during WY 2025.

Based on groundwater quality monitoring conducted at the representative monitoring network (RMN) wells during WY 2025, no minimum threshold exceedance for TDS or chloride were identified. Evaluation of the groundwater quality conditions relative to SMC is presented in Section 4.1.3.

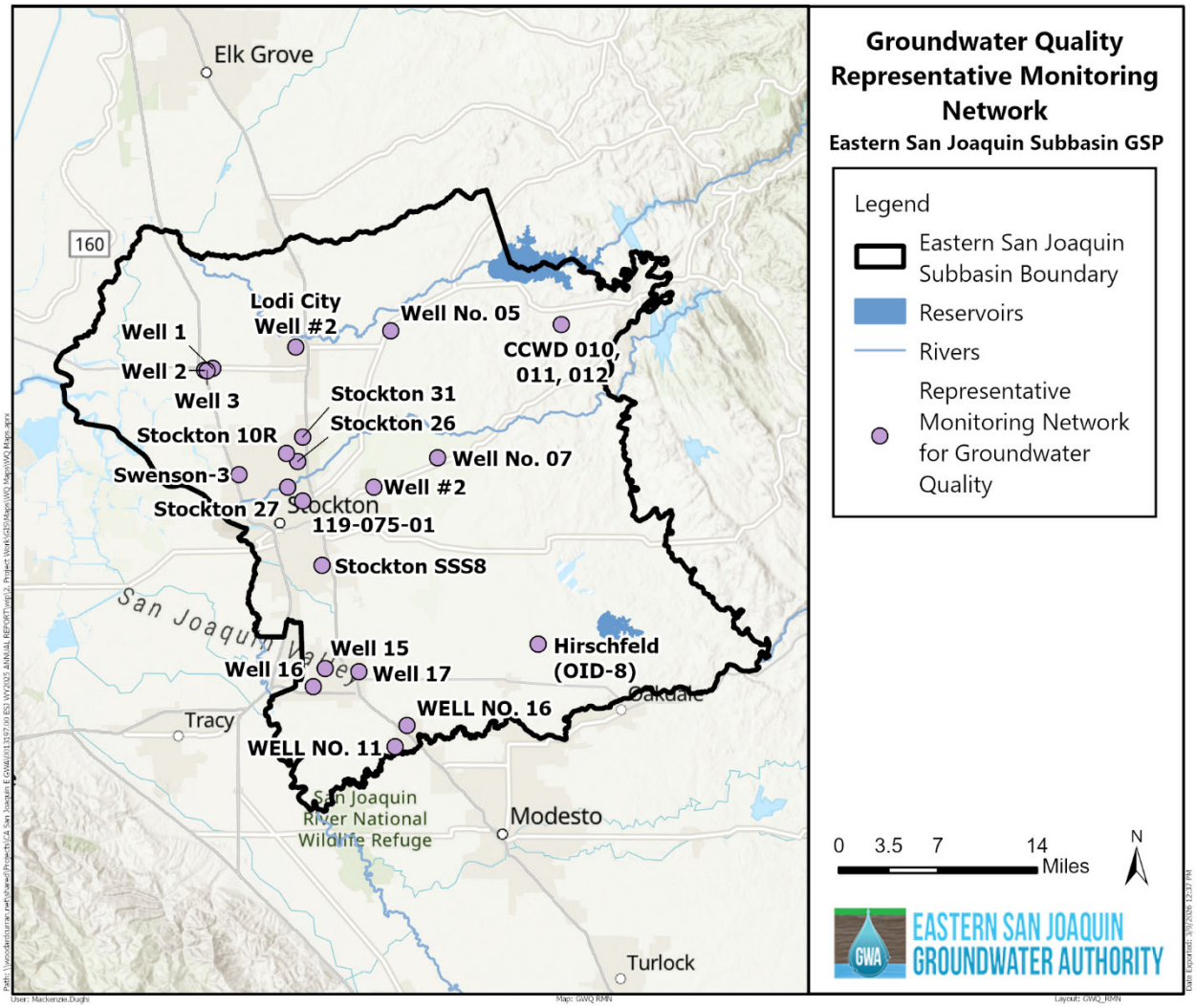

Figure 9. Groundwater Quality Representative Monitoring Well Locations

3.4.1 Total Dissolved Solids Measurements in Representative Monitoring Network Wells

During WY 2025, TDS measurements were reported for sixteen of the twenty representative monitoring wells included in the groundwater quality monitoring network defined in the 2024 GSP Amendment. Sampling conducted during WY 2025 reflects implementation of the expanded Representative Monitoring Network.

Figure 10 depicts representative monitoring wells for which TDS data were reported during WY 2025 and those for which no WY 2025 data were available. Reported TDS concentrations are summarized in **Table 8** No minimum threshold exceedances for TDS were identified during WY 2025. Formal evaluation of groundwater quality data relative to sustainable management criteria is provided in Section 4.1.3.

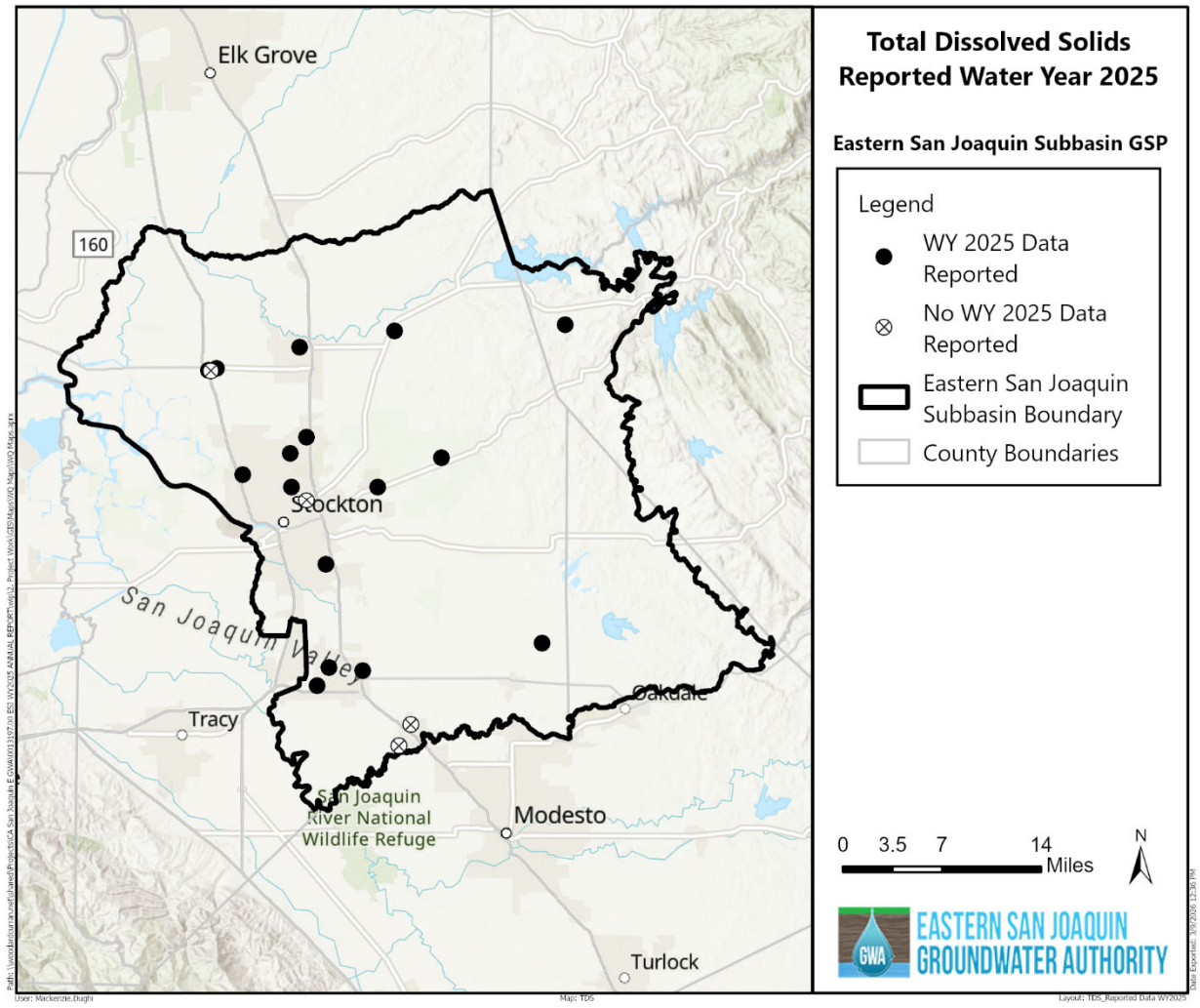

Figure 10. Water Year 2025 Total Dissolved Solids Measurements at Representative Monitoring Well Sites (2022 Revised GSP RMN)

3.4.2 Chloride Measurements in Representative Monitoring Network Wells

During WY 2025, chloride measurements were reported for fifteen of the twenty representative monitoring wells included in the groundwater quality monitoring network defined in the 2024 GSP Amendment. Sampling conducted during WY 2025 reflects implementation of the expanded Representative Monitoring Network.

Figure depicts representative monitoring wells for which chloride data were reported during WY 2025 and those for which no WY 2025 data were available. Reported chloride concentrations are summarized in **Table 9.** No minimum threshold exceedances for chloride were identified during WY 2025. Formal evaluation of groundwater quality data relative to sustainable management criteria is provided in Section 4.1.3.

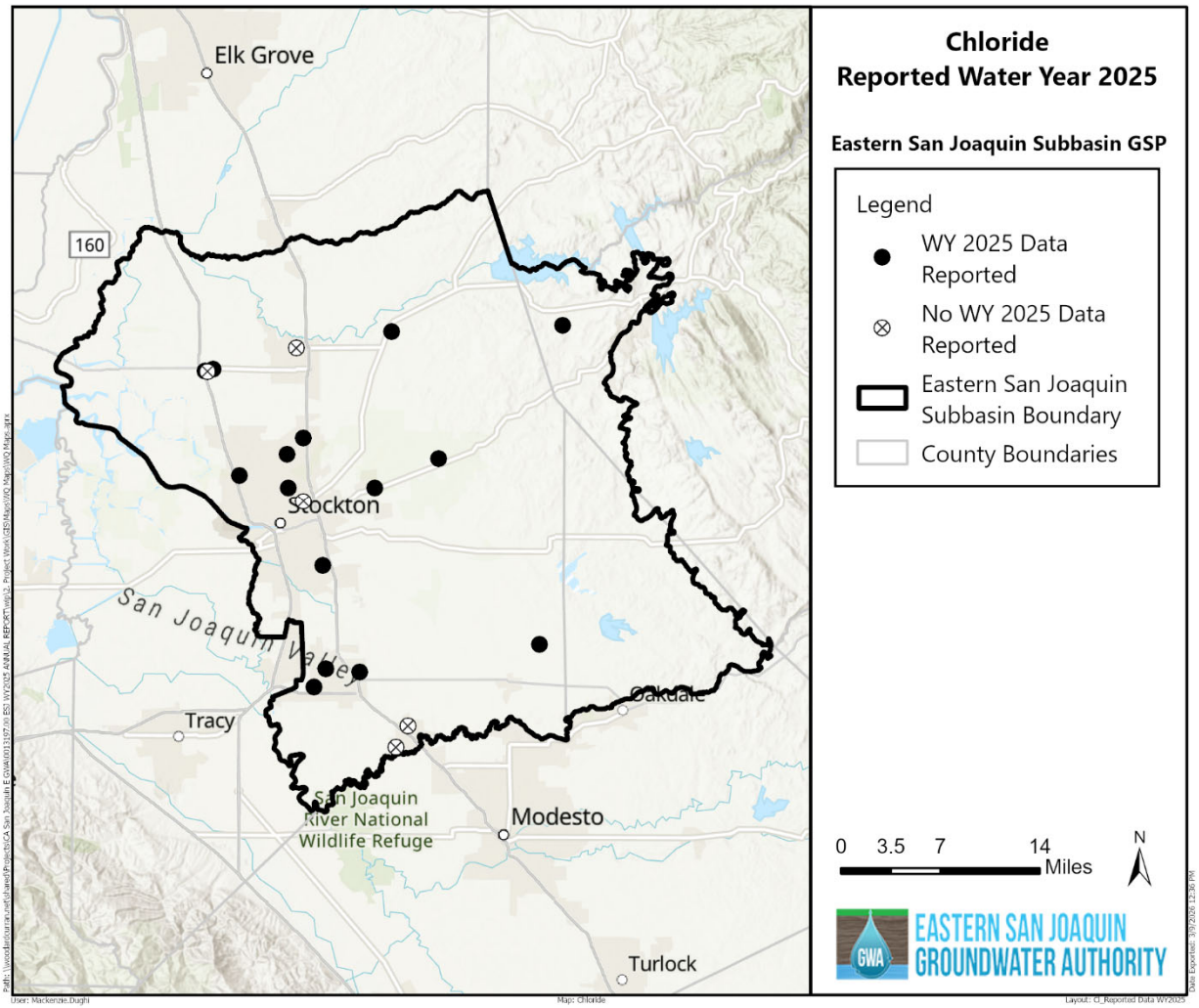

Figure 11. Water Year 2025 Chloride Measurements at Representative Monitoring Well Sites (2022 Revised GSP RMN)

3.4.3 Contaminated Sites

At the time of preparation of this annual report, 128 open or active point source contamination sites were identified within the Eastern San Joaquin Subbasin based on a GeoTracker query filtered to included only sites with an open or active case status (excluding closed cases). Of the identified sites, 56 sites have ongoing cleanup programs in progress, 35 sites are locations of leaking underground storage tanks (LUSTs), and 32 are land disposal sites. In addition, three sites are associated with military or Department of Defense cleanup activities, and one is a Superfund site on the National Priorities List and is undergoing remediation in the City of Stockton (SWRCB, GeoTracker, 2026). Because GeoTracker is updated continuously as site conditions change, this summary reflects a snapshot of currently open or active cases at the time of reporting.

3.4.4 Regional Groundwater Quality

The primary naturally occurring water quality constituents of concern in the Subbasin include salinity and arsenic, while constituents commonly associated with anthropogenic activities include nitrates, salinity, and localized point-source contaminants. According to the 2025 Aquifer Risk map, which evaluates the potential for groundwater to exceed primary drinking water standards, groundwater quality risk is highest along the western portion of the Subbasin, particularly in the southwestern area and around the cities of Stockton, Manteca, and Lodi. Nitrate and arsenic are designated as the highest category of risk in these areas. High-risk areas for arsenic are mostly concentrated right along the western Subbasin boundary, while high-risk areas for nitrate extends across much of the western half of the Subbasin (SWRCB, 2025).

3.4.5 Relationship Between Groundwater Levels and Groundwater Quality

As part of the 2024 GSP Amendment, the ESJGWA committed to conducting an annual evaluation of the relationship between groundwater levels and groundwater quality at wells included in both the representative monitoring network for groundwater levels and groundwater quality. Three wells were selected for this analysis: Swenson-3, Lodi City Well #2, and OID-8.

This analysis was completed for Lodi City Well #2 using available historical groundwater quality data from the GAMA program and recent groundwater level monitoring data, including measurements collected during WY 2025. Swenson-3 and OID-8 did not have sufficient overlapping groundwater quality and groundwater level data to support a meaningful statistical evaluation at the time this report was prepared. These wells will continue to be monitored and evaluated in future annual reports as additional data become available.

At Lodi City Well #2, statistical analysis of chloride concentrations and groundwater elevation indicates a moderate positive correlation when evaluated across the full historical dataset (Spearman $r = 0.54$, $p = 0.045$; $R^2 = 0.47$), as shown in **Figure 12a**. However, the time series comparison (**Figure 13**) indicates that in recent years chloride concentrations declined while groundwater elevations increased. This suggests that the observed statistical correlation is not consistently expressed through time and may reflect variability in historical conditions rather than a direct or persistent relationship between groundwater elevation and chloride concentrations. Lagged correlation analysis did not identify a stronger relationship when groundwater elevations from prior years are compared to chloride concentrations, indicating no clear delayed response between groundwater level changes and chloride concentrations (**Figure 12b**).

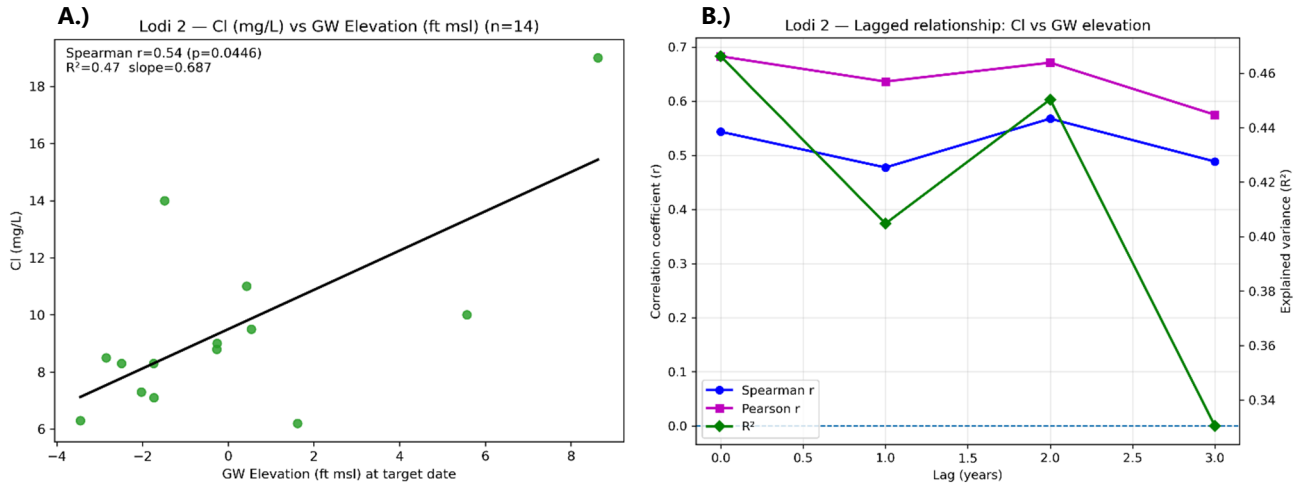

Figure 12 a.) Relationship Between Chloride Concentrations and Groundwater Elevation at Lodi City Well #2, and b.) Correlation Coefficients and Explained Variance Between Chloride Concentrations and Groundwater Elevation at Multiple Lag Intervals.

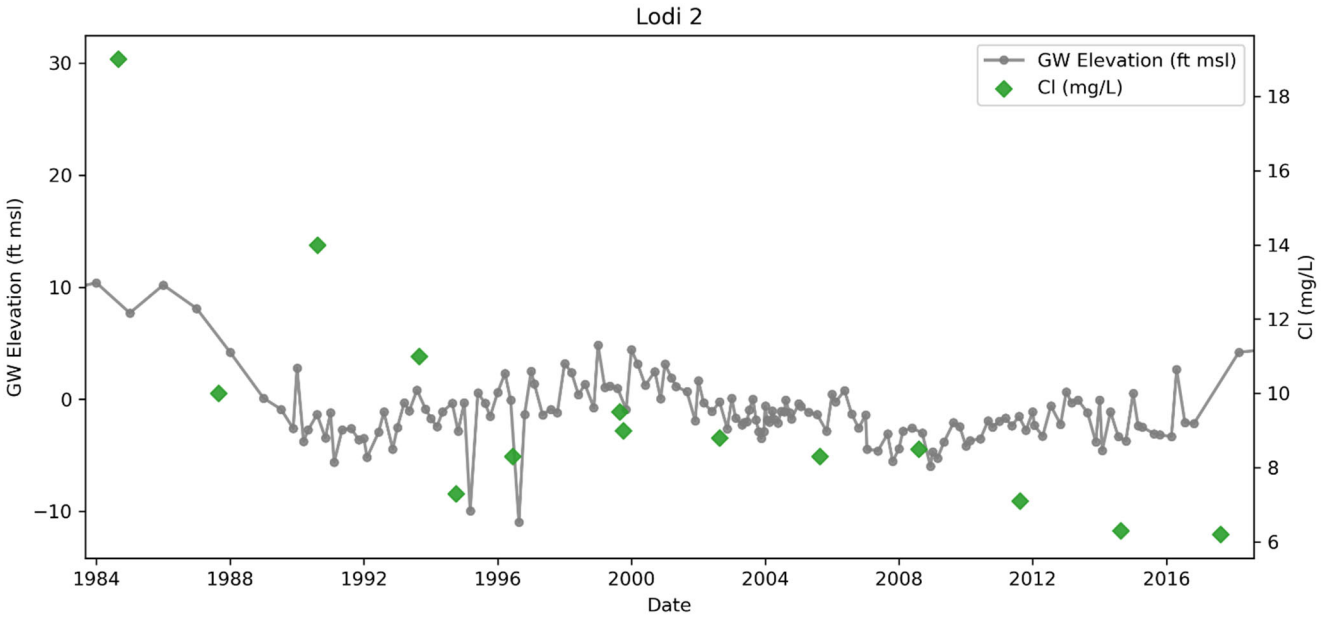

Figure 13. Time Series of Chloride Concentrations and Groundwater Elevation at Lodi City Well #2.

In contrast, TDS concentrations at Lodi City Well #2 show a weaker and statistically insignificant relationship with groundwater elevation (Spearman r = 0.30, p = 0.319; R^2 = 0.04) as shown in **Figure 14a**. The time series comparison indicates that TDS concentrations remained relatively stable while groundwater elevations fluctuated and increased in recent years (**Figure 15**). Lagged correlation analysis did not identify a stronger relationship at any

evaluated lag interval (**Figure 14b**), indicating no statistically significant or consistent relationship between groundwater elevation and TDS concentrations at this location.

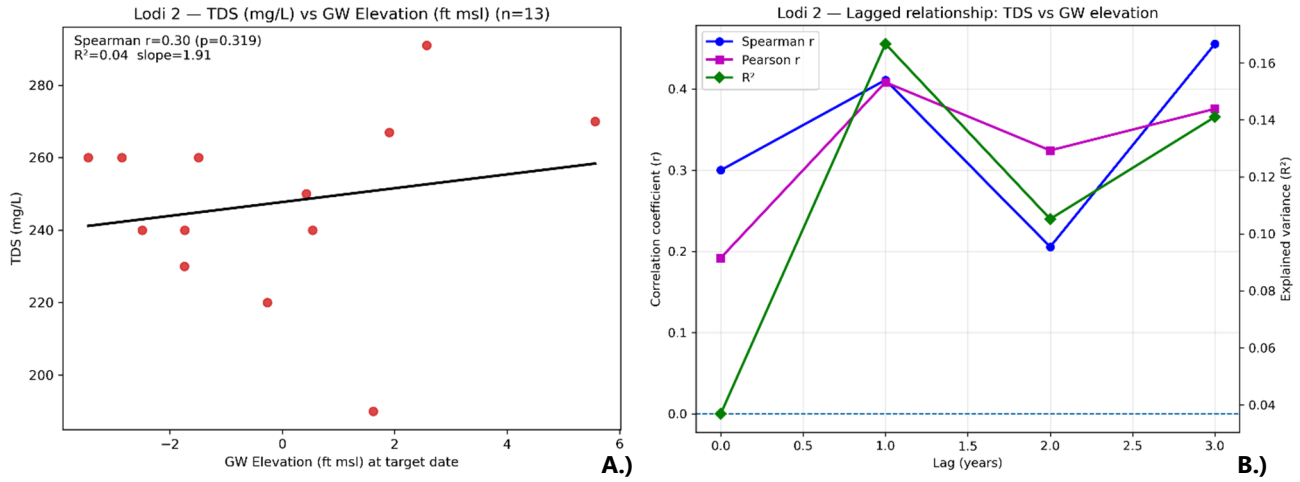

Figure 14 a.) Relationship Between Chloride Concentrations and Groundwater Elevation at Lodi City Well #2, and b.) Correlation Coefficients and Explained Variance Between Chloride Concentrations and Groundwater Elevation at Multiple Lag Intervals.

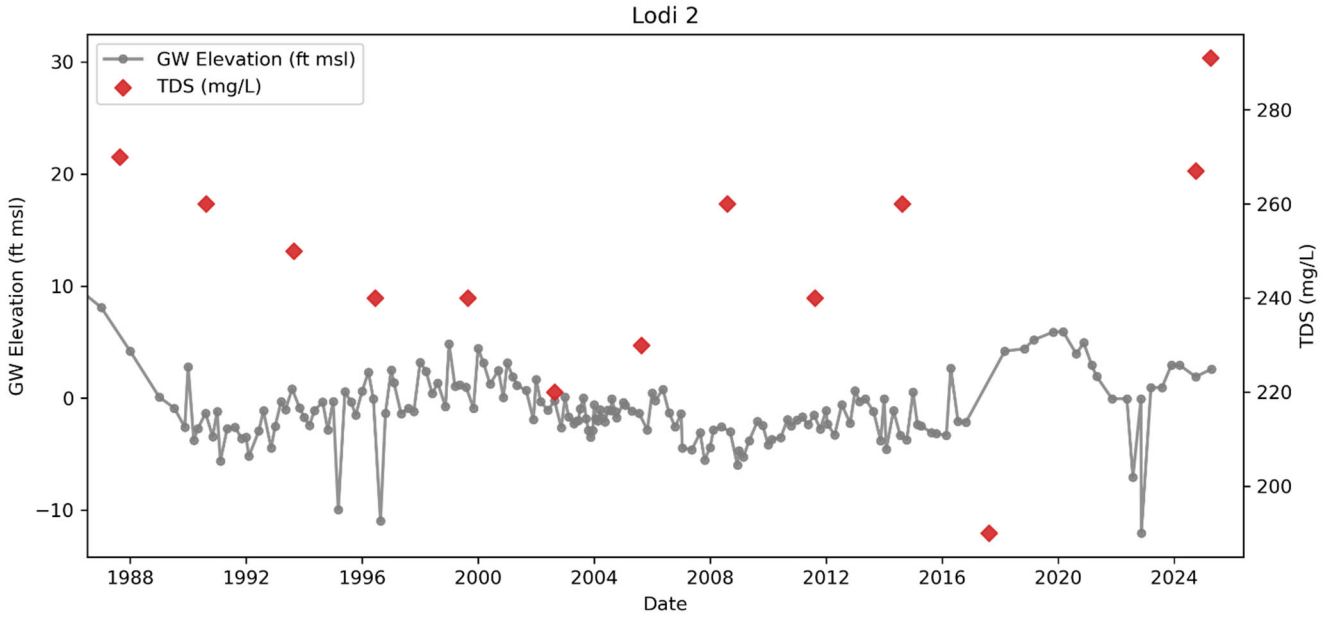

Figure 15. Time Series of Chloride Concentrations and Groundwater Elevation at Lodi City Well #2.

Overall, the results from Lodi City Well #2 indicate that while a moderate statistical correlation exists between groundwater elevation and chloride concentrations when evaluated across the full historical dataset, this relationship is not consistently observed through time and does not

indicate a persistent or systematic response of groundwater quality to groundwater level changes. Additionally, no statistically significant relationship was identified between groundwater elevations and TDS concentrations. Based on these findings, there is currently no clear evidence that recent groundwater level changes at this location have resulted in measurable degradation of groundwater quality. Continued data collection through the representative monitoring network will support future evaluation of these relationships as additional data become available.

3.5 SALTWATER MIGRATION

Sustainable management criteria were included for saltwater migration in the 2020 GSP and 2022 Revised GSP. However, in response to recommended corrective actions contained in DWR's 2023 Determination Letter, the Subbasin reevaluated the seawater intrusion as an applicable sustainability indicator. In coordination with DWR, the Subbasin GSAs determined that seawater intrusion is not an applicable sustainability indicator for the Subbasin because the Delta is managed as a freshwater body by the State, groundwater pumping near the Delta is limited, and chloride concentrations across the Subbasin remain relatively low. As a result, in the 2024 GSP Amendment, seawater intrusion was removed as a sustainability indicator and chloride was incorporated into the degradation of groundwater quality sustainability indicator as a constituent of concern.

Groundwater quality monitoring conducted during WY 2025 did not indicate conditions consistent with saltwater migration or seawater intrusion within the Subbasin. Any potential changes in salinity conditions will continue to be evaluated through the groundwater quality representative monitoring network and associated SMC. Monitoring results for chloride are presented in Section 3.4 and evaluated relative to SMC in Section 4.1.3. The status of saltwater migration as a sustainability indicator is discussed in Section 4.1.4.

3.6 LAND SUBSIDENCE

SGMA considers the impact of groundwater management actions on land subsidence through the land subsidence sustainability indicator. In the 2022 Revised GSP, the land subsidence sustainability indicator used the groundwater level sustainability indicator as a proxy. In the 2024 GSP Amendment, a new representative monitoring network was developed for subsidence, and SMC were established for each location. This monitoring network includes both Continuous GPS (CGPS) stations and survey benchmarks as shown in **Figure 16**.

CGPS stations collect data continuously, and the data are publicly available. Three CGPS subsidence monitoring stations (MTWK, P309, and CA1S) recorded data during WY 2025. Vertical displacement measured at these locations throughout WY 2025 are shown in **Figure 17**, **Figure 18,** and **Figure 19**. The MTWK station shows approximately 0.04 inches of subsidence during WY 2025, and the P309 station shows approximately 0.01 inches of subsidence. The CA1S station had data available for the final four months of WY 2025 and shows approximately 0.05

inches of uplift during that period. The fourth CGPS station included in the representative monitoring network, CMNC, did not have data for WY 2025; data from this station will be incorporated in future annual reports once available.

InSAR data released by DWR were also evaluated and are shown in **Figure 16**. The InSAR data indicate that subsidence occurred across much of the Subbasin during WY 2025, with most areas experiencing between approximately 0.01 and 0.1 feet (or between 0.12 and 1.2 inches) of subsidence, and localized areas of relatively greater subsidence identified in the central portion of the Subbasin. These areas will be further evaluated through continued implementation of the representative monitoring network, including survey benchmark monitoring.

Monitoring of the survey benchmark locations was planned to begin in WY 2025 as part of implementation of the subsidence representative monitoring network. Coordination of benchmark monitoring is ongoing under the Plan Administrator, and monitoring is anticipated to begin in WY 2026. Benchmark monitoring data will be incorporated into future annual reports once available.

Based on evaluation of CGPS and InSAR data, observed subsidence rates during WY 2025 remained substantially below the minimum threshold of 0.2 feet per year established in the GSP. A formal evaluation of subsidence conditions relative to SMC is provided in Section 4.1.5.

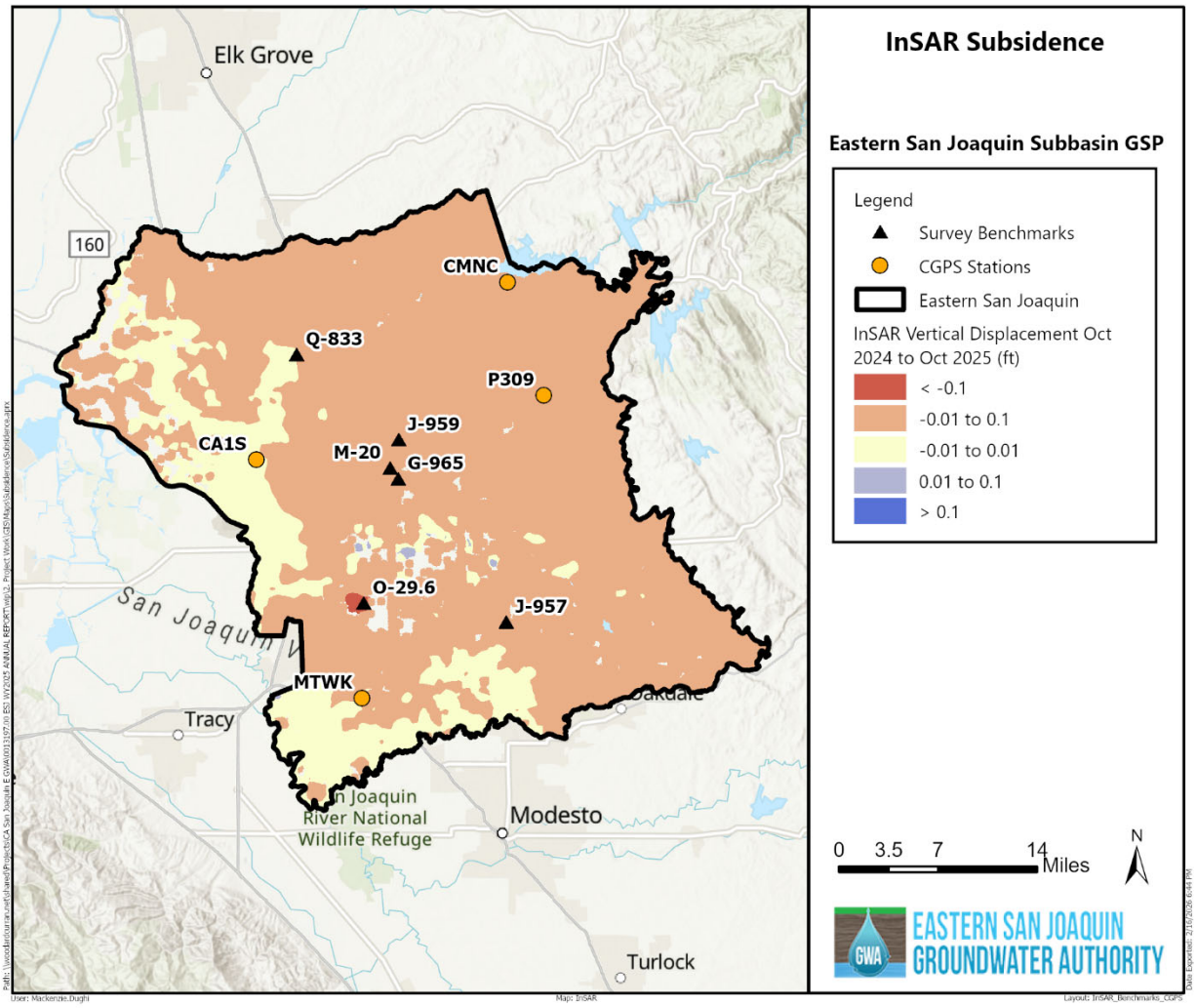

Figure 16. Water Year 2025 InSAR Vertical Displacement (October 2024 – October 2025)

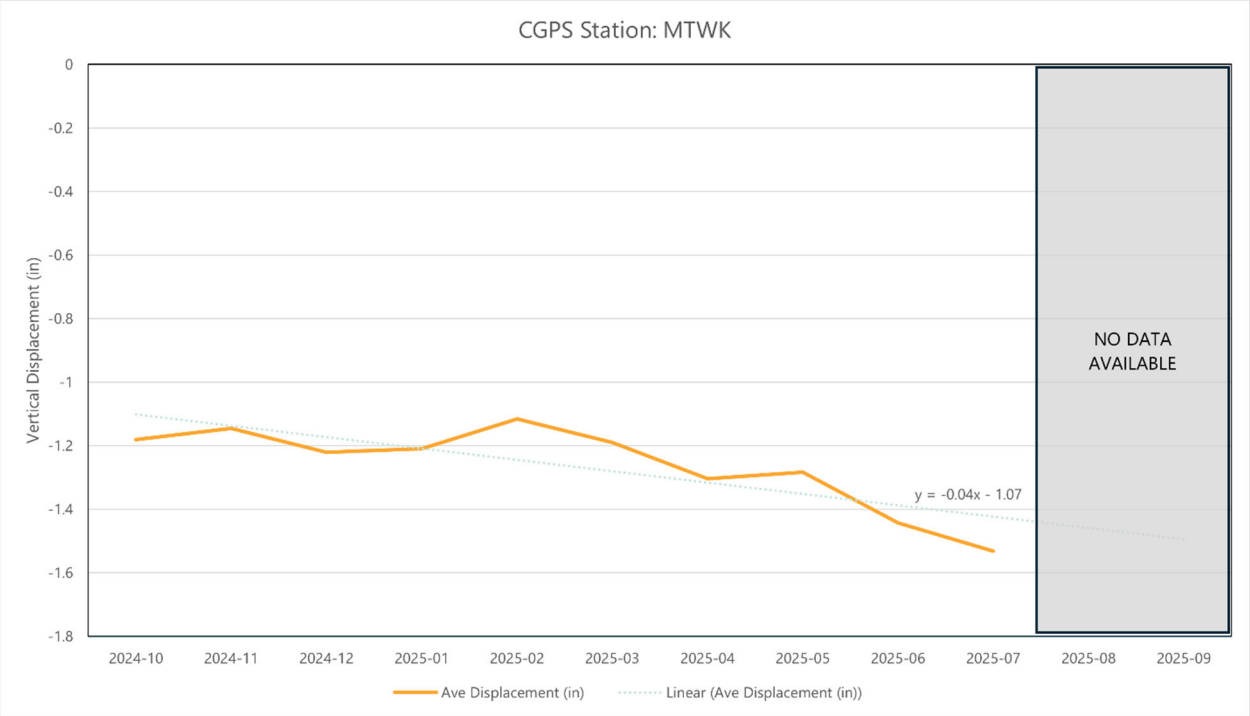

Figure 17. Vertical Displacement at CGPS Station MTWK in Water Year 2025

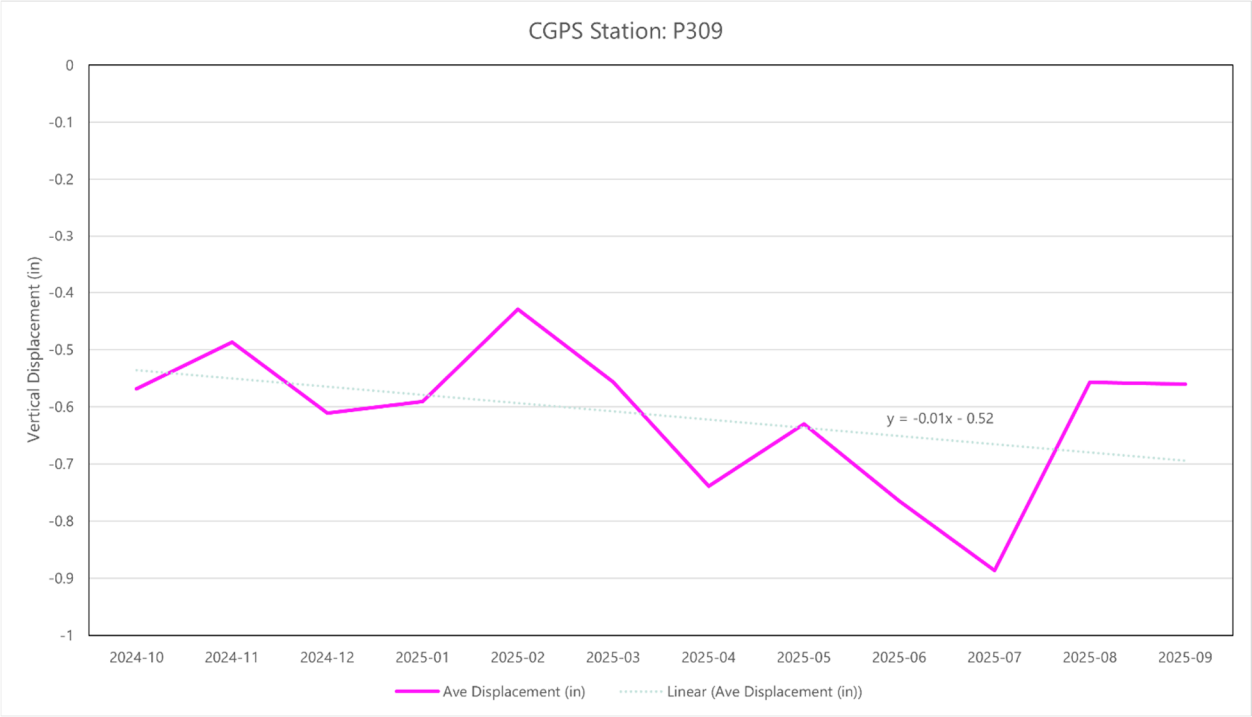

Figure 18. Vertical Displacement at CGPS Station P309 in Water Year 2025

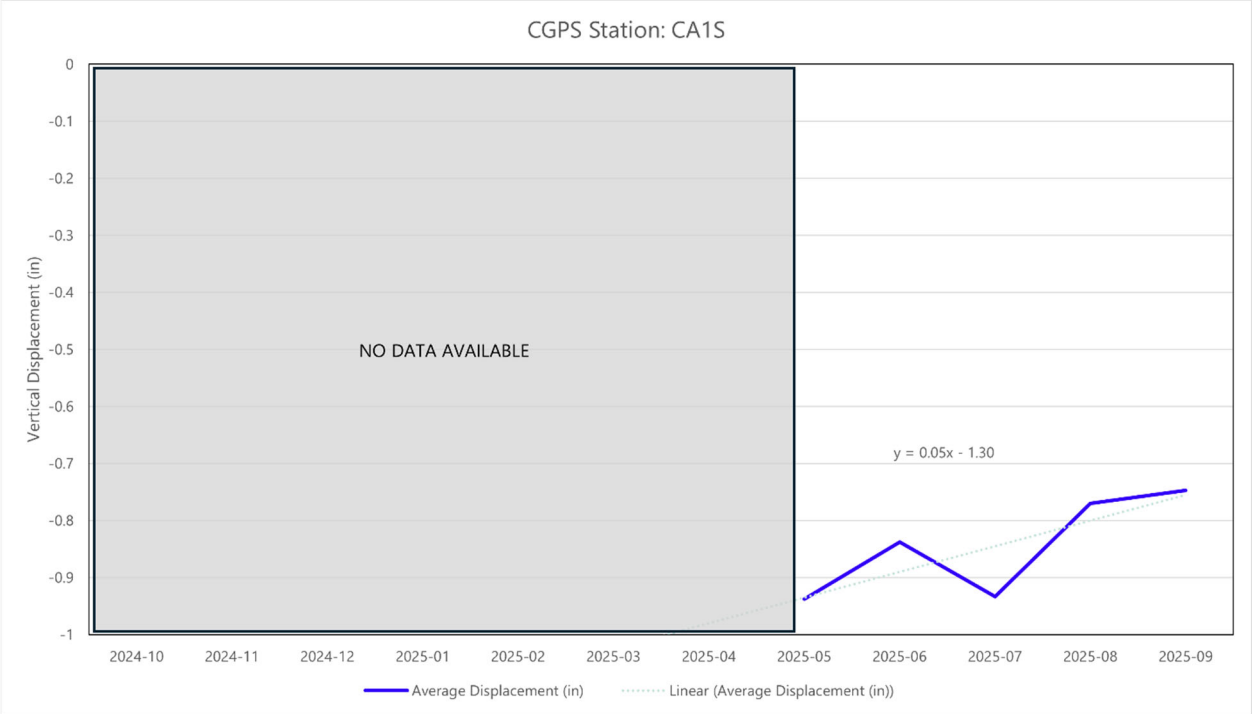

Figure 19. Vertical Displacement at CGPS Station CA1S in Water Year 2025

To provide longer-term context with SGMA implementation, **Figure 20** shows the full period of record available for each CGPS station with a vertical reference line indicating January 1, 2025. A linear regression was applied to post-2015 data to evaluate overall trends since SGMA implementation. Among the representative monitoring stations, P309 is the only location with data extending back to 2015 and therefore provides the most complete long-term indicator of post-2015 subsidence conditions. The post-2015 trend at P309 indicates an average rate of approximately -0.005 ft/year, well within the minimum threshold of -0.2 ft/year. The remaining stations have shorter or intermittent records, but available data do not indicate subsidence rates approaching established SMC.

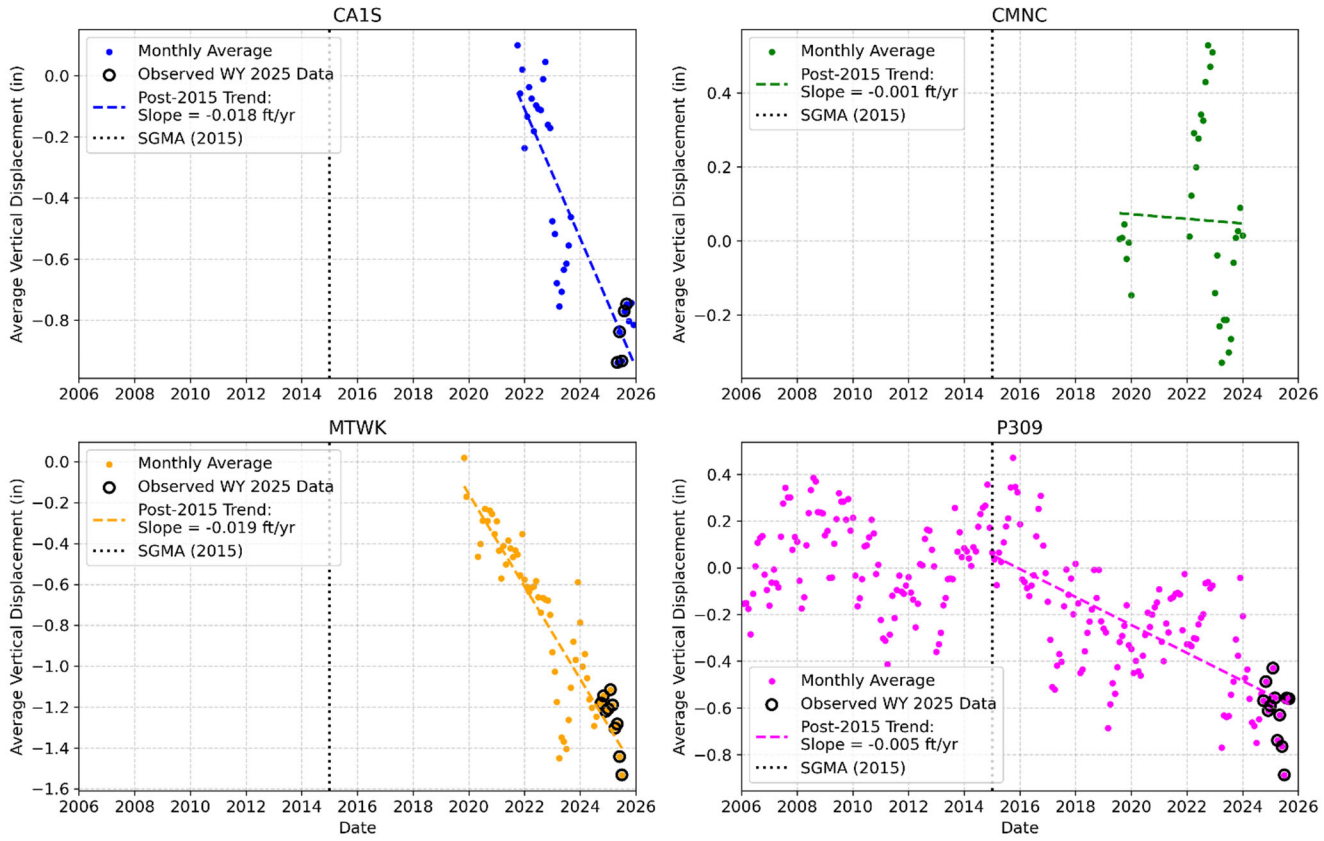

Figure 20. CGPS Vertical Displacement at Representative Monitoring Stations (Full Period of Record through WY 2025)

3.7 GROUNDWATER-SURFACE WATER INTERACTION

SGMA considers the impact of groundwater management actions on groundwater-surface water interactions through the depletion of interconnected surface water sustainability indicator. In the Subbasin's 2022 Revised GSP, this sustainability indicator used the groundwater level sustainability indicator as a proxy, and minimum thresholds for groundwater levels were considered protective of significant and unreasonable impacts to interconnected surface waters.

The 2024 GSP Amendment established a representative monitoring network (RMN) specific to this indicator. The RMN consists of a subset of wells from the chronic lowering of groundwater levels RMN and newly constructed shallow monitoring wells intended to address data gaps in areas of potential groundwater-surface water interaction. Monitoring at the newly constructed shallow wells has not yet commenced and is anticipated to begin in WY 2026. As sufficient groundwater elevation data are collected, site-specific SMC will be developed for these new wells and incorporated into future annual reports.

Minimum thresholds for the overlapping RMN wells are consistent with the groundwater levels sustainability indicator. Groundwater level data from wells with established minimum thresholds were evaluated for WY 2025. Monitoring data from newly constructed wells were not yet

available at the time of this report. Based on the SMC established for interconnected surface water RMN in the 2022 Revised GSP and maintained in the 2024 GSP Amendment, groundwater levels at ISW RMN wells did not fall below their established minimum thresholds during WY 2025; therefore, no significant and unreasonable impacts to interconnected surface waters were identified.

3.8 TOTAL WATER USE

The assessment below relies on information extracted from the ESJWRM. All references to ESJWRM in the section below refer to the Historical ESJWRM Version 3.0 with the time series extended through WY 2025, which is the version of ESJWRM updated for this report.

3.8.1 Groundwater Extraction

Groundwater pumping data are available only from a limited number of metered wells within the Eastern San Joaquin Subbasin, with the remainder of extraction information estimated using ESJWRM[3]. Metered data for WY 2025 are available from municipal water purveyors (Cal Water, City of Escalon, City of Lodi, City of Manteca, City of Stockton, LCSD, and SEWD). City of Manteca also provided metered data for park and landscape irrigation wells located within the city. OID and SSJID provided metered data from their district-owned agricultural wells. Remaining agricultural, private domestic, and other groundwater production in the Subbasin is largely unmetered and were estimated using the ESJWRM, which bases water use on crop type, hydrologic data (precipitation and evapotranspiration), irrigation efficiency, and population information. WY 2025 metered groundwater production data were not available from LCWD and City of Ripon and therefore was also estimated using the ESJWRM using the same approach.

Figure 21 shows the general location and volume of groundwater pumping within the Subbasin as estimated by ESJWRM element for WY 2025. Almost half of the Subbasin elements experience very little pumping, between 0.0 to 0.5 AF/acre, while areas with agriculture or municipal pumping wells have pumping ranging from 0.5 to approximately 10 AF/acre. Groundwater pumping increased slightly between WY 2024 and WY 2025 as above normal conditions in WY 2024 became below normal hydrologic conditions during WY 2025.

In WY 2025, total groundwater use in the Eastern San Joaquin Subbasin was estimated at 804,112 AF across all water use sectors, as shown in **Table 3**. As the estimated sustainable yield of the Eastern San Joaquin Subbasin is 704,000 AFY ± 10% over the long-term, pumping may exceed the sustainable yield during certain years, balanced by other years with reduced pumping so that the long-term average remains at or below the sustainable yield. The groundwater use simulated in ESJWRM over the last 16 years (WY 2010-2024) ranged from a

[3] A pilot project was undertaken in SEWD to test use of satellite technology to measure and quantify crop evapotranspiration. These measurements, in combination with known data on surface water deliveries, could provide a more direct measure of groundwater pumping for agricultural irrigation. The approach will be further evaluated and may be used along with modeling to quantify agricultural groundwater extractions in the future.

low of about 696,000 AF in WY 2010 (above normal year) to a high of about 916,000 AF in WY 2015 (critical year), with five of the 15 simulated years staying within the range of the sustainable yield due to two droughts occurring during the simulation period.

3.8.2 Surface Water Supply

Surface water delivery data were available from purveyors in the Subbasin and include deliveries for urban and industrial use (City of Lodi; Jenny Lind; City of Manteca; and City of Stockton, including Cal Water and unincorporated portions of San Joaquin County) and deliveries for agricultural use (CCWD, CSJWCD, NSJWCD, OID, SSJID, SEWD, and WID). The remaining surface water use is estimated in the ESJWRM and includes riparian diversions occurring in the CDWA, SDWA, and along major Subbasin rivers. Sources of surface water in the Subbasin include Calaveras River, Mokelumne River, San Joaquin River, and Stanislaus River. Surface water deliveries during WY 2025 are estimated to be 599,770 AF for the Eastern San Joaquin Subbasin (**Table 4**), with most of the surface water used between May and September.

Conjunctive use is the use of surface water in coordination with groundwater to allow the Subbasin to recharge and store additional water supply, either through in-lieu use or direct recharge. In-lieu recharge occurs for both agricultural and municipal purveyors wherever surface water is being delivered to offset groundwater that would have otherwise been used. Agencies conducting in-lieu recharge include Cal Water, CCWD, City of Escalon, City of Lodi, City of Manteca, City of Ripon, City of Stockton, CSJWCD, LCWD, NSJWCD, OID, SSJID, SEWD, and WID. While in-lieu recharge was not quantified separately in this report, estimates may be made in future annual reports.

Direct recharge projects exist in NSJWCD and SEWD service areas and recharged over 14,000 AF in WY 2025. These projects use water from the Calaveras River, Mokelumne River, and Stanislaus River, and include NSJWCD's Tracy Lake Groundwater Recharge Project; NSJWCD's Cal-Fed/Costa Recharge project; NSJWCD's Reynolds Recharge project; NSJWCD's Tecklenburg, Miller, and Bear Creek/Pixley Slough Recharge projects; and SEWD's Farmington Groundwater Recharge Program.

3.8.3 Total Water Use

Total water use is the sum of groundwater use and surface water use. Total water use during WY 2025 is estimated to be 1,403,882 AF for the Eastern San Joaquin Subbasin (**Table 5**). Groundwater pumping accounts for over 57% of total water use in the Subbasin, while surface water deliveries are a little less than 43% of total water use. A direct accounting comparison of total water use between WY 2025 and previous water years represented in Subbasin annual reports may not be representative of the specific water year hydrologic conditions. Furthermore, the ESJWRM model version used for analysis in this report (Historical ESJWRM Version 3.0 extended through WY 2025) is different from the model version used in previous annual reports and has slight changes to data in earlier water years which impacts total water use results.

Longer-term comparisons across multiple dry and multiple wet years show a more complete characterization of conditions within the basin.

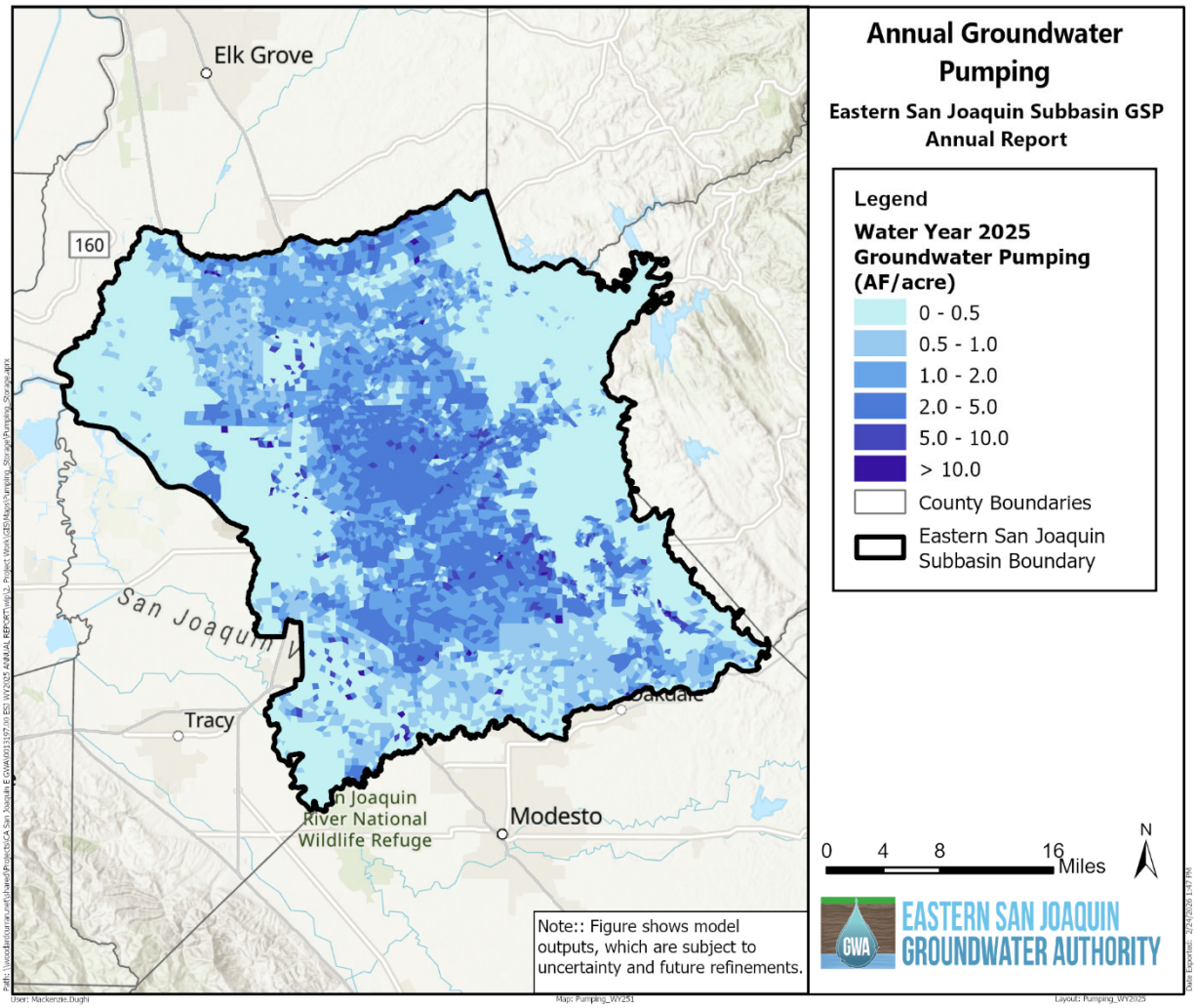

Figure 21. Eastern San Joaquin Subbasin WY 2025 Groundwater Extraction

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Table 3. Water Year 2025 Monthly Groundwater Extraction (in acre-feet)[4]

Month	Agricultural		Urban and Industrial		Total
	Agency Reported Values*	***Estimated Agricultural*****	***Agency Reported Values****	***Private Domestic*****	
Oct-24	303	94,200	1,675	2,600	98,779
Nov-24	0	2,600	938	1,900	5,438
Dec-24	0	3,300	907	1,600	5,807
Jan-25	0	4,100	952	1,600	6,652
Feb-25	6	18,500	1,439	1,400	21,345
Mar-25	64	13,900	1,651	1,800	17,415
Apr-25	532	80,500	2,413	2,300	85,745
May-25	680	124,600	2,303	3,400	130,984
Jun-25	789	121,900	2,759	3,900	129,348
Jul-25	699	86,100	2,346	4,500	93,645
Aug-25	482	112,800	2,247	4,400	119,929
Sep-25	347	83,100	1,878	3,700	89,026
Total	***3,903***	***745,600***	***21,510***	***33,100***	***804,112***
Measurement Accuracy	***High***	***Medium***	***High***	***Medium***	***-***

* Agency reported values for agriculture were collected for some of the agencies (Manteca and OID) that report pumping for either agricultural or landscape use.

** Additional groundwater pumping is estimated by the ESJWRM based on crop type, hydrologic data (precipitation and evapotranspiration), irrigation efficiency, and population information.

[4] Groundwater pumping estimated using ESJWRM assumes an uncertainty of +/- 20%. This uncertainty has been applied only to unmetered data, which have been rounded to indicate uncertainty. Metered data have been directly reported by the Subbasin GSAs.

Table 4. Water Year 2025 Monthly Surface Water Delivered for Use (in acre-feet)

Month	Agricultural		Urban and Industrial		
	Agency Reported Values*	***Estimated Riparian*** **	***Agency Reported Values***	***Estimated in ESJWRM***	**Total**
Oct-24	24,372	10,100	6,772	0	41,244
Nov-24	2,626	800	4,892	0	8,318
Dec-24	1,921	300	3,843	0	6,064
Jan-25	2,420	500	4,526	0	7,445
Feb-25	9,057	900	2,869	0	12,826
Mar-25	10,819	2,400	3,550	0	16,769
Apr-25	25,372	9,300	4,235	0	38,906
May-25	43,554	44,100	6,486	0	94,140
Jun-25	53,032	24,700	7,319	0	85,051
Jul-25	58,069	45,500	7,926	0	111,495
Aug-25	57,295	29,600	7,859	0	94,754
Sep-25	44,143	31,600	7,015	0	82,758
Total	***332,678***	***199,800***	***67,292***	***0***	***599,770***
Measurement Accuracy	***High***	***Medium***	***High***	***Medium***	**-**

* Agency reported values reflect deliveries to meet demand, which was based on evapotranspiration and land use.

** Estimated agricultural surface water deliveries include deliveries to Central Delta Water Authority, South Delta Water Authority, and riparian users along major streams.

Table 5. Water Year 2025 Monthly Total Water Use (in acre-feet)

Month	Agricultural						Urban and Industrial						Total
	Direct Measurement			Estimated in ESJWRM**			Direct Measurement			Estimated in ESJWRM**			
	Groundwater*	Surface Water	Total	Groundwater	Surface Water	Total	Groundwater	Surface Water	Total	Groundwater	Surface Water	Total	
Oct-24	303	24372	24,675	94,200	10,100	104,300	1,675	6,772	8,448	2,600	0	2,600	140,023
Nov-24	0	2626	2,626	2,600	800	3,400	938	4,892	5,830	1,900	0	1,900	13,756
Dec-24	0	1921	1,921	3,300	300	3,600	907	3,843	4,750	1,600	0	1,600	11,871
Jan-25	0	2420	2,420	4,100	500	4,600	952	4,526	5,478	1,600	0	1,600	14,097
Feb-25	6	9057	9,063	18,500	900	19,400	1,439	2,869	4,308	1,400	0	1,400	34,171
Mar-25	64	10819	10,883	13,900	2,400	16,300	1,651	3,550	5,201	1,800	0	1,800	34,184
Apr-25	532	25372	25,903	80,500	9,300	89,800	2,413	4,235	6,648	2,300	0	2,300	124,651
May-25	680	43554	44,234	124,600	44,100	168,700	2,303	6,486	8,789	3,400	0	3,400	225,123
Jun-25	789	53032	53,821	121,900	24,700	146,600	2,759	7,319	10,079	3,900	0	3,900	214,399
Jul-25	699	58069	58,768	86,100	45,500	131,600	2,346	7,926	10,272	4,500	0	4,500	205,140
Aug-25	482	57295	57,777	112,800	29,600	142,400	2,247	7,859	10,106	4,400	0	4,400	214,684
Sep-25	347	44143	44,490	83,100	31,600	114,700	1,878	7,015	8,893	3,700	0	3,700	171,784
Total	***3,903***	***332,678***	***336,581***	***745,600***	***199,800***	***945,400***	***21,510***	***67,292***	***88,802***	***33,100***	***0***	***33,100***	***1,403,882***
Measurement Accuracy	***High***	***High***	***High***	***Medium***	***Medium***	***Medium***	***High***	***High***	***High***	***Medium***	***Medium***	***Medium***	***-***

* Agency reported values for agriculture was collected for some of the agencies (Manteca and OID) that report pumping for either agricultural or landscape use.

** Includes estimated agricultural groundwater use, estimated private domestic groundwater use, and estimated riparian surface water use. See previous tables for further details.

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3.8.4 Eastern San Joaquin Water Resources Model Update

The ESJWRM numerical flow model was originally developed and calibrated to model historical groundwater storage from water years 1996-2015. The *Eastern San Joaquin Water Resources Model Final Report* provides detailed documentation on the original development of the Historical ESJWRM Version 1.1 model (Woodard & Curran, 2018). The model has been updated annually to include the recent Water Year data as part of the annual report preparation to reflect more recent data. In 2021, the ESJWRM was updated to Historical ESJWRM Version 2.0 and calibrated for the entire period of record from 1996-2020. Updates to the model are described in *Eastern San Joaquin Water Resources Model Version 2.0 Update* (Woodard & Curran, 2022). In late 2022, the monthly agricultural demand distribution for ESJWRM was updated in select areas of the groundwater subbasin, causing slight changes to water budget numbers, but minimal differences to overall model calibration; this version of ESJWRM is called Historical ESJWRM Version 2.2. In 2024, the Historical ESJWRM Version 3.0 was the result of model updates performed as part of the GSP Amendment and Periodic Evaluation. The version of ESJWRM used for this report was Historical ESJWRM Version 3.0 with the time series extended though WY 2025. Data for WY 2025 were collected from the same public and private sources that had provided the historical data used in the most recent model update. As a result of the model extension, a new historical water budget was generated including updated estimates of change in groundwater storage. The full annual groundwater budget for water years 1996-2025 is shown earlier in **Figure 5**.

Data Sources

Data were requested and received from the following entities in the Subbasin to complete the ESJWRM update through WY 2025.

Agricultural Water Purveyors

- Calaveras County Water District
- Central San Joaquin Water Conservation District
- North San Joaquin Water Conservation District
- Oakdale Irrigation District
- South San Joaquin Irrigation District
- Stockton East Water District
- Woodbridge Irrigation District

Municipal Water Purveyors

- California Water Service Company Stockton District
- City of Escalon
- City of Lodi
- City of Manteca
- City of Ripon

- City of Stockton
- Lockeford Community Services District
- Stockton East Water District

Data were not received from Linden County Water District or the City of Ripon for the WY 2024 model update. The following additional publicly available data were downloaded to complete the ESJWRM update:

State

- California Department of Finance population estimates

Federal

- United States Geological Survey (USGS) stream flows[5]
- United States Army Corps of Engineers reservoir releases[6]

Other

- Precipitation-Elevation Regressions on Independent Slopes Model (PRISM) Climate Group, Oregon State University

Updated Components

The above data sources provided the necessary data to allow the historical model to reflect recent conditions. The following components of the model were updated:

Surface Water Diversions and Deliveries: Monthly surface water diversions and deliveries were provided for October 1, 2024 through September 30, 2025 for urban and industrial use and agricultural use as described in Section 3.8.2. Remaining riparian diversions occurring in CDWA, SDWA, and along major rivers were estimated based on agricultural demands estimated in ESJWRM.

Groundwater Pumping: Groundwater extraction data from October 1, 2024, through September 30, 2025 were provided by most municipal water purveyors as described in Section 3.8.1. Pumping estimates were made in ESJWRM based on land use type and population, and for private agriculture wells, domestic wells, and municipal wells from water purveyors that did not have metered extraction.

Population: California Department of Finance estimates (E-4 Population Estimates for Cities, Counties, and the State, 2021-2025, with 2020 Benchmark) were downloaded to update annual populations for 2025 (State of California, 2025). Rural populations in Historical ESJWRM Version 3.0 were updated to rely on Census Tract data, which allowed ESJWRM to more accurately

[5] New Melones Reservoir flows are monitored at a USGS gauge downstream on the Stanislaus River below Goodwin Dam near Knights Ferry, CA.
[6] Reservoir release for New Hogan Reservoir on the Calaveras River.

pinpoint where urban demand was occurring within the model. These populations were extended through WY 2025 using a consistent growth rate based on recent historical data.

Land Use: Each element within the ESJWRM is comprised of some fraction of 27 land uses, including 23 agricultural crop categories, native vegetation, water surface, riparian vegetation, and urban landscape. For WY 2025, the model utilizes data from DWR's 2022 Statewide Crop Mapping which provides data on urban and irrigated land throughout the model domain on a parcel scale (DWR, 2022). The 2023 and 2024 Statewide Crop Mapping are available on provisional statuses, but it was not possible to incorporate these data into the model during this report cycle.

Precipitation: Rainfall data for the model area are derived from the PRISM (Precipitation-Elevation Regressions on Independent Slopes Model) database used in DWR's CALSIMETAW (California Simulation of Evapotranspiration of Applied Water) model. The database contains daily precipitation data from October 1, 1921 on a four-kilometer grid throughout the model area. ESJWRM has monthly rainfall data defined for every model element in order to preserve the spatial distribution of the monthly rainfall. Each of the model elements was mapped to the nearest of 364 available PRISM reference nodes, uniformly distributed across the model domain. The PRISM dataset is available online from Oregon State University through a partnership with the NRCS National Water and Climate Center (Oregon State University, 2025).

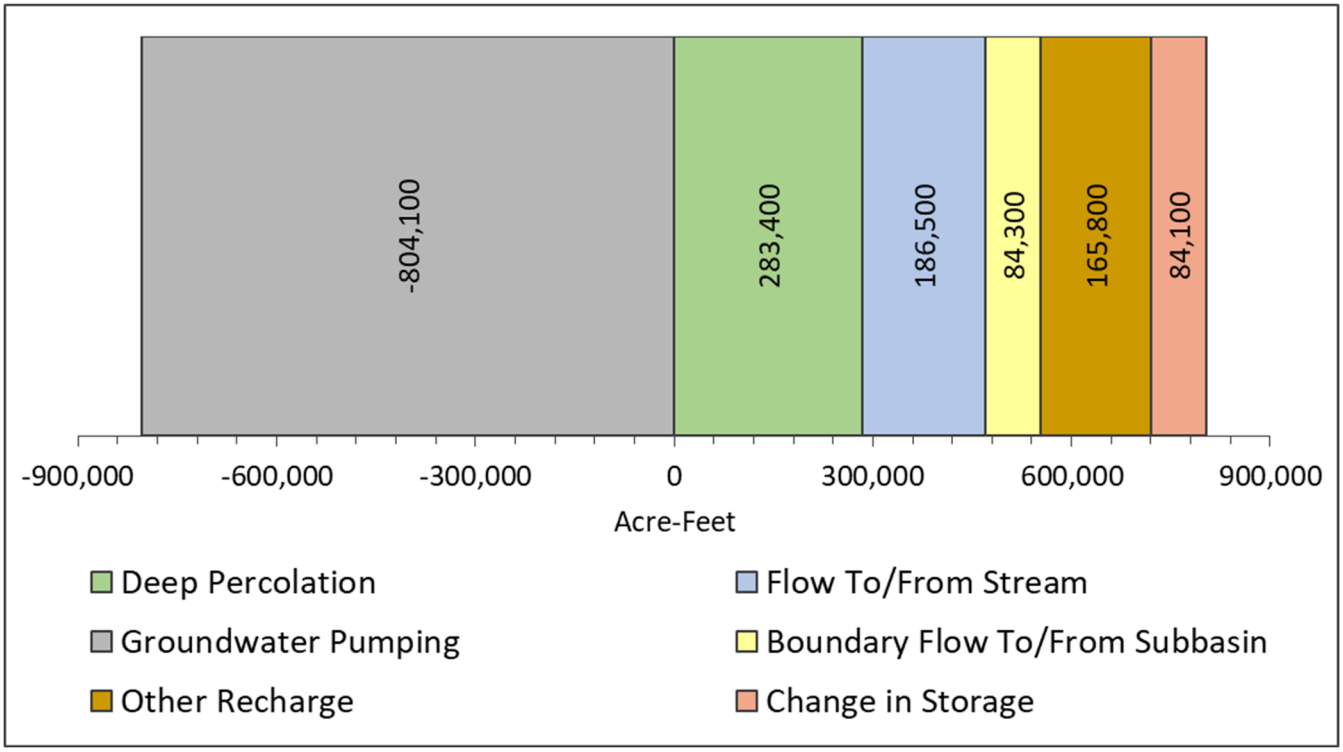
Streamflow: Monthly inflow to the Eastern San Joaquin Subbasin was updated for Dry Creek, Mokelumne River, Calaveras River, Stanislaus River, and San Joaquin River. Sources of data included USGS (USGS, 2026) and United States Army Corps of Engineers (US Army Corps of Engineers, 2026). Non-gauged tributaries into the Subbasin were estimated internally by the model using the Integrated Water Flow Model (IWFM) small-watershed package.

Boundary Conditions: Averages of historical model data by water year type were used to update the assumed groundwater elevation boundary conditions in the model.

Results:

Evaluation of WY 2025 (**Figure 22**) shows that the Eastern San Joaquin Subbasin experienced, on an average and net basis, 720,000 AF of inflows and 804,100 AF of outflow, leading to an annual decrease of groundwater in storage of 84,100 AF. Deep percolation from the root zone is the largest contributor of groundwater inflow (283,400 AFY), followed by recharge from streams (186,500 AFY); recharge from managed aquifer projects, unlined canals or reservoirs, and ungauged watersheds (165,800 AFY); and boundary flows from surrounding groundwater subbasins (84,300 AFY). Groundwater production (804,100 AFY) accounts for the greatest outflow from the Eastern San Joaquin Subbasin. **Table 6** compares these values against those from WY 2024 as provided in the WY 2024 annual report. Note that the WY 2024 water budget developed using the version of the model used for this annual report (Historical ESJWRM Version 3.0 extended through WY 2025) may disagree with the WY 2024 annual report water

budget. Data in previous water years is updated in the model as provisional data is finalized or agencies provide actual data for information that was previously estimated.



Notes:

1. "Other Recharge" includes managed aquifer recharge, recharge from unlined canals and/or reservoirs, and recharge from ungauged watersheds.
2. "Change in Storage" is placed to balance the water budget. For instance, if annual outflows (-) are greater than inflows (+), there is a decrease in storage, but this would be shown on the positive side of the bar chart to balance out the increased outflows on the negative side of the bar chart.

Figure 22. WY 2025 Average Annual Estimated Groundwater Budget, Eastern San Joaquin Subbasin

Table 6. Comparison of WY 2024 and WY 2025 Water Budget (in acre-feet)

Water Budget Element	WY 2024	WY 2025
Water Year Type	Above Normal	Below Normal
Deep Percolation	289,400	283,400
Other Recharge	169,800	165,800
Flow to/from Stream	207,700	186,500
Boundary Flow to/from Subbasin	77,600	84,300
Groundwater Pumping	-799,500	804,100
Change in Storage	55,000	84,100

Note: a negative Change in Storage value reflects an increase in the amount of water added to the Subbasin.

4. PROGRESS TOWARD IMPLEMENTATION

Throughout the GSP development process, measurable objectives, interim milestones, and minimum thresholds for applicable sustainability indicators, as well as projects and management actions, were identified to aid in maintaining sustainable conditions throughout the Subbasin. Implementation progress of projects, management actions, and adaptive management activities are detailed in **Appendix A**.

As part of the 2024 GSP Amendment, SMC were updated in response to the recommended corrective actions contained in DWR's 2023 Determination Letter. Two new wells were added to the representative monitoring network for groundwater levels, and ten new wells were added to the representative monitoring network for groundwater quality. In the 2022 Revised GSP, groundwater levels were used as a proxy for reduction in groundwater storage, land subsidence, and depletion of interconnected surface water. The 2024 GSP Amendment established representative monitoring networks and SMC for land subsidence and depletions of interconnected surface water. The 2024 GSP Amendment also determined that seawater intrusion is not an applicable sustainability indicator for the Subbasin. Chloride was incorporated into the degradation of groundwater quality sustainability indicator as a constituent of concern, and chloride monitoring results are evaluated as part of the groundwater quality RMN. The updated ESJWRM Version 3.0 model was used to quantify recent changes in groundwater storage, as described in Section 3.3. Based on available monitoring data and evaluation of SMC, Subbasin conditions during WY 2025 remained within the range of necessary to support groundwater management.

Implementation of expanded monitoring networks established in the 2024 GSP Amendment is ongoing, including coordination of monitoring at new groundwater quality, land subsidence, and interconnected surface water monitoring locations. Monitoring data collected to date support continued evaluation of SMC and adaptive management of Subbasin conditions.

4.1 CURRENT CONDITIONS FOR EACH SUSTAINABILITY INDICATOR

4.1.1 Groundwater Levels

An analysis was performed to determine conditions relative to established thresholds (including interim milestones for 2025, measurable objectives, and minimum thresholds) during WY 2025 for the chronic lowering of groundwater levels sustainability indicator (**Table 7**). Of the 23 representative monitoring network wells, 19 wells reported groundwater levels for Fall 2024 (seasonal low) and 18 wells reported groundwater levels for Spring 2025 (seasonal high). Several wells were temporarily inaccessible during one or both monitoring events and therefore could not be measured (**Table 7**). Groundwater levels at these wells will be reported in future annual reports.

Two new wells were added to the groundwater level representative monitoring network as part of the 2024 GSP Amendment, NSJWCD-01 and SEWD-01. These wells did not have sufficient

historical data to develop SMC in the 2024 GSP Amendment; therefore, interim milestones, measurable objectives, and minimum thresholds remain to be established. Groundwater levels for these wells will continue to be reported in annual reports until a future GSP establishes SMC and a full SMC comparison analysis can be prepared.

Overall, groundwater levels across representative monitoring wells continued to fluctuate seasonally, with lower levels observed during Fall 2024 and higher levels observed during Spring 2025. During Fall 2024, two representative wells (01S09E05H002 and 01S10E04C001M) reported groundwater levels below their respective minimum thresholds. These wells rebounded above the minimum thresholds by Spring 2025. As specified by the SMC in the 2024 GSP Amendment, an undesirable result occurs when at least 25% of monitoring wells fall below minimum thresholds for two consecutive years. The temporary exceedances observed during WY 2025 affected fewer than 25% of representative monitoring wells and did not persist for two consecutive years; therefore, no undesirable results occurred for the chronic lowering of groundwater levels sustainability indicator during WY 2025.

Across the representative monitoring network wells with established sustainable management criteria and available data, groundwater levels remained an average of approximately 7.3 feet below interim milestones, 8.6 feet below the measurable objectives, and 22.6 feet above minimum thresholds during Fall 2024. By Spring 2025, groundwater levels recovered to an average of approximately 0.1 feet above interim milestones, 0.1 feet below the measurable objectives and 31.3 feet above minimum thresholds. These results demonstrate seasonal groundwater level recovery across the Subbasin and indicate that groundwater levels remained substantially above minimum thresholds and generally consistent with the sustainability trajectory defined by interim milestones.

Hydrographs with historical data at each of the 23 representative monitoring network wells are included in **Appendix B**.

Table 7. Chronic Lowering of Groundwater Levels Threshold Analysis

Well ID	CASGEM ID	Interim Milestone (2025)	Measurable Objective	Minimum Threshold	Fall 2024 (Seasonal Low)	Difference between Fall 2024 (ft msl)			Spring 2025 (Seasonal High)	Difference between Spring 2025 (ft msl)		
		(ft msl)	(ft msl)	(ft msl)	(ft msl)	Interim Milestone (2025)	Measurable Objective	Minimum Threshold	(ft msl)	Interim Milestone (2025)	Measurable Objective	Minimum Threshold
01S09E05H002	378824N1210000W001	-8.7	-8.6	-49.8	-56.7	-48.0	-48.1	-6.9	-26.7	-18.0	-18.1	23.1
01N07E14J002	379316N1211665W001	-49.9	-49.9	-93.9	-66.9	-17.0	-17.0	27.0	-40.4	9.5	9.5	53.5
Lodi City Well #2	Not Part of CASGEM Program	0.6	0.6	-34.4	1.9	1.3	1.3	36.3	2.6	2.0	2.0	37.0
Manteca 18	Not Part of CASGEM Program	9.1	2.8	-19	42.0	32.9	39.2	61.0	51.0	41.9	48.2	70.0
Swenson-3	380067N1213458W003	-19.3	-19.3	-26.6	-11.3	8.0	8.0	15.3	-10.0	9.3	9.3	16.6
01S10E26J001M	378163N1208321W001	81.7	81.7	43.7	75.6	-6.1	-6.1	31.9	78.4	-3.3	-3.3	34.7
02N08E15M002	380206N1210943W001	-63.2	-63.2	-124.1	**	--	--	--	**	--	--	--
#3 Bear Creek	Not Part of CASGEM Program	-49.3	-51.8	-73.8	-63.3	-14.0	-11.5	10.5	-55.8	-6.5	-4.0	18.0
04N07E20H003M	381843N1212261W001	-35.5	-35.5	-80.5	-37.7	-2.2	-2.2	42.8	-29.8	5.7	5.7	50.7
03N07E21L003	380909N1212153W001	-51.5	-51.5	-94	-52.1	-0.6	-0.6	41.9	-51.6	-0.1	-0.1	42.4
Hirschfeld (OID-8)	Not Part of CASGEM Program	31.5	31.5	7.9	27.5	-4.0	-4.0	19.6	31.0	-0.5	-0.5	23.1
Burnett (OID-4)	377909N1208675W001	79.7	79.7	60.8	73.6	-6.1	-6.1	12.8	78.5	-1.2	-1.2	17.7
02S07E31N001	377136N1212508W001	13.8	12.3	0.8	16.4	2.6	4.1	15.6	15.9	2.1	3.6	15.1
02S08E08A001	377810N1211142W001	22.2	24	0.6	**	--	--	--	**	--	--	--
02N07E03D001	380578N1212017W001	-61.7	-61.7	-113.7	-67.7	-6.0	-6.0	46.0	-56.7	5.0	5.0	57.0
01N09E05J001	379661N1210011W001	-20.2	-22.6	-86.8	-55.2	-35.0	-32.6	31.6	-33.2	-13.0	-10.6	53.6
02N07E29B001	379976N1212308W001	-49.8	-80.4	-130.1	**	--	--	--	**	--	--	--
04N05E36H003	381559N1213727W001	-5.1	-5.1	-31.1	-0.1	5.0	5.0	31.0	4.1	9.2	9.2	35.2
03N06E05N003	381317N1213524W001	-14.1	-14.1	-35.1	-19.1	-5.0	-5.0	16.0	-0.6	13.5	13.5	34.5
04N05E24J004	381816N1213723W001	-6.2	-6.2	-31.2	4.3	10.5	10.5	35.5	5.8	12.0	12.0	37.0
01S10E04C001M	378846N1208816W001	--	76.4	54.7	32.8	--	-43.6	-21.9	56.4	--	-20.0	1.7
New Wells Added as Part of 2024 GSP Amendment												
NSJWCD-01	382345N1212261W001 - 06	TBD	TBD	TBD	**	--	--	--	**	--	--	--
SEWD-01	379794N1211083W001 - 05	TBD	TBD	TBD	-68.2	--	--	--	*	--	--	--

* Groundwater level data for WY 2024 unavailable.

** Well temporarily inaccessible. No measurement was taken.

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4.1.2 Groundwater Storage

The 2022 Revised GSP and the 2024 GSP Amendment use groundwater level minimum thresholds, measurable objectives, and interim milestones as a proxy for the reduction in groundwater storage sustainability indicator. An analysis to determine conditions relative to established thresholds (including interim milestones for 2025, measurable objectives, and minimum thresholds) during WY 2025 for the chronic lowering of groundwater levels sustainability indicator is described in Section 3.2. The ESJWRM was updated to estimate the changes in groundwater storage during WY 2025, as described in Section 3.3.

4.1.3 Groundwater Quality

An analysis was performed to evaluate groundwater quality conditions relative to established sustainable management criteria (including interim milestones, measurable objectives, and minimum thresholds) for the degradation of groundwater quality sustainability indicator during WY 2025 (**Table 8** and **Table 9**). As part of the 2024 GSP Amendment, the representative monitoring network for groundwater quality was expanded from 10 to 20 wells to address spatial data gaps and improve monitoring coverage across the Subbasin. Groundwater quality sampling conducted during WY 2025 included both Fall 2024 and Spring 2025 monitoring events.

TDS concentrations were evaluated relative to interim milestones, measurable objectives, and minimum thresholds established in the 2024 GSP Amendment (**Table 8**). TDS concentrations remained below minimum thresholds at all representative monitoring wells sampled during WY 2025. TDS concentrations were generally below measurable objectives and interim milestones, indicating groundwater quality conditions remained within the range defined as sustainable under the GSP.

Several wells were not sampled during one or both seasonal monitoring periods due to temporary access limitations, well maintenance, or logistical constraints. These wells will continue to be monitored in future reporting periods as part of the ongoing implementation of the representative monitoring network. Newly added wells generally reported TDS concentrations below minimum thresholds and measurable objectives where data were available, providing additional spatial coverage and supporting continued evaluation of groundwater quality conditions.

Chloride concentrations were also evaluated relative to established sustainable management criteria (**Table 9**). Chloride was added as a constituent of concern under the degradation of groundwater quality sustainability indicator as part of the 2024 GSP Amendment, replacing its previous consideration under the seawater intrusion indicator.

Chloride concentrations remained below minimum thresholds at all representative monitoring wells sampled during WY 2025. Most wells also reported concentrations below their interim milestones and measurable objectives. While a small number of wells reported chloride

concentrations slightly above interim milestones, concentrations remained well below minimum thresholds and did not indicate conditions approaching undesirable results.

Similar to TDS, several wells were not sampled during one or both monitoring periods due to access limitations or operational constraints. These wells will continue to be monitored in accordance with the representative monitoring network requirements.

Based on an evaluation of TDS and chloride concentrations relative to established SMC, no minimum threshold exceedances occurred during WY 2025. Groundwater quality conditions across the representative monitoring network remained consistent with sustainable groundwater management objectives. Continued implementation of the expanded monitoring network will support ongoing evaluation of groundwater quality trends.

As part of implementation of the 2024 GSP Amendment, an evaluation of the relationship between groundwater levels and groundwater quality was conducted at wells with overlapping monitoring data. Of the wells included in both the groundwater level and groundwater quality representative monitoring networks, Lodi City Well #2 was the only location with sufficient overlapping groundwater level and groundwater quality data to support statistical evaluation during WY 2025. Results from Lodi City Well #2 indicate no statistically significant or persistent relationship between groundwater elevation and TDS concentrations, and no consistent relationship between groundwater elevation and chloride concentrations. Continued monitoring will support future evaluation of groundwater level and groundwater quality interactions.

Table 8. Degraded Water Quality Threshold Analysis: Total Dissolved Solids

Well ID	CASGEM ID	GAMA Well ID	Interim Milestone (2025)	Measurable Objective	Minimum Threshold	Fall 2024 (Seasonal Low)	Spring 2025 (Seasonal High)
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Well 1	381154N1213818W001	CA3901248_001_001	484	600	1000	440	*
Well 2	381131N1213920W001	CA3901248_002_002	576	600	1000	590	*
Well 3	381130N1213887W001		540	600	1000	***	*
119-075-01	01N/07E-18D01M	CA3910001_063_063	420	600	1000	**	**
Well 15	378089N1212325W001	CA3910005_015_015	383	600	1000	320	270
Well 16	377904N1212476W001	CA3910005_016_016	338	600	1000	270	260
Well 17	378059N1211878W001	CA3910005_028_028	379	600	1000	390	330
Stockton 27			199	600	1000	190	***
Stockton SSS8	379146N1212401W001	CA3910012_089_089	398	600	1000	340	350[1]
Stockton 31		CA3910012_094_094	376	600	1000	380	***
Stockton 10R	380292N1212843W001	CA3910012_100_100	443	600	1000	380	***
New Wells Added as Part of 2024 GSP Amendment							
Well No. 05		CA3910008_005_005	320	600	1000	230	180
Well No. 07		CA3910019_007_007	280	600	1000	180	130
Well #2		CA3900755_002_002	392	600	1000	***	340[1]
WELL NO. 11		CA3910007_012_012	608	600	1000	***	***
WELL NO. 16		CA3910007_026_026	585	600	1000	***	***
Swenson-3	380067N1213458W003		TBD	600	1000	410	210
Lodi City Well #2		CA3910004_003_003	293	600	1000	***	291
Hirschfeld (OID-8)			300	600	1000	200	203
CCWD 010			TBD	600	1000	210	190
CCWD 011			TBD	600	1000	230	180
CCWD 012			TBD	600	1000	240	290

* Groundwater quality data unavailable.

** Well is temporarily offline due to pump and motor maintenance. Expected to be back online by end of WY 2026.

*** Attempt was made to sample well, but it was unsuccessful due to property access issues or inability to contact authorizing agency.

[1] Median reported for seasonal periods with 3 or more samples, otherwise maximum reported.

Table 9. Degraded Water Quality Threshold Analysis: Chloride

Well ID	CASGEM ID	GAMA Well ID	Interim Milestone (2025)	Measurable Objective	Minimum Threshold	Fall 2024 (Seasonal Low)	Spring 2025 (Seasonal High)
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Well 1	381154N1213818W001	CA3901248_001_001	35	36	250	36	*
Well 2	381131N1213920W001	CA3901248_002_002	73	73	250	74	*
Well 3	381130N1213887W001		35	36	250	***	*
119-075-01	01N/07E-18D01M	CA3910001_063_063	27	30	250	**	**
Well 15	378089N1212325W001	CA3910005_015_015	16	17	250	18	16
Well 16	377904N1212476W001	CA3910005_016_016	14	16	250	14	15
Well 17	378059N1211878W001	CA3910005_028_028	16	17	250	28	27
Stockton 27			14	26	250	9	***
Stockton SSS8	379146N1212401W001	CA3910012_089_089	39	41	250	35	34[1]
Stockton 31		CA3910012_094_094	33	51	250	27	***
Stockton 10R	380292N1212843W001	CA3910012_100_100	19	20	250	20	***
New Wells Added as Part of 2024 GSP Amendment							
Well No. 05		CA3910008_005_005	15	17	250	14	4
Well No. 07		CA3910019_007_007	4	3.8	250	3	4
Well #2		CA3900755_002_002	20	33	250	***	23[1]
WELL NO. 11		CA3910007_012_012	77	83	250	***	***
WELL NO. 16		CA3910007_026_026	77	83	250	***	***
Swenson-3	380067N1213458W003		100	100	250	61	35
Lodi City Well #2		CA3910004_003_003	6	6.2	250	***	*
Hirschfeld (OID-8)			12	12	250	12	12.7
CCWD 010			TBD	TBD	250	16	7
CCWD 011			TBD	TBD	250	16	15
CCWD 012			TBD	TBD	250	48	50

* Groundwater quality data unavailable.

** Well is temporarily offline due to pump and motor maintenance. Expected to be back online by end of WY 2026.

*** Attempt was made to sample well, but it was unsuccessful due to property access issues or inability to contact authorizing agency.

[1] Median reported for seasonal periods with 3 or more samples, otherwise maximum reported.

4.1.4 Saltwater Migration

In the 2024 GSP Amendment, the Subbasin GSAs determined that seawater intrusion is not an applicable sustainability indicator for the Subbasin and formally removed it from the SMC framework. As a result, minimum thresholds, measurable objectives, and interim milestones are no longer established or evaluated for saltwater migration.

Chloride was added as a constituent of concern under the degradation of groundwater quality sustainability indicator to provide continued monitoring for potential saline migration or degradation of groundwater quality. Progress toward implementation of chloride monitoring and evaluation relative to established SMC is described in Section 4.1.3.

4.1.5 Land Subsidence

The 2024 GSP Amendment established a representative monitoring network and SMC specific to the land subsidence sustainability indicator. The network consists of four Continuous GPS stations and six survey benchmarks (

Table 10). Measurement of the survey benchmarks is ongoing and results will be reported in future annual reports as additional survey data become available.

Subsidence conditions were evaluated relative to the interim milestone for 2025 (-0.1 ft/year), measurable objective (0 ft/year, long-term average), and the minimum threshold of -0.2 ft/year (no more than 0.2 ft/year of subsidence) in the most recent five-year period. For the CGPS stations, average vertical displacement rates were calculated using linear regression of monthly average displacement over the most recent five-year period available at each station. Negative values indicate downward vertical displacement (subsidence).

All CGPS stations with available data reported average vertical displacement rates well under the minimum threshold. Calculated rates ranged from approximately -0.02 ft/year to near zero ft/year. These rates are well substantially less negative than the minimum threshold of -0.2 ft/year and indicate that subsidence conditions remain stable and consistent across the Subbasin.

Data availability varies among stations. Some CGPS stations include intermittent data gaps within the evaluation period; however, available data do not indicate subsidence rates approaching interim milestones or minimum thresholds. Where a five-year dataset was not available, rates were calculated using the most recent available record and are noted accordingly in

Table 10**.** Based on evaluation of the representative monitoring network during WY 2025, no locations exceeded their interim milestone or minimum threshold for land subsidence.

Table 10. Subsidence Threshold Analysis

Location ID	Type	Interim Milestone (2025)	Measurable Objective	Minimum Threshold	Average Vertical Displacement Over Most Recent 5-year Period
		(ft/yr)	(ft/yr)	(ft)	(ft)
CA1S[1]	CGPS	-0.1	0	-0.2 ft/year in any 5-year period	-0.02
CMNC[2]	CGPS	-0.1	0	-0.2 ft/year in any 5-year period	-0.0005
MTWK[3]	CGPS	-0.1	0	-0.2 ft/year in any 5-year period	-0.02
P309	CGPS	-0.1	0	-0.2 ft/year in any 5-year period	-0.009
Q-833	Survey Benchmark	-0.1	0	-0.2 ft/year in any 5-year period	Surveys to begin in WY 2026.
J-956	Survey Benchmark	-0.1	0	-0.2 ft/year in any 5-year period	
G-965	Survey Benchmark	-0.1	0	-0.2 ft/year in any 5-year period	
M-20	Survey Benchmark	-0.1	0	-0.2 ft/year in any 5-year period	
O-29.6	Survey Benchmark	-0.1	0	-0.2 ft/year in any 5-year period	
J-957	Survey Benchmark	-0.1	0	-0.2 ft/year in any 5-year period	

[1] Rate calculated using available CGPS data between 10/2021 and 12/2025; data gap occurred 9/2023 and 5/2025.

[2] Rate calculated using available CGPS data between 8/2019 and 1/2024; data gap occurred 1/2020 and 2/2022. Data unavailable after 1/2024.

[3] Rate calculated using available CGPS data between 7/2020 and 7/2025; data unavailable after 7/2025.

4.1.6 Groundwater-Surface Water Interaction

The 2022 Revised GSP used groundwater level minimum thresholds, measurable objectives, and interim milestones as a proxy for the depletions of interconnected surface water sustainability indicator. An analysis of conditions relative to established groundwater level thresholds (including interim milestones for 2025, measurable objectives, and minimum thresholds) during WY 2025 is described in Section 4.1.1.

In the 2024 GSP Amendment, a representative monitoring network and SMC specific to depletions of interconnected surface water were established. The network includes six wells that overlap with the groundwater level representative network and six recently constructed wells (**Table 11**). SMC have not yet been developed for the newly constructed wells due to insufficient groundwater level data; therefore, evaluation during WY 2025 is limited to wells with established minimum thresholds.

Table 11 presents seasonal low (Fall 2024) and a seasonal high (Spring 2025) groundwater level measurement collected during WY 2025. All evaluated wells remained above their respective minimum thresholds during both monitoring periods. One location, 02S08E08A001, did not have WY 2025 data because the well was temporarily inaccessible. Based on the evaluation of available WY 2025 data, no undesirable results related to depletions of interconnected surface water were identified.

Table 11. Depletions of Interconnected Surface Water Threshold Analysis

Well ID	CASGEM ID	Interim Milestone (2025)	Measurable Objective	Minimum Threshold	Fall 2024 (Seasonal Low)	Spring 2025 (Seasonal High)
		(ft msl)	(ft msl)	(ft msl)	(ft msl)	(ft msl)
Well A		New wells – Monitoring to begin in WY 2026. SMC to be developed once sufficient data is collected.				
Well B						
Well C						
Well E						
Well G						
Delta Well						
04N05E36H003	381559N1213727W001	-5.1	-5.1	-31.1	-0.1	4.1
Swenson-3	380067N1213458W003	-19.3	-19.3	-26.6	-11.3	-10
Frankenheimer (01S10E26J001M)	378163N1208321W001	81.7	81.7	43.7	75.6	78.4
Burnett (OID-4)	377909N1208675W001	79.7	79.7	60.8	73.6	78.5
02S07E31N001	377136N1212508W001	13.8	12.3	0.8	16.4	15.9
02S08E08A001	377810N1211142W001	22.2	24	0.6	**	**

** Well temporarily inaccessible. No measurement was taken.

4.2 PROJECTS AND MANAGEMENT ACTIONS

Progress on each of the projects and management actions identified in the 2020 GSP, 2022 Revised GSP, and the 2024 GSP Amendment is included in **Appendix A**. Details regarding project types, implementation status, and incorporation into the ESJWRM, are described in Section 2.2.7.

Following delays during WY 2020 and 2021 as a result of COVID-19, more progress has been made on project development and implementation during WY 2025.

A call for projects was completed as part of the 2024 GSP Amendment development during WY 2024. As a result, additional projects were added to the master list. The 2024 GSP Amendment includes 48 projects. It remains the priority of the ESJGWA to implement projects that increase supply in order to reach sustainable conditions. However, a demand management program

continues to be developed by the ESJGWA to be used as a backstop if there are delays in project implementation or if the expected benefits are not realized by 2040.

In addition to project implementation, GSAs and member agencies have continued to implement local demand management actions within their respective service areas to reduce groundwater demand. These actions include measures such as landscape irrigation restrictions, conservation programs, and improvements in water use efficiency. Since completion and submittal of the 2024 GSP Amendment, the following projects and management actions have been added to the master list of PMAs:

- South Stockton Well Rehabilitation Program (City of Stockton)
- City of Stockton Phase 1: Groundwater Recharge Project (City of Stockton)
- Mokelumne River Loss Study (North San Joaquin Water Conservation District)
- Wallace-Burson Conjunctive Use Program (Calaveras County Water District)
- Calaveras River Wholesale Water Service Expansion (Calaveras County Water District)
- AMI Replacement and Conversion (Calaveras County Water District)
- Groundwater Monitoring Plan (North San Joaquin Water Conservation District)
- Recycled Water to Manteca Golf Course (City of Manteca)
- West Groundwater Recharge Basin (Stockton East Water District)
- Threfall Ranch Reservoir, In-Lieu and Direct Recharge Project (Stanislaus County SMWC)
- NSJWCD Private Pump Partnerships (North San Joaquin Water Conservation District)
- Advanced Metering Infrastructure (City of Stockton)
- Perfecting Mokelumne River Water Right (San Joaquin County)
- North System Groundwater Recharge Project – Phase 2 (North San Joaquin Water Conservation District)
- Stormwater Collection, Treatment, and Infiltration (City of Manteca)
- Off-Stream Regulating Reservoir (Stockton East Water District)
- On-Farm Recharge Project (Stockton East Water District)
- Bellota Weir Modifications Project (Stockton East Water District)
- West Linden Project (Stockton East Water District)
- Water Supply Enhancement Project - Direct Recharge (Stockton East Water District)
- Water Supply Enhancement Project - Distribution Pipelines (Stockton East Water District)

- Oakdale Irrigation District In-lieu and Direct Recharge Project (Oakdale Irrigation District)
- Water Treatment Plant Aquifer Storage Recovery Well – 7401 (Stockton East Water District)
- Beckman Well (Stockton East Water District)
- Tom Allen Recharge Project (Stockton East Water District)
- Q/Qc Conjunctive Use Project (South San Joaquin Irrigation District)
- SSJID Advanced Metering Infrastructure Project (South San Joaquin Irrigation District)
- Re-Connection to District Service (South San Joaquin Irrigation District)
- Mariposa Drain Water Delivery Improvement Project (Central San Joaquin Water Conservation District)
- Avena Drain Improvement Project (Central San Joaquin Water Conservation District)
- Cady Ranch Calaveras River Diversion, In-lieu and Direct Recharge Project (Stockton East Water District and Cady Ranch)
- LCSD has restricted landscape irrigation and implemented other actions to reduce water demand within landscape irrigation and implemented other actions to reduce water demand with its jurisdiction.
- GSAs within the ESJ Subbasin are preparing Urban Water Management Plans and Agricultural Water Management Plans, as appropriate. These plans include demand management measures, such as water waste prevention ordinances, metering, conservation programming, and support for efficient water management practices to reduce demands for groundwater.
- The Subbasin has developed and is implementing a domestic well mitigation program.
- The Subbasin is currently developing a Demand Management Program that will serve as a backstop that can be activated if projects fall short of meeting expected supply-side targets.

All projects and management actions listed in **Appendix A** are expected to be completed during the period as denoted in the column "Schedule (initiation and completion)."

One project, the BNSF Railway Company Intermodal Facility Recharge Pond (Category B), is anticipated to be removed in a future update due to proponent liability concerns identified during legal review.

All remaining projects listed in **Appendix A** are considered to still be relevant and feasible, and updated implementation schedules and status descriptions are provided.

During WY 2025, notable implementation milestones included:

- Continued expansion of SEWD's Surface Water Implementation Expansion program, including additional conversions to surface water and infrastructure development to support in-lieu recharge.
- Completion of Phase 3 of the NSJWCD South System Modernization project.
- Completion of Phase 1A, 1B, and 1C of the NSJWCD North System Modernization/Lakso Recharge project, including operation of the 80-acre Lakso Recharge Basin.
- Advancement of the Bellota Weir Modifications Project to construction
- Completion of the Water Treatment Plant Aquifer Storage Recovery Well – 7401 project.
- Initiation of planning efforts for the Mariposa Drain and Avena Drain Improvement Projects.

For all the listed PMAs, the GSAs have taken several steps to notify the public and interested parties, including:

- Public Outreach: Posting up-to-date information on websites and social media platforms, improving website accessibility and outreach materials, providing flyers and display tables available at various celebrations and workshops, establishing communication and outreach committees, and conducting project-specific outreach events.
- Newsletters: Sending bi-annual newsletters to landowners that highlight water conditions, project updates, and SGMA efforts.
- Presentations: Conducting regular presentations at Board, Committee, interest group, and community forum meetings.
- Public Comment Periods: Noticing public comment periods when environmental impact reports are posted.
- Site Visits: Conducting site visits at project sites for interested parties.

Consistent with the 2024 GSP Amendment, a Demand Management Program continues to be developed as a potential backstop if supply-side projects do not achieve groundwater offset targets.

Additionally, a Dry Domestic Well Mitigation Program, approved by the GWA Board in September 2024, remains in place to provide emergency, interim, and financial mitigation for domestic water supply wells that have been determined to have failed due to groundwater overdraft conditions occurring since January 1, 2015.

4.3 PROGRESS MADE ON ADDRESSING RECOMMENDED CORRECTIVE ACTIONS

Recommended corrective actions were included by DWR in their July 6, 2023 *Approved Determination of the Revised Groundwater Sustainability Plan Submitted for the San Joaquin*

Valley – Eastern San Joaquin Subbasin. DWR's Determination Letter included eight (8) Recommended Corrective Actions; these are summarized as follows:

- Corrective Action 1 - Justify GWL MT and Undesirable Results
- Corrective Action 2 – Subsidence SMC justification using direct subsidence monitoring data
- Corrective Action 3 - Updated Water Budgets using Recalibrated Model
- Corrective Action 4 – Revised estimate for reduction of groundwater storage volume undesirable definition
- Corrective Action 5 - Additional justification for 2,000 mg/L chloride isocontour line
- Corrective Action 6 - Revised ISW SMC, monitoring network and metrics
- Corrective Action 7 – Improved RMN for GWQ
- Corrective Action 8 - Development of chloride isocontour line in western portion of Subbasin

These recommended corrective actions were addressed in the 2024 GSP Amendment. Technical Memoranda summarizing in detail the work completed to address these actions are included as Appendices 3-C through 3-G in the 2024 GSP Amendment Appendices. Some of these corrective actions (such as Corrective Actions 1 and 5) required additional analyses or documentation to justify or defend the analyses, results or parameters contained in the 2022 Revised GSP. Other corrective actions (such as Corrective Action 2, 6 and 7) required revisions to the GSP, including some of the SMC and representative monitoring networks. Finally, other corrective actions (such as Corrective Action 8) required new analyses. Any changes to the GSP that are relevant to this annual report are summarized in Section 2.2 and incorporated, where necessary, into the rest of discussion in this report.

The 2024 GSP Amendment and the 2025 Periodic Evaluation remain under DWR review. During WY 2025, ESJGWA staff coordinated with DWR regarding representative monitoring network entries in the SGMA portal to address technical issues identified during the review process.

4.4 PUBLIC OUTREACH

Preparation of the 2025 Periodic Evaluation and resultant 2024 GSP Amendment included an important stakeholder component to ensure public engagement with the GSP process. The 2024 Eastern San Joaquin Subbasin Communication and Engagement Plan Update (C&E Plan), published in December 2024 and included as Appendix 1-H in the 2024 GSP Amendment Appendices, continues to guide outreach and engagement activities. Work for this effort was funded under DWR's Facilitation Support Services (FSS).

This updated C&E Plan builds upon outreach efforts completed as part of the development of the 2020 GSP and subsequent revisions. The ESJGWA continues to implement engagement strategies to ensure representation of diverse interests within the Subbasin.

Throughout WY 2025, as implementation of the 2024 GSP Amendment continued, the ESJGWA prioritized stakeholder involvement and outreach. Beyond what is required to implement the projects and management actions at the GSA level, the following outreach activities were completed during WY 2025:

- Six Eastern San Joaquin GWA Board Meetings were held, in addition to one Special Board Meeting held on June 11, 2025.
- One Steering Committee Meetings was held November 13, 2024. At the April 9, 2025 Board meeting, the ESJGWA Board approved dissolution of the Steering Committee. Beginning in April 2025, technical and policy topics requiring deliberation are addressed through Board workshops and regular Board meetings.
- Member GSAs provided SGMA and project-related updates through publicly noticed meetings, website posting, newsletters, and other communication tools to keep their stakeholders informed of ongoing groundwater management activities.

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Appendix A – GSP Projects and Management Actions Implementation Progress

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Table A-1. Summary of Implementation Progress of GSP Projects and Management Actions

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Lake Grupe In-lieu Recharge	A	In-Lieu Recharge	SEWD	Complete	2020-2023	Project is complete. Meter is installed.
SEWD Surface Water Implementation Expansion	A	In-Lieu Recharge	SEWD	Implementation	2019-2029	The expansion is being implemented in stages. During WY 2025, SEWD continued their constituent outreach efforts for surface water expansion. Through the CDFA SWEEP BLOCK Pilot Program, SEWD has been able to provide funding for an additional 1,100 acres to access surface water. The SWEEP projects will be fully implemented by the end of 2026 with many projects already completed as of the end of 2025. In addition to the SWEEP Program, the SEWD provided funding in order to provide a District-funded Program - Surface Water Efficiency Grant Program (SWEG). Through SEWD's SWEG program an additional 2,350 acres are in the planning stages to implement surface water infrastructure. SEWD has completed the conversion of 3,044 acres to surface water and is in the planning/construction phase to convert an additional acres 2,870 acres by the end of 2026. Once all surface water diversion projects are complete and using surface water, the estimated in-lieu recharge is 19,000 acre-feet.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
City of Manteca Advanced Metering Infrastructure	B	Conservation	City of Manteca	Ongoing	Ongoing	The City currently has approximately 8,500 meters on the AMI system and plans to add an additional 3,000 meters in 2026. Residents can use a mobile application to monitor water use, identify potential leaks, calculate potential water savings from installing high-efficiency fixtures, and access other related features.
City of Lodi Surface Water Facility Expansion & Delivery Pipeline	B	In-Lieu Recharge	City of Lodi	Planning	2030-2033	The Project status information presented in the GSP is up to date. Project implementation did not occur during WY 2023 since implementation is not planned until 2030. Updates regarding activity progress will be included in future Annual Reports.
White Slough Water Pollution Control Facility Expansion	A	Direct Recharge	City of Lodi	Construction complete	2019-2020	The Project status information presented in the GSP is up to date. The Project is complete.
CSJWCD Capital Improvement Program	A	In-Lieu Recharge	CSJWCD	On-going	2020-2030, on-going	The Board has increased the cost share component of this program to $300 per acre to reduce surface water costs over a 10-year period. Intent is to encourage the transition away from groundwater pumping to surface water supplies. Since the first of this year, one application has been submitted and two applications are pending.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
NSJWCD South System Modernization	A	In-Lieu Recharge	NSJWCD	Environmental review complete, funding secured for Phases 1, 2 and 3. Landowner improvement district formed. Phases 1-2 complete.	2018-2025 (Phases 1, 2, 3 Pixley Lateral and Handel Lateral); 2025-2028 for Phase 4; 2028-2035 for future phases	This Project is progressing. Phase 1 (completed 2019-21) included new pump station, variable frequency drive (VFD), meters, automation equipment, SCADA, new main junction box at Tretheway and Brandt Road. Phase 2 (completed 2023-24) included new sections of main pipeline and adding more meters and SCADA. ID3A formed in 2021 for construction of the Pixley lateral, which was completed in 2022. Phase 3 (completed in 2024-25) included additional mainline replacement and recharge capacity and a second pump on the pump station (utilizing IRWM grant funding). A $1 million USDA grant was obtained for the Handel Lateral or recharge basin (2026-2027 planned). Future phases will include completing replacement of the remaining segments of the mainline, and additional laterals and recharge capacity along the south system to expand the capacity to take wet year water for recharge.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Long-term Water Transfer to SEWD	A	Transfers	SSJID	Infrastructure is in place and operational. Water may be delivered on an annual basis dependent on hydrology and agency request.	2019-2021	In 2023, OID and SJJID approved a 10-year water transfer to SEWD. The water will be delivered through the existing Goodwin Tunnel and the Upper Farmington Canal for final delivery to SEWD's municipal and agricultural customers. OID and SSJID will make available to SEWD up to 10,000 AF in critical years and up to 20,000 AF in non-critical years depending on availability of pre-1914 Stanislaus River water. The water transfer was approved following adoption of a negative declaration per CEQA. No water was requested by SEWD to be transferred in WY2025 as part of the 10-year Project.
BNSF Railway Company Intermodal Facility Recharge Pond	B	Direct Recharge	CSJWCD	Cancelled	2020-2025	After a legal review by BNSF, the Company believed the exposure and risk of litigation posed an untenable liability for them to participate further in this project. This project should be removed in the next GSP update.
City of Stockton Advanced Metering Infrastructure	A	Conservation	City of Stockton	RFP for full AMI issued in March 2023. Contract awarded in March 2024.	2023-2028	Project will convert touch read meters to full AMI. Planned to be completed over 6 years with a $17M budget. Initial study completed in 2011. Contract award in March 2024. Project completion in 2028.
South System Groundwater Banking with East Bay Municipal Utilities District (EBMUD)	A	In-Lieu Recharge	NSJWCD	Pilot Dream Project completed April 2024. Working on expanded banking project	2020-2024 for Dream Project. Larger PDA project planning in 2024-2025 and implement by 2030	NSJWCD and EBMUD completed contracts, new facilities, water right change petitions, water delivery and extraction for the pilot DREAM Project (1,000 AF). Planning efforts for a larger scale banking project are underway.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
NSJWCD North System Modernization/Lakso Recharge	A	In-Lieu Recharge	NSJWCD	Constructed Phase 1A, 1B and 1C. Planning Phase 2	2021-2027	Project is advancing. NSJWCD was awarded $3.9 million in Proposition 68 Round 2 grant funding. Phase 1A has been constructed and began operating in 2023-24 to recharge in two locations. Phase 1B added half a mile of 42-inch pipe along Acampo Road and was completed in 2025 to add irrigation connections. Phase 1C included nearly half a mile of 42-inch PVC in Tretheway Road and the new 80-acre Lakso Recharge Basin. NSJWCD is working with North System landowners to form an improvement district to use surface water for irrigation and conduct on-farm recharge in wet years. NSJWCD received a FDRE grant to double the current temporary pump station capacity to 7,000 gpm and negotiated a twenty-year 80-acre lease on the LAKSO property for a year-round recharge basin. NSJWCD operated an 80-acre LAKSO basin in 2025. Phase 2, planned for 2026-28, will replace temporary pumps with a new 40 cfs permanent pump station.
Manaserro Recharge Project	B	Direct Recharge	NSJWCD	Planning	2023-2025	The Project status information presented in the GSP is up to date. NSJWCD is continuing to work on a strategic plan and funding options for the implementation of this Project and negotiate with landowner or find alternative location. Recently adopted NSJWCD groundwater charge may provide funding to advance this project in future years.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Tecklenburg Recharge Project	A	Direct Recharge	NSJWCD	Substantially complete.	2022-2024	NSJWCD acquired a 10-acre parcel in 2023 and constructed and operated a recharge basin from July 2023 to present. District installed a new lateral from South System mainline to increase project capacity in 2025 and added permanent basin walls.
City of Escalon Wastewater Reuse	B	Recycling/ In-Lieu Recharge/ Transfers	SSJID	Planning	2020-2028	The Project status information presented in the GSP is up to date. The Project is in the early conceptual stages and requires additional feasibility analysis and long-term planning. The City of Escalon has hired a consultant to explore the feasibility of project alternatives and to develop engineering plans and specifications.
City of Ripon Surface Water Supply	B	In-Lieu Recharge	SSJID	Design complete; environmental permitting underway; negotiations for the right to connect are underway.	2028-2030	The City of Ripon is set to receive $3.5 Million in directed congressional funding through the State Drinking Water Revolving Fund. The City of Ripon is seeking terms to connect to the Nick DeGroot Water Treatment Plant from the current South County Water Supply Program participants, and will also need to work through SSJID design criteria for connection to its drinking water facilities. In 2024, Ripon issued a draft Initial Study and Mitigated Negative Declaration for the Pipeline Trunk Project to connect to the SSJID WTP and is in the process of finalizing that document. The City of Ripon is actively pursuing opportunities to purchase capacity from a participating city.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
City of Escalon Connection to Nick DeGroot Water Treatment Plant	B	In-Lieu Recharge	SSJID	Conceptual design; environmental review complete; Council approval is pending further design work and rate study	2028-2030	The City of Escalon completed an initial feasibility study of alternatives currently ranging between $3.5 million - $8 million. In 2023, the City of Escalon further developed its engineering design to incorporate design criteria for connection to SSJID drinking water facilities and right-of-way acquisition needs. Project feasibility analysis is currently ongoing.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Farmington Dam Repurpose Project	B	Direct Recharge	SEWD	Planning/Initial Study	2030-2050	The Project status information presented in the GSP is up to date. Project implementation did not occur during WY 2022 as SEWD dedicated resources to bring short-term projects online first. SEWD worked with Congressman Harder and the approved 2024 Water Resources Development Act (WRDA) bill includes a re-authorization for a new feasibility study. More resources will be directed toward the feasibility study, which was planned to begin in 2025, but unfortunately the $1.8 Million allocation for Farmington Reservoir Study was removed during recent federal budget negotiations. The SEWD will continue working with Army Corps of Engineers and their legislative partners to pursue reappropriation of this funding for FY 2027. Congressman Harder has included text in the 2026 WRDA bill directing the study to be expedited and, if determined feasible, proceed directly to design. Updates regarding activity progress will be included in future Annual Reports.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Mobilizing Recharge Opportunities (MICUP)	B	Direct Recharge	San Joaquin County	Project Development	2024-2040	Under a Sustainable Groundwater Management Implementation Grant Program Round 1 award, San Joaquin County is advancing a suite of projects through the Mokelumne Integrated Conjunctive Use Program (MICUP) to put to beneficial use water appropriated through the Mokelumne River Water and Power Authority's water right application using existing and new infrastructure owned and operated by MICUP Coordinating Committee member agencies. Project identification in 2024, CEQA and water right in 2025, implementation from 2025-2040.
NSJWCD Winery Recycled Water	B	Recycling/ In-Lieu Recharge/ Direct Recharge	NSJWCD	Conceptual planning and discussion	2025-2027	The Project status information presented in the GSP is up to date. NSJWCD is continuing to work on a strategic plan and funding options for the implementation of this Project or a similar project with winery.
SSJID Storm Water Reuse	B	Storm Water/ In-Lieu Recharge/ Direct Recharge	SSJID	Planning	2027-2030	The Project status information presented in the GSP is up to date. Project 23 remains a project concept that could be considered for as WMP projects are advanced, and the concept integrated during the engineering design process.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
South Stockton Well Rehabilitation Program	MA	Monitoring and Reporting	City of Stockton	Rehab existing wells. Design in progress to add well head treatment to existing Well SSS8. Back-up power to be added to Well SSS3 & SSS9.	2021-2024	Design of SSS8 well head treatment is complete and construction to be complete in Feb 2024. HCS Engineering to design backup power to Well SSS3 and SSS9. The design is scheduled to be complete in early 2024.
City of Stockton Phase 1: Groundwater Recharge Project	A	Direct Recharge	City of Stockton	Feasibility study completed in December 2023. Basin design in progress. Construction to begin spring 2025.	2022-2026	The request for proposals was released in early spring of 2022. Geosyntec was awarded the contract, and the geotechnical study began in July of 2022. The geotechnical and feasibility studies were completed in December 2023. The basin design is in progress and construction of the basin(s) will begin in Spring 2025.
Mokelumne River Loss Study	MA	Model Refinement and Validation	NSJWCD	Conceptual planning and discussion	2020-2027	The Project status information presented in the GSP is up to date. Project implementation did not occur during WY 2021 due to a lack of funding and lack of staff resources to complete the plans and move the projects forward. NSJWCD is continuing to work on strategic plan and funding options for the implementation of this Project.
Monitoring and recording of groundwater levels and groundwater quality data	MA	Monitoring and Reporting	Subbasin-wide	Ongoing	2020-2040	The Project status information presented in the GSP is up to date. This is the sixth Annual Report that reports groundwater level and groundwater quality monitoring data. Updates regarding activity progress will be included in future Annual Reports.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Maintaining and updating the Subbasin Data Management System (DMS) with newly collected data	MA	Monitoring and Reporting	Subbasin-wide	Ongoing	2020-2040	The Project status information presented in the GSP is up to date. The DMS was maintained and updated to include monitoring data for WY 2024. Updates regarding activity progress will be included in future Annual Reports.
Annual monitoring of progress toward sustainability	MA	Monitoring and Reporting	Subbasin-wide	Ongoing	2020-2040	The Project status information presented in the GSP is up to date. This is the sixth Annual Report that monitors the progress toward sustainability. Updates regarding progress toward sustainability will be included in future Annual Reports.
Annual reporting of Subbasin conditions to DWR as required by SGMA	MA	Monitoring and Reporting	Subbasin-wide	Ongoing	2020-2040	The Project status information presented in the GSP is up to date. This is the sixth Annual Report that describes the current conditions in the Subbasin and will be submitted to DWR as required by SGMA. Updates regarding Subbasin conditions will be included in future Annual Reports.
Addressing Data Gaps	MA	Monitoring and Reporting	Subbasin-wide	Ongoing	2020-2040	During WY 2021, NSJWCD contracted with DWR and San Joaquin County to install a TSS monitoring well with in the NSJWCD area.
Wallace-Burson Conjunctive Use Program	B	Conjunctive Use/Direct Recharge	CCWD	Conceptual planning and discussion	2030-2040	Hydrogeology and water supply studies developed; designing and developing specific program facilities (e.g., recharge basins, conveyance).

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Calaveras River Wholesale Water Service Expansion	B	In-Lieu Recharge	CCWD	Conceptual planning	2020-2040	CCWD has available surface water supply to set up agreement(s) facilitating in-lieu recharge in Calaveras County portion of Subbasin. Studies needed based on specific partners, arrangements, etc.
AMI Replacement and Conversion	MA	Monitoring and Reporting/ Conservation	CCWD	Completed	2022	CCWD completed replacement and conversion of customer water meters to Automated Meter Infrastructure (AMI) in March 2022. Anticipated improved customer-level consumption data going forward.
Threfall Ranch Reservoir	A	In-Lieu and Direct Recharge	Eastside GSA	Design	2025	Final design has been completed, and environmental review and permitting is pending receipt of project funding.
Groundwater Monitoring Plan	MA	Monitoring and Reporting	NSJWCD	Ongoing	2023	NSJWCD retained a hydrogeologist, installed one monitoring well in 2023, and is contracted to install 3 more monitoring wells in 2025. District is also contracted to install five well monitors in 2025. District also began collecting water level data from ag wells in 2023 to inform a larger scale monitoring program.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Recycled Water to Manteca Golf Course	B	Recycling	Manteca	Not selected for grant funding	Not yet determined	The Reclaimed Water Facilities Master Plan was adopted in January 2023. The city is pursuing recycled water projects, one of which is sending reclaimed water to irrigate the Manteca Golf Course. 12-in piping to deliver reclaimed water has been installed. The city is pursuing funding, like grants, to finance the construction of a pump station, and storage tank(s) to transmit water to the golf course.
West Groundwater Recharge Basin	A	Direct Recharge	SEWD	Ongoing	2040	The project is currently in the design stage with first phase construction beginning Spring 2025 and is estimated to be completed in approximately 2040. The removal of material has started for the Project.
NSJWCD Private Pump Partnerships	A	In-Lieu Recharge/ Direct Recharge	NSJWCD	Ongoing	2024	NSJWCD has executed one agreement with an existing riparian pumper in 2024 to use NSJWCD water permit to irrigate 200 acres and plans to add an additional 200 acres each year for 5 years.
Perfecting Mokelumne River Water Right	B	In-Lieu Recharge	San Joaquin County	Planning	2024-2025	Petition for Amendment to MRWPA Water Right Application 29835 and Underground Storage Supplement Application being prepared to the State Board Division of Water Rights. Notice of Preparation for CEQA document issued on July 2, 2024

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
North System Groundwater Recharge Project - Phase 2	B	Direct Recharge/ In-Lieu Recharge	NSJWCD	Design phase with planned construction in 2025-2026	2026-2029	Team retained to design and bid new pump station in 2024-2026. The Master Plan for the entire North System is current in progress. The Master Plan will identify opportunities for direct and in-lieu recharge in the North System portion of the District. As discussed above the District negotiated a ten year lease for a year round 80 acre recharge project on the LAKSO property.
Off-Stream Regulating Reservoir	B	Direct Recharge	SEWD	Planning	2026-2050	Request for Proposal for Water Banking Study has been completed. As part of the Clements Pipeline and Reservoir Project, a regulating reservoir is proposed just upstream of the Clements Dam on the Lower Calaveras River.
On-Farm Recharge Project	B	Direct Recharge	SEWD	Planning/Initial Study	2024-2030	The project would use existing farm infrastructure to divert surface water for direct recharge through Flood-MAR, or potential dry wells. So far, SEWD has not received a lot of interest from farmers to participate. SEWD has created an on-farm recharge policy to incentivize on-farm recharge, but there is still minimal interest.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Bellota Weir Modifications Project	B	Direct Recharge/ Stormwater	SEWD	Construction	2024-2030	Construction began in August of 2025. The project will allow for the controlled flow into the Old Calaveras River to increase infiltration of surface water into the underlying critically overdrafted Subbasin.
West Linden Project	B	In-Lieu Recharge/ Direct Recharge	SEWD	Planning/Design	2025-2035	The project is still in the planning and design phase. The project would bring Mokelumne and Calaveras Rivers water to the area west of Linden where the groundwater table is at its lowest.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Water Supply Enhancement Project - Direct Recharge	B	Direct Recharge	SEWD	Planning	2024-2030	This project is still in the planning phase. Grant funds were just received from USBR to complete the design and permitting for Clements Pipeline (One of the six proposed sub-projects). The project would provide access to surface water for farmers that currently don't have access and multiple opportunities for recharge of flood water. This would greatly increase groundwater storage through in-lieu and direct recharge, once fully implemented. The Clements Pipeline and Reservoir Project has moved to final design phase which should be completed by the end of 2026. The purchase of the properties for the construction of recharge and regulating reservoirs is in the final stages of escrow. Once the purchase is complete, the property will be used for flood-MAR until funds are obtained to complete the final buildout of reservoirs and pipelines.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
SSJID Water Master Plan - System Improvements	B	In-Lieu Recharge	SSJID	Feasibility study complete	2023 - 2040	In 2022, SSJID completed a comprehensive Water Master Plan to address its aging infrastructure and to make strategic improvements to SSJID irrigation system. SSJID hopes to improve the level of service to customers through increased lateral capacity, new reservoirs, and additional SCADA controls. In total, SSJID has identified $191 Million in capital improvements and to fund these projects, SSJID completed a substantial Prop 218 rate increase in July 2023. In 2025, SSJID broke ground on the $94 M Canyon Tunnel Project to reduce risks associated with catastrophic landslides in the Upper Supply canal just downstream of Goodwin Dam. SSJID and OID are cost sharing the project 72/28% based on capacity. In 2028, SSJID and OID are expected to have the project complete prior to the irrigation season.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Oakdale Irrigation District In-lieu and Direct Recharge Project	A	Direct Recharge/In-Lieu Recharge	Oakdale	Ongoing	2023-2032	The Oakdale Irrigation District's In-lieu and Direct Recharge Project (Project) is intended to be a cooperative long-term Project between OID and landowners to the east of OID's boundaries within the Eastside San Joaquin GSA. The purpose of this Project is to allow OID to facilitate surface water deliveries for in-lieu use or direct recharge for Eastside San Joaquin GSA landowners during times and conditions that will not impact OID's existing agricultural customers. The OID 10-Year out-of-District Water Sales Program (10-Year Program) began in 2023, and can potentially be extended for another 10 year term, for a total of 20 years. The Program includes 4,292 irrigated acres in the Eastern San Joaquin Subbasin within the Eastside San Joaquin GSA. Under the 10-Year Program, participating landowners are required to purchase a minimum of 1.5 acre-feet per irrigated acre when surplus surface water is available from OID resulting in a minimum of 6,438 acre-feet being purchased each year. The landowners also have the opportunity to purchase and use additional surplus surface water throughout the irrigation season if available. 6,888 acre-feet was delivered in WY 2025 within the Eastside San Joaquin GSA.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Water Supply Enhancement Project - Distribution Pipelines	B	In-Lieu Recharge/ Direct Recharge	SEWD	Planning	2024-2040	This project would provide surface water distribution to the area of Linden through proposed pipelines. The proposed pipelines are named Clements Gravity Pipeline, Houston Gravity Pipeline, Demartini, and Mosher.
Water Treatment Plant Aquifer Storage Recovery Well - 7401	B	Direct Recharge	SEWD	Complete	2025-2026	This Project is complete. The installation of the well pump, piping, valving, electrical components and rehabilitation of the well house is complete. The Project should be operational starting in FY 26 (April 2026) once a valve is replaced.
Beckman Well	B	Direct Recharge	SEWD	Planning	2025-2027	SEWD is working with EBMUD to get the Beckman ASR well functional again. The project would recharge surface water from East Bay Mud Aqueduct or New Hogan, then store the water in the aquifer to later be extracted in times of drought.
Tom Allen Recharge Project	B	Direct Recharge	SEWD	Implementation	2024-2025	This Project includes a 0.3-acre recharge reservoir constructed as a pilot project in 2023. It is functional as a recharge basin with low recharge rates. It is estimated that the recharge is approximately 24 AF per year if operational from April to October. The District is looking into installing dry wells at the same location, to increase infiltration rates and recharge.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Q/Qc Conjunctive Use Project	B	In-Lieu Recharge	SSJID	Design	2025	In 2024, SSJID applied to the Bureau of Reclamation for a Drought Response Program Grant for the upsizing of the District's Q-Qc lateral which would bring a higher level of service to SSJID's ag customers enabling increased surface water use, increasing the amount of groundwater stored underground. The final design is nearing completion, and in 2025, SSJID exercised its purchase option for the pond site.
SSJID Advanced Metering Infrastructure Project	B	Conservation	SSJID	Late Planning	2025	In 2024, the District applied for a WaterSmart Water and Energy Efficiency grant for AMI technology to enable customers to measure applied water in near real time increasing irrigation efficiency. If awarded, meter installations could start in 2026.
Re-Connection to District Service	A	In-lieu Recharge	SSJID	Annual	2025	53.73 acres have been signed back on to SSJID service. Groundwater was the primary source of these lands. Since 2015, there has been 2,131 acres signed back onto District service.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Mariposa Drain (MPD) Water Delivery Improvement Project	B	In-Lieu Recharge	CSJWCD	Planning	August 2025 Project Planning Began	CSJWCD has hired consultant David's Engineering to begin the planning phase for this project. Central anticipates the planning phase to continue through 2026. The early part of 2026 will be used to gather water delivery data through a series of flow measurement stations to be installed prior to the 2026 water season. Data collected to be used to size reservoir storage needs. Project intent is to improve operational efficiency through modernization and use conserved surface water for distribution to lands currently using groundwater.
Avena Drain Project	B	Conjunctive Use	CSJWCD	Planning	August 2025 Project Planning Began	In conjunction with the MPD Project, an added segment / phase will now be the Avena Drain Improvement Project. As part of the current planning effort, these two independent systems will be connected to enable enhanced water utilization and sharing of water through intertied systems. Water storage reservoirs, a component of both projects, will be used to balance flow demands between the two systems. Potential of project is to convert 5,000-6,000 acres to surface water usage.

Activity	Project Category	Project Type	Project Proponent	Current Status	Schedule (initiation and completion)	Status
Cady Ranch Calaveras River Diversion, In-lieu and Direct Recharge Project	B	In-Lieu and Direct Recharge	SEWD Cady Ranch	Planning	Project Planning Began in 2025	The Cady Ranch Calaveras River Diversion, In-Lieu and Direct Recharge Project (Project) is intended to be a cooperative long-term project between Stockton East Water District Groundwater Sustainability Agency (SEWD GSA) and Cady Ranch. The Project includes the construction of a new fish screened diversion from the Calaveras River and associated conveyance infrastructure. Water diverted from the Calaveras River would be conveyed to an existing reservoir and would provide in-lieu recharge to approximately 600 acres of existing almonds that would otherwise be solely dependent on groundwater. The Project, as currently designed, would have an estimated capacity to facilitate the in-lieu recharge of 2,400 AF. The surface water source of this Project is from SEWD's existing contract with the U.S. Bureau of Reclamation (USBR) for the New Hogan Reservoir, an existing surface water right. In addition to in-lieu recharge, the existing reservoir is and would continue to be unlined whereby providing a direct recharge benefit. The magnitude of the direct recharge benefit will be quantified as Project design continues and post Project monitoring is in place.

APPENDIX B – REPRESENTATIVE MONITORING NETWORK WELL HYDROGRAPHS FOR GROUNDWATER LEVELS AND INTERCONNECTED SURFACE WATER

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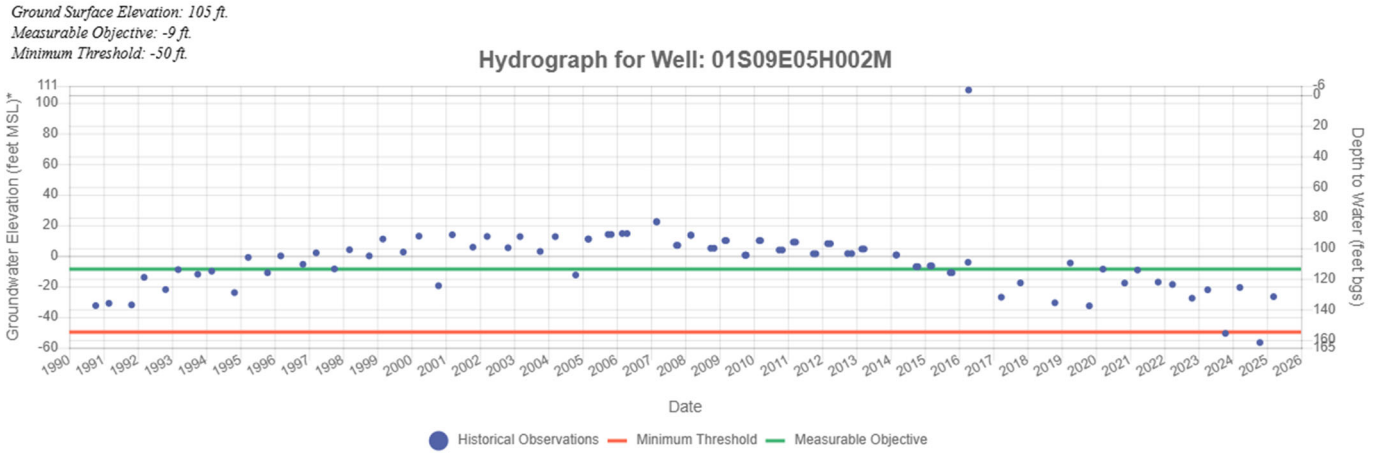
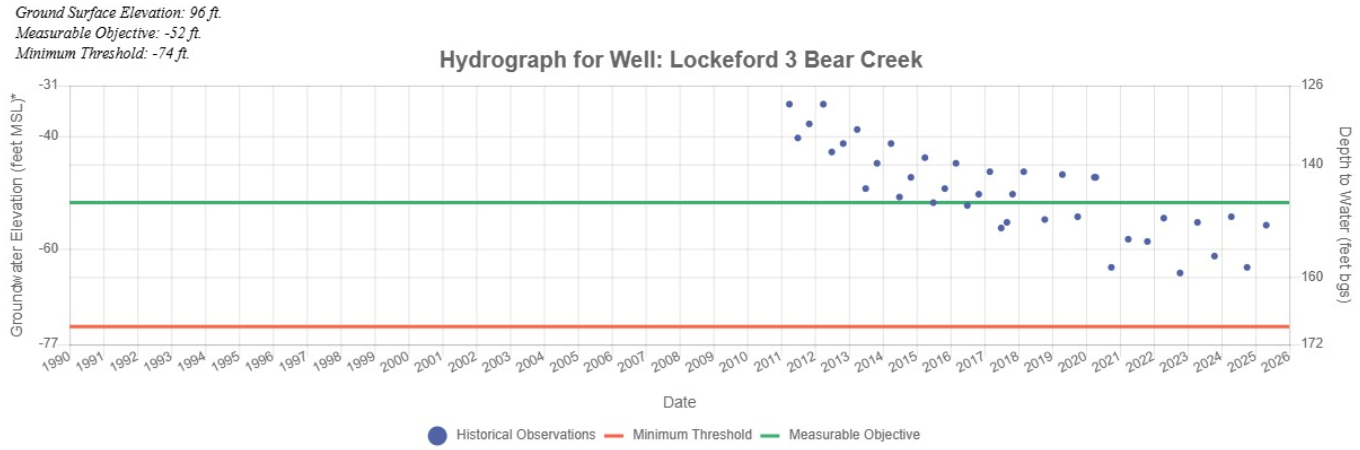
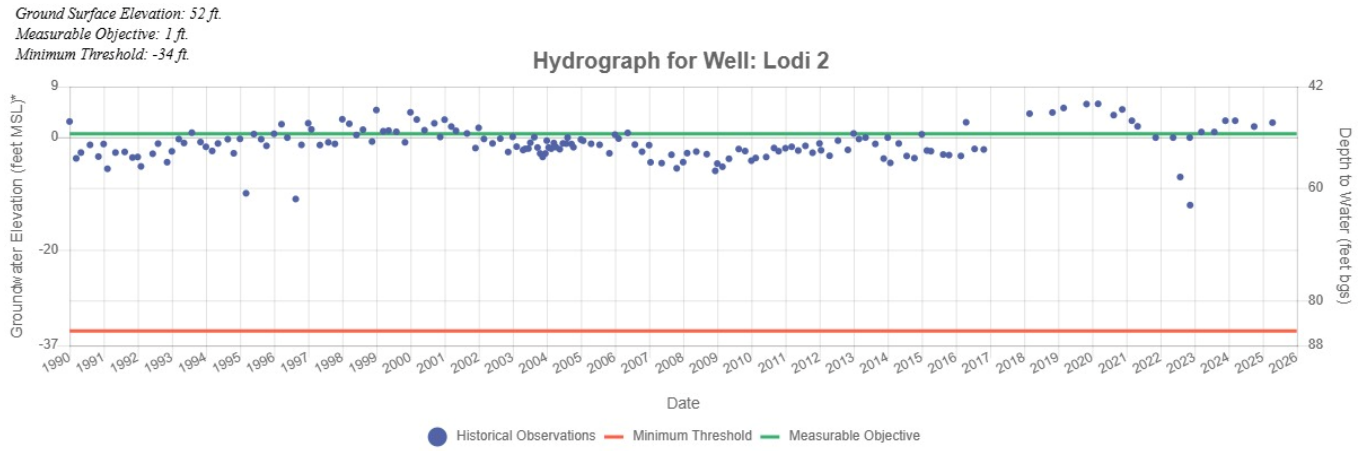
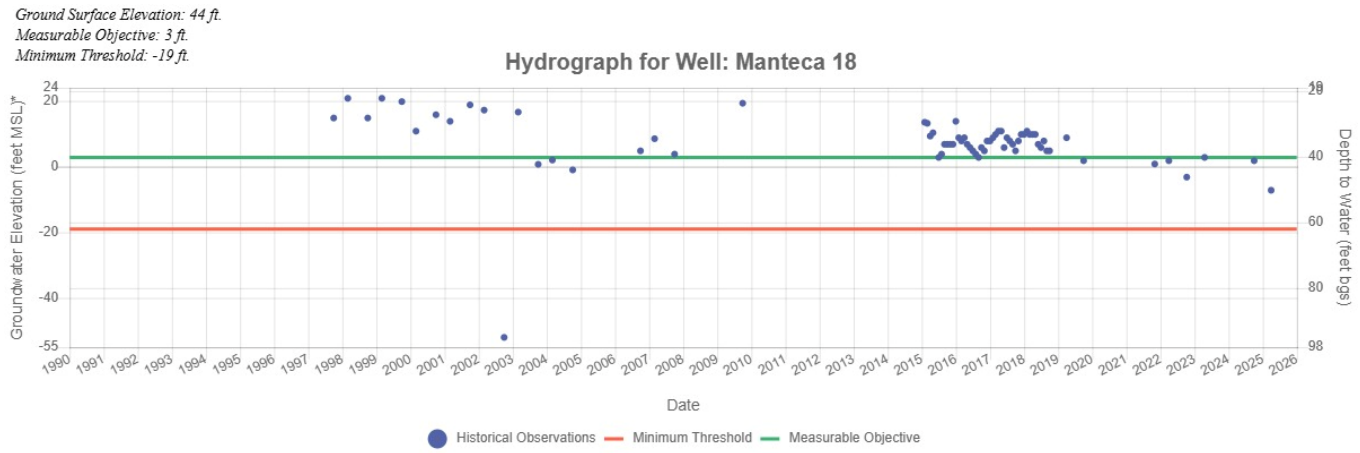


The dataset shown in the above hydrograph has been revised to remove the 2016 outlier.







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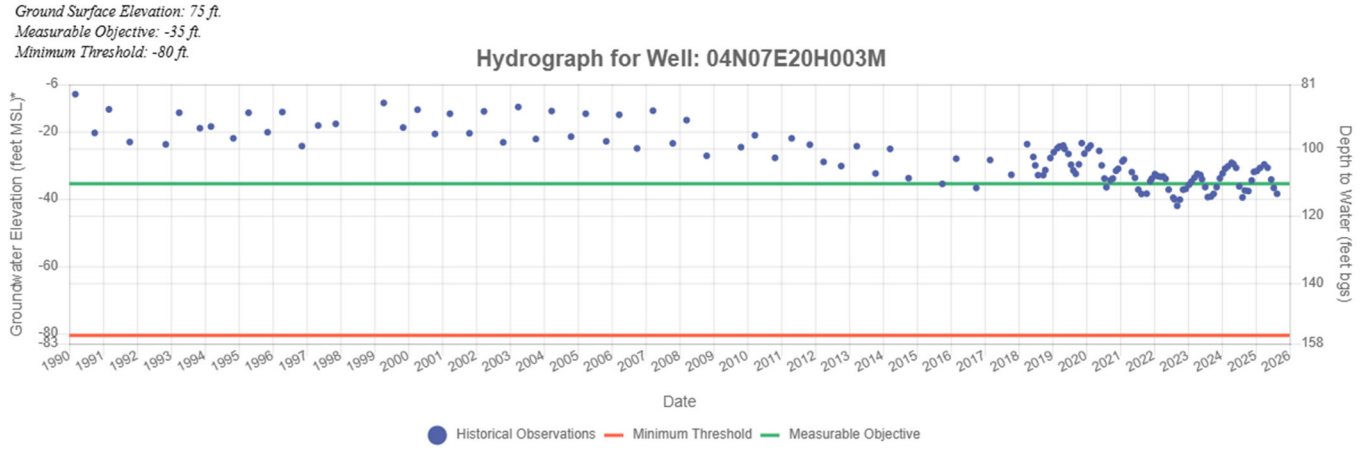
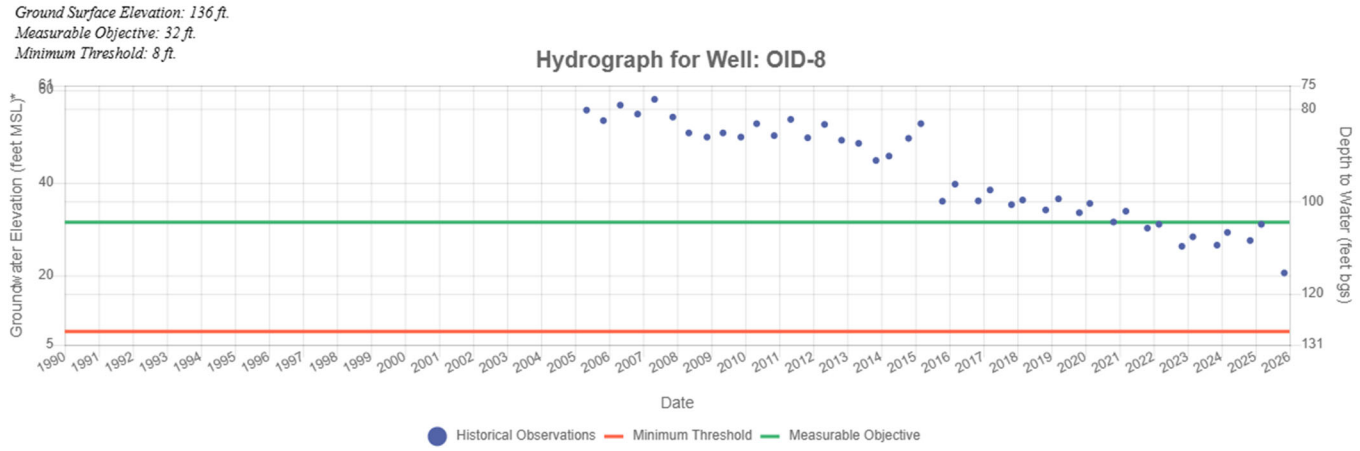
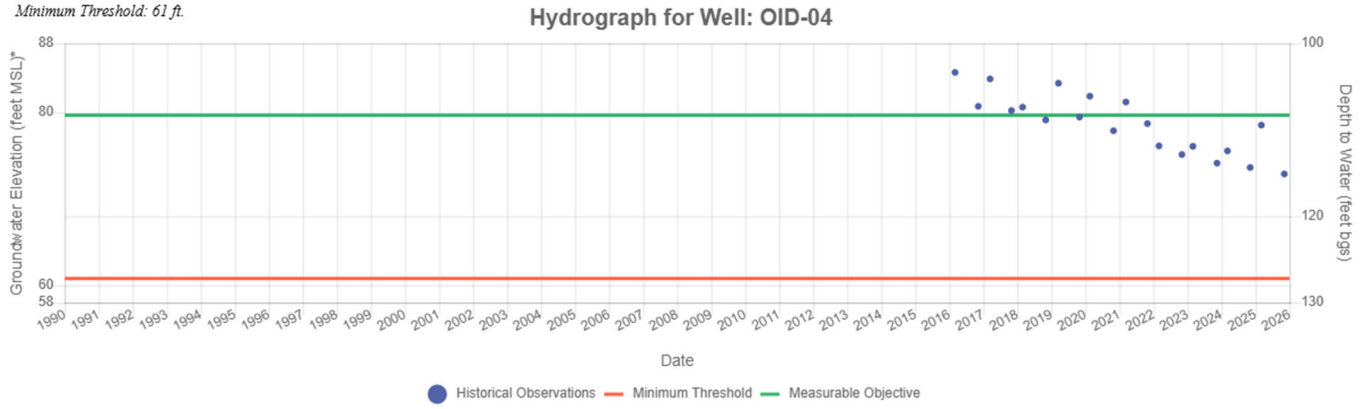
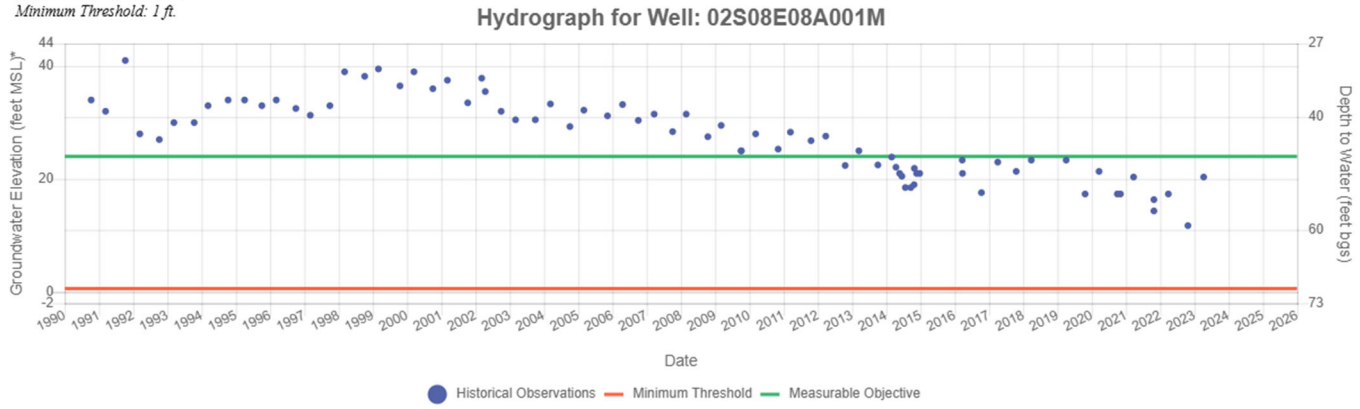




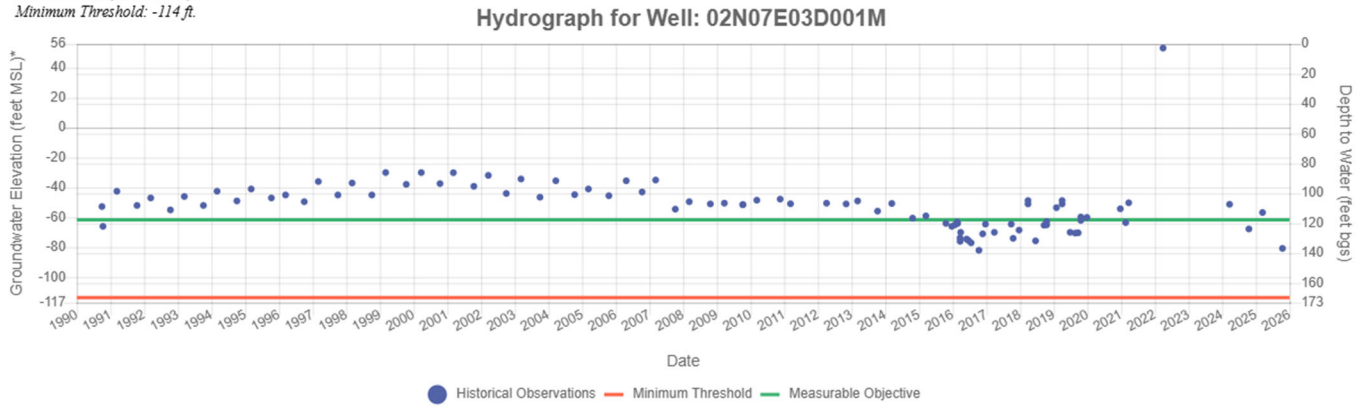
Ground Surface Elevation: 189 ft.
Measurable Objective: 80 ft.
Minimum Threshold: 61 ft.



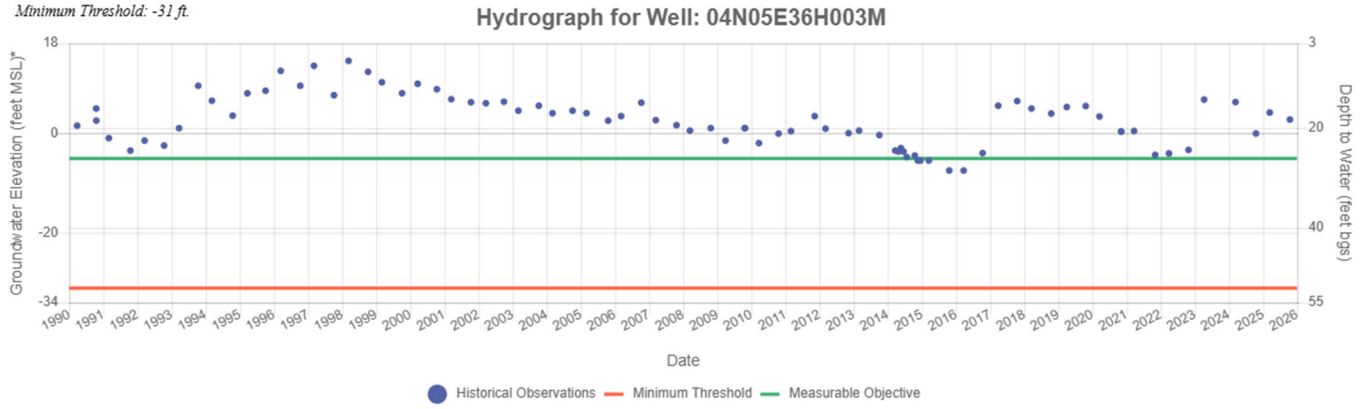
Ground Surface Elevation: 71 ft.
Measurable Objective: 24 ft.
Minimum Threshold: 1 ft.



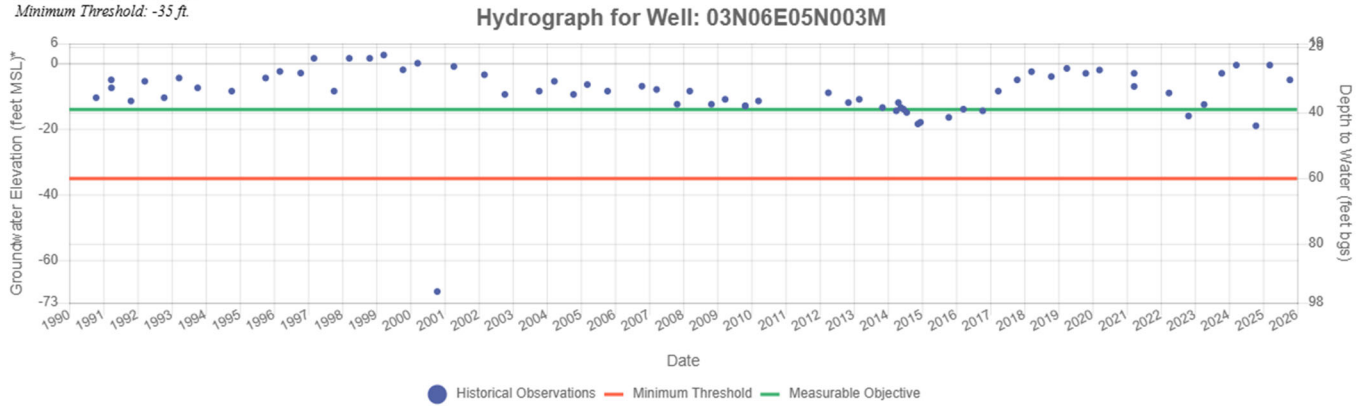
Ground Surface Elevation: 56 ft.
Measurable Objective: -62 ft.
Minimum Threshold: -114 ft.



Ground Surface Elevation: 21 ft.
Measurable Objective: -5 ft.
Minimum Threshold: -31 ft.

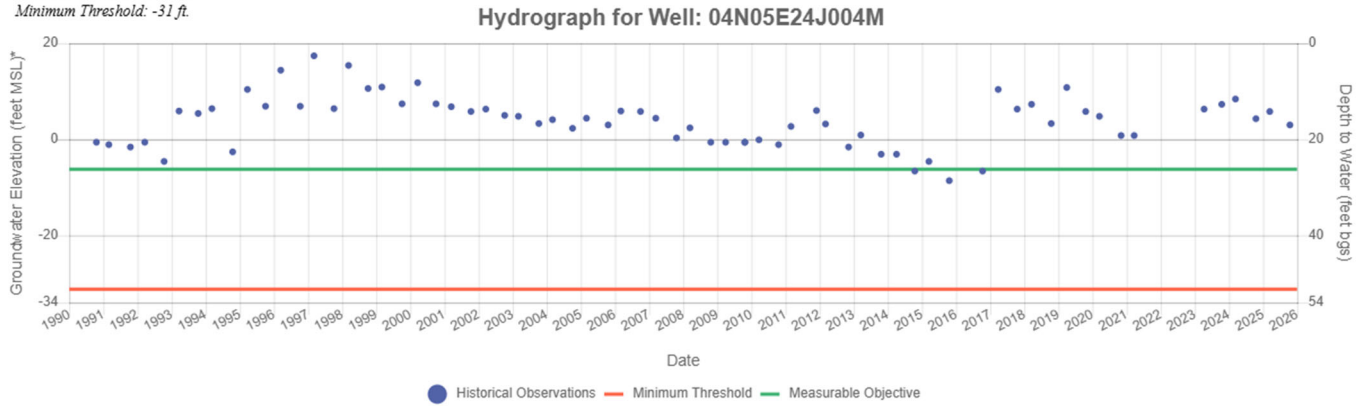


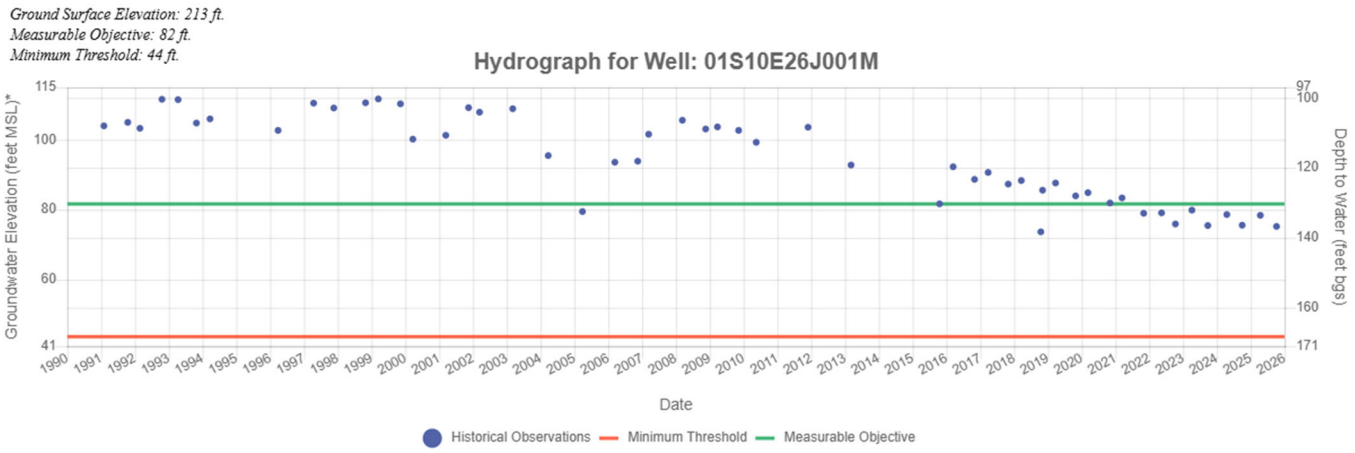
Ground Surface Elevation: 25 ft.
Measurable Objective: -14 ft.
Minimum Threshold: -35 ft.

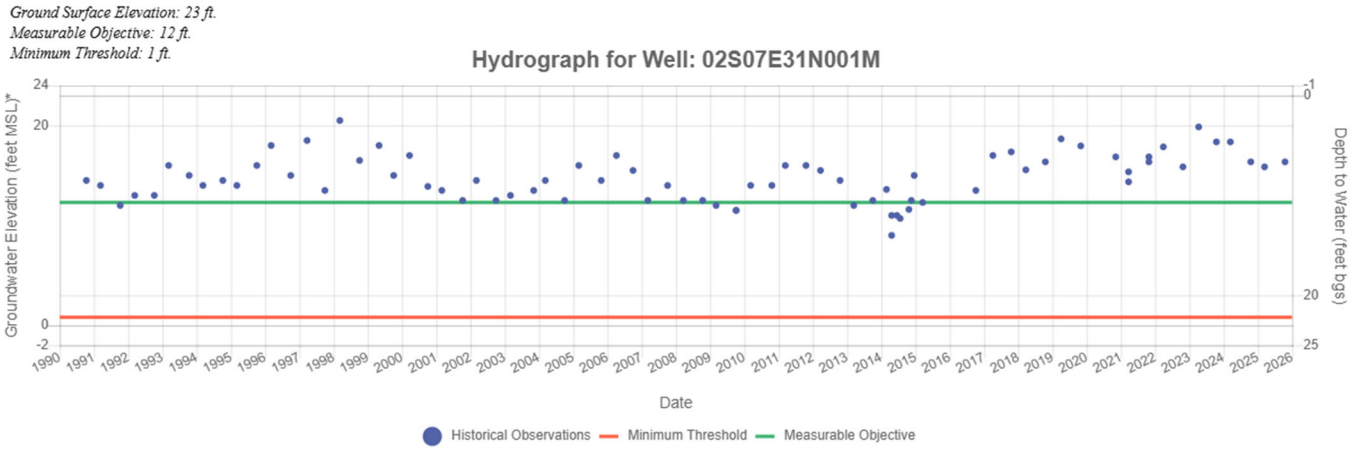


The dataset shown in the above hydrograph has been revised to remove the 2000 outlier.

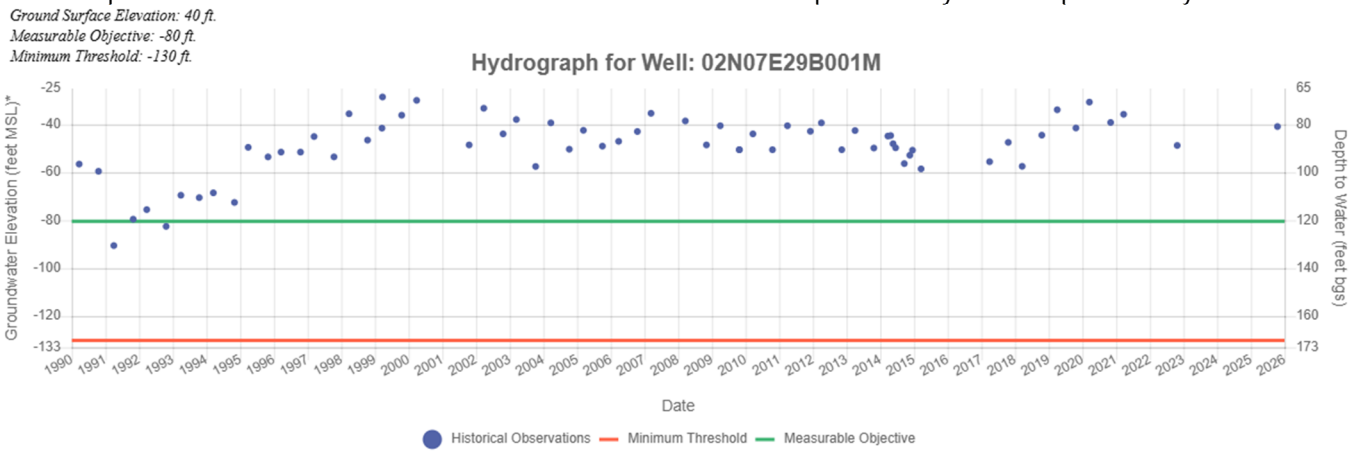
Ground Surface Elevation: 20 ft.
Measurable Objective: -6 ft.
Minimum Threshold: -31 ft.





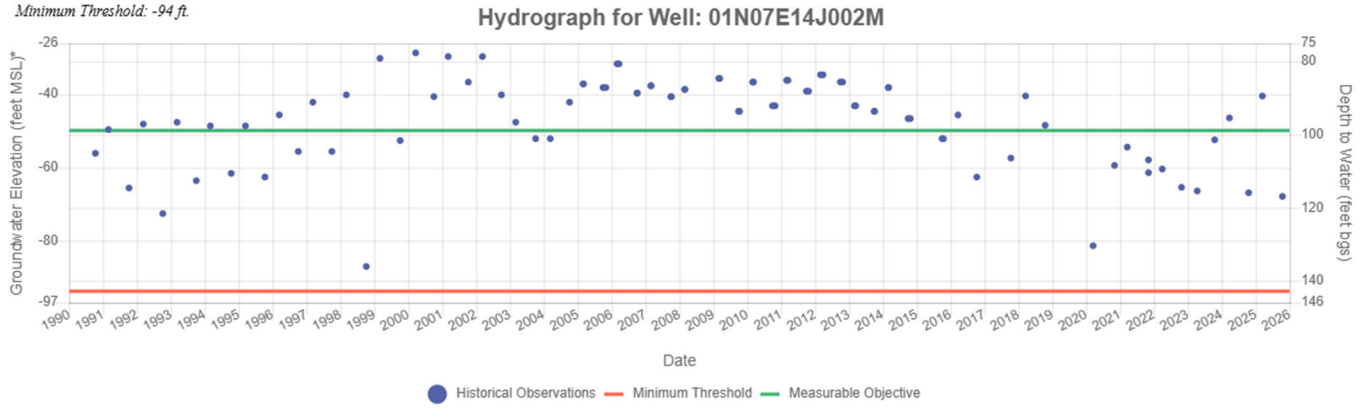


Groundwater level data for WY 1991-2018 in the above hydrograph was provided by South Delta Water Agency, as reported in the GSP. Groundwater level data for WY 2019 was provided by San Joaquin County.

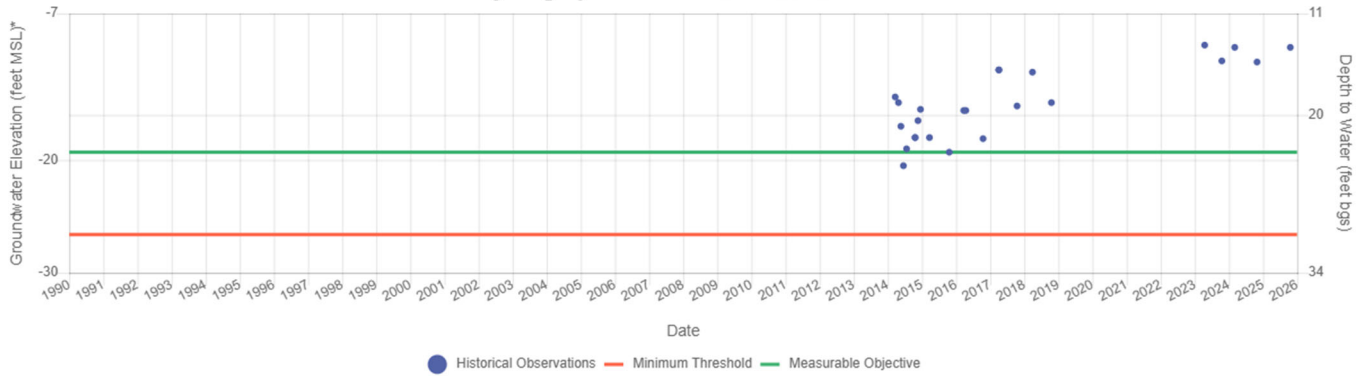


Groundwater level data for WY 1991-2018 in the above hydrograph was provided by Stockton East Water District, as reported in the GSP. Groundwater level data for WY 2019-2020 was provided by San Joaquin County.

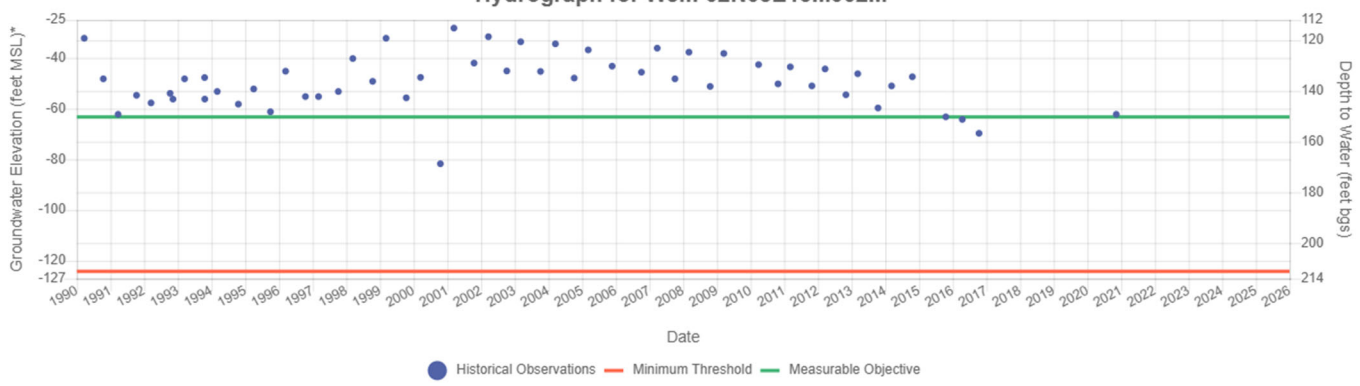
Ground Surface Elevation: 50 ft.
Measurable Objective: -50 ft.
Minimum Threshold: -94 ft.



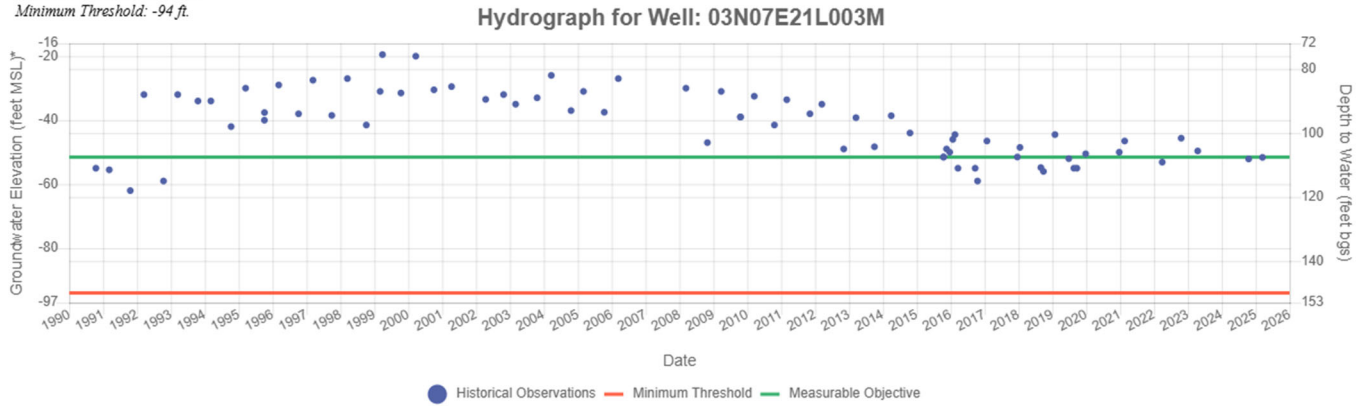
Ground Surface Elevation: 4 ft.
Measurable Objective: -19 ft.
Minimum Threshold: -27 ft.



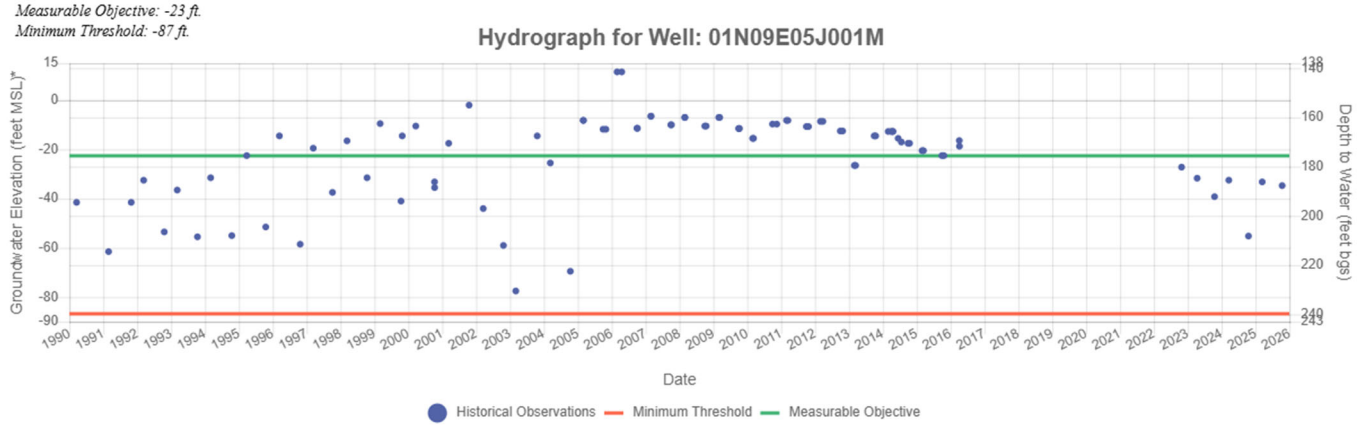
Ground Surface Elevation: 87 ft.
Measurable Objective: -63 ft.
Minimum Threshold: -124 ft.



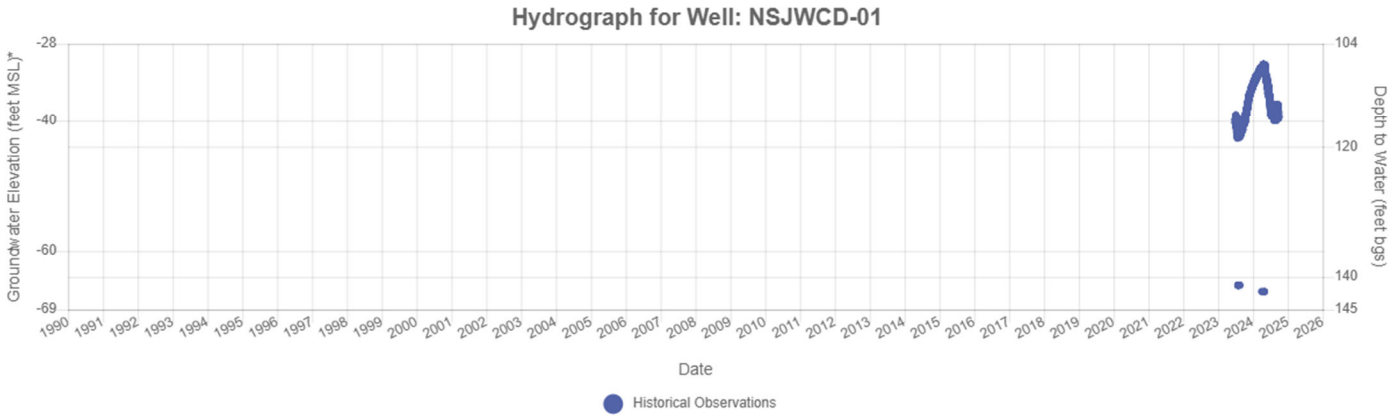
Ground Surface Elevation: 57 ft.
Measurable Objective: -51 ft.
Minimum Threshold: -94 ft.



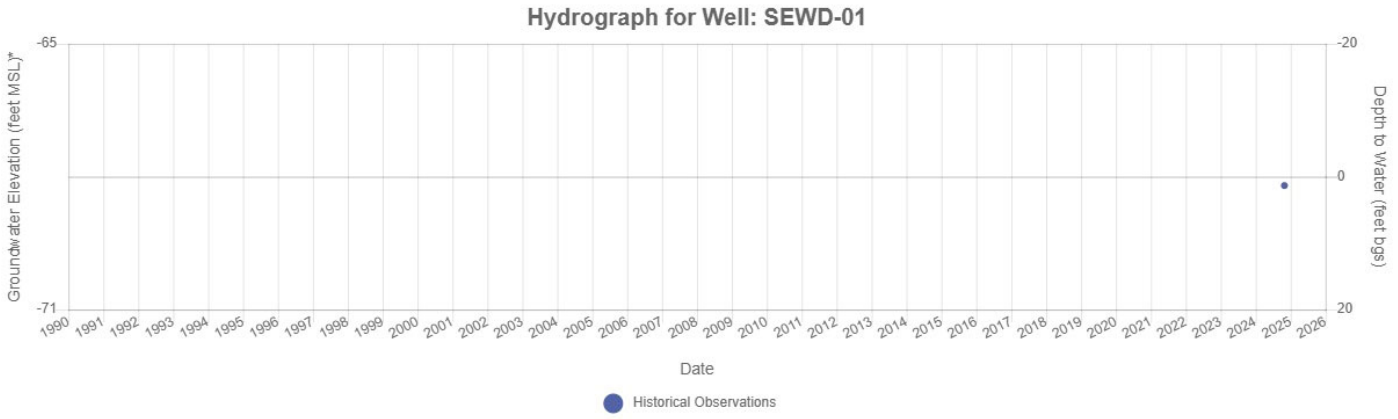
Ground Surface Elevation: 153 ft.
Measurable Objective: -23 ft.
Minimum Threshold: -87 ft.

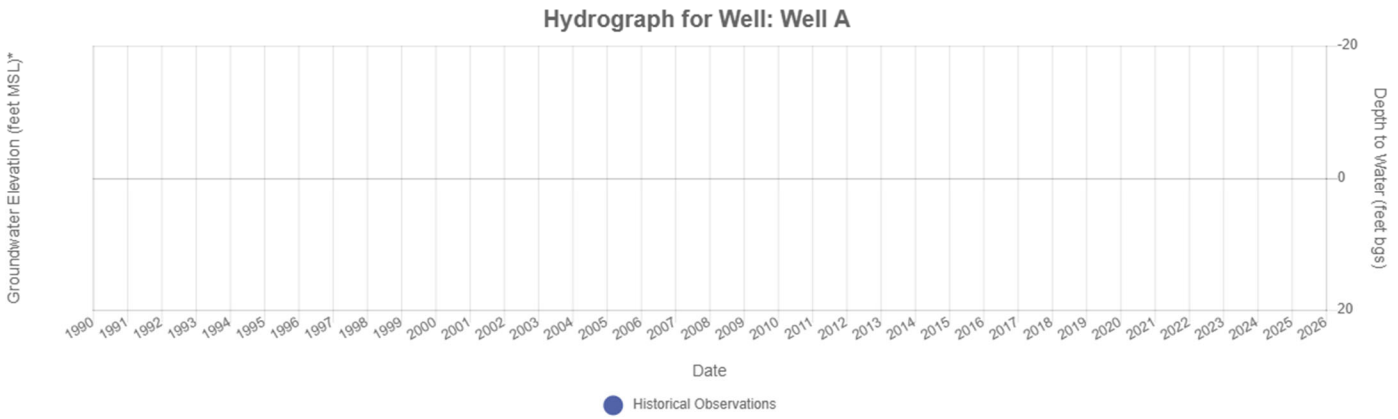


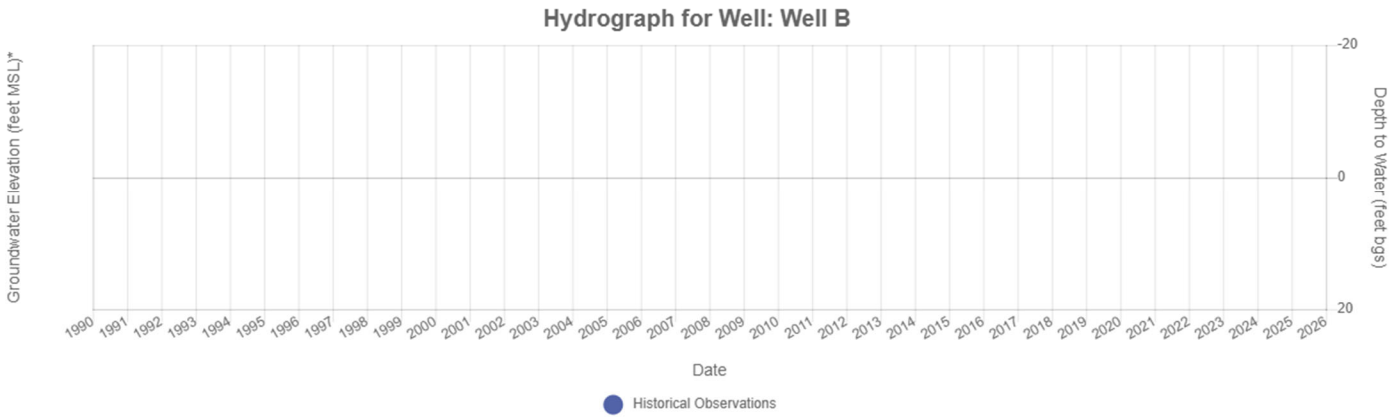
Ground Surface Elevation: 76 ft.

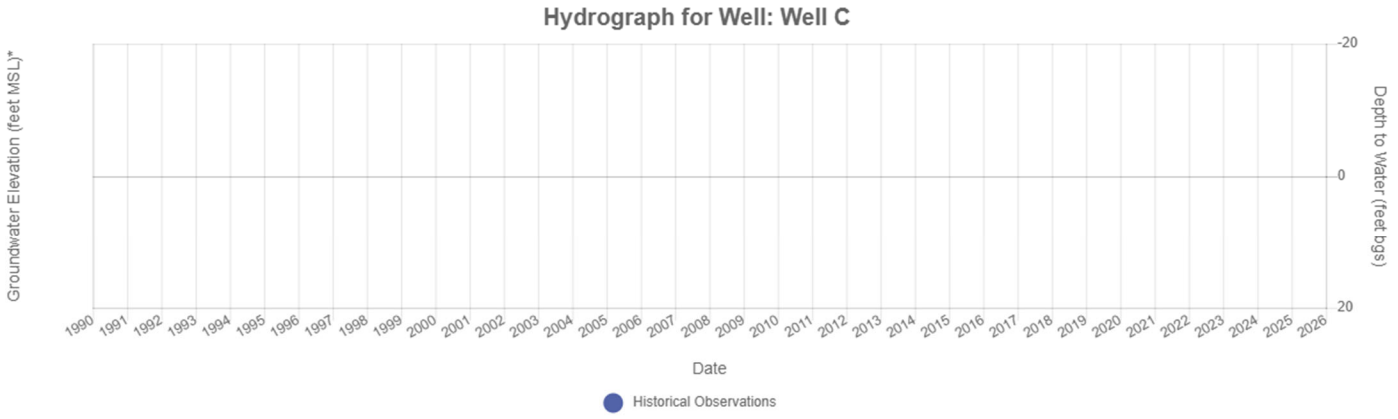


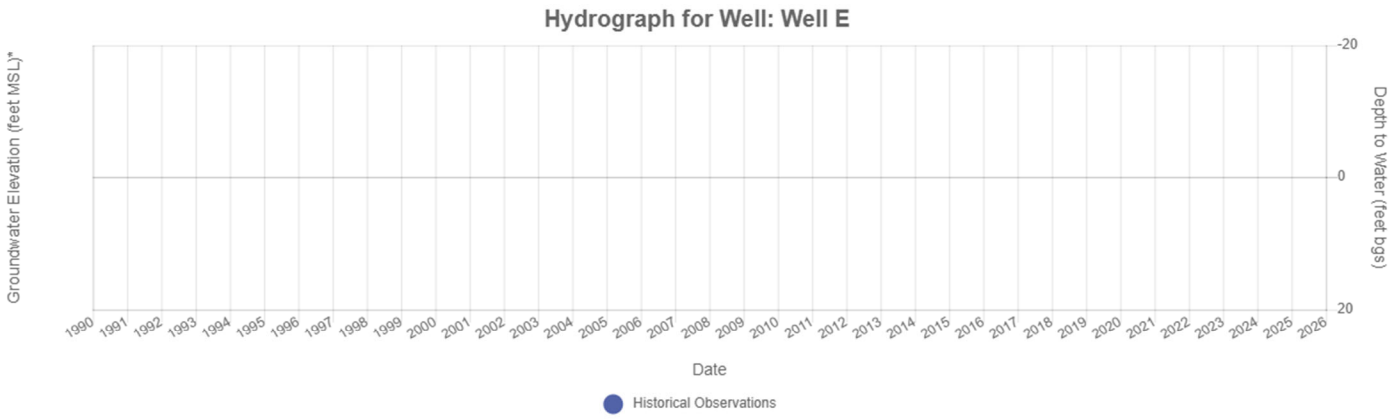
The following wells are new and therefore have no historical data. Monitoring will begin at these wells in WY 2025.

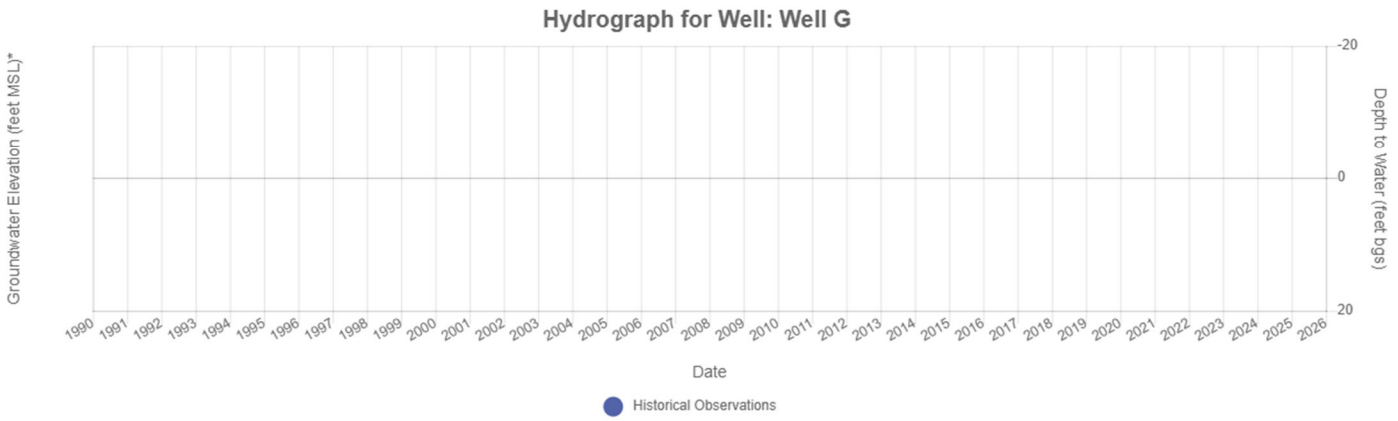

Hydrograph for Well: SEWD-01
Groundwater Elevation (feet MSL)*
-65
-71
Depth to Water (feet bgs)
-20
0
20
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026
Date
Historical Observations


Hydrograph for Well: Well A
Groundwater Elevation (feet MSL)*
Depth to Water (feet bgs)
-20
0
20
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026
Date
Historical Observations


Hydrograph for Well: Well B
Groundwater Elevation (feet MSL)*
Depth to Water (feet bgs)
-20
0
20
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026
Date
Historical Observations


Hydrograph for Well: Well C
Groundwater Elevation (feet MSL)*
Depth to Water (feet bgs)
-20
0
20
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026
Date
Historical Observations


Hydrograph for Well: Well E
Groundwater Elevation (feet MSL)*
Depth to Water (feet bgs)
-20
0
20
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026
Date
Historical Observations


Hydrograph for Well: Well G
Groundwater Elevation (feet MSL)*
Depth to Water (feet bgs)
-20
0
20
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026
Date
Historical Observations

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Appendix C – WY 2025 Groundwater Level Monitoring Data

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Site Code	Local Well Name	Measurement Date	Reference Point Elevation (ft msl)	Ground Surface Elevation (ft msl)	Groundwater Elevation (ft msl)	Ground Surface to Water Surface (feet)	No Measurement Code	Measurement Method Code	Measurement Accuracy	Water Level Measurement Comment	Collecting/Co-op Agency
379794N1211083W005	SEWD-01D	10/29/2024 12:00	80.642	77.76	-68.158	145.918		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
379794N1211083W004	SEWD-01E	10/29/2024 12:00	80.536	77.76	-65.464	143.224		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
379794N1211083W001	SEWD-01C	10/29/2024 12:00	80.696	77.92	-68.504	146.424		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
379794N1211083W002	SEWD-01B	10/29/2024 12:00	80.779	77.92	-68.521	146.441		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
379794N1211083W003	SEWD-01A	10/29/2024 12:00	80.885	77.92	-67.115	145.035		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
382347N1212258W001	NSJWCD-01D	10/29/2024 12:00	80.428	78.031	-60.172	138.203		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
382347N1212258W002	NSJWCD-01C	10/29/2024 12:00	80.608	78.031	-59.192	137.223		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
382347N1212258W003	NSJWCD-01B	10/29/2024 12:00	80.737	78.031	-58.563	136.594		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources

382347N1212258W004	NSJWCD-01A	10/29/2024 12:00	80.851	78.031	-54.549	132.580		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
378352N1209570W001	Hirschfield (OID8)	03/04/2025 14:30	136.54	136.06	31.04	105.02		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Oakdale Irrigation District GSA
378352N1209570W001	Hirschfield (OID8)	11/04/2024 14:30	136.54	136.06	27.54	108.52		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Oakdale Irrigation District GSA
377909N1208675W001	Burnett (OID4)	03/04/2025 10:20	189.39	188.91	78.54	110.37		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Oakdale Irrigation District GSA
377909N1208675W001	Burnett (OID4)	11/04/2024 10:20	189.39	188.91	73.64	115.27		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		Oakdale Irrigation District GSA
380067N1213458W003	Swenson-3	03/18/2025 13:00	4	4			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380067N1213458W003	Swenson-3	10/29/2024 13:00	4	4	-11.3	15.3		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380067N1213458W002	Swenson-2	03/18/2025 13:00	4	4			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380067N1213458W002	Swenson-2	10/29/2024 13:00	4	4	-12.7	16.7		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380067N1213458W001	Swenson-1	03/18/2025 13:00	4	4			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1

380067N1213458W001	Swenson-1	10/29/2024 13:00	4	4	-13.7	17.7		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
381843N1212261W001	04N07E20H003M	09/16/2025 00:00	78.341	76.917			Special/Other			RP changed	Department of Water Resources
381843N1212261W001	04N07E20H003M	08/19/2025 00:00	78.341	76.917	-38.459	115.376		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	07/15/2025 00:00	78.46	77.46	-36.74	114.20		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	06/17/2025 00:00	78.46	77.46	-34.24	111.70		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	05/09/2025 00:00	78.46	77.46	-30.74	108.20		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	04/04/2025 00:00	78.341	76.917	-29.759	106.676		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	03/07/2025 00:00	78.341	76.917			Can't get tape in casing			The sounding tube has been blocked	Department of Water Resources
381843N1212261W001	04N07E20H003M	02/18/2025 00:00	78.341	76.917	-30.759	107.676		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	01/15/2025 00:00	78.341	76.917	-31.659	108.576		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	12/13/2024 00:00	78.341	76.917	-31.959	108.876		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources

381843N1212261W001	04N07E20H003M	11/19/2024 00:00	78.341	76.917	-34.519	111.436		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381843N1212261W001	04N07E20H003M	11/05/2024 00:00	78.341	76.917			Temporarily inaccessible			temporarily inaccessible	Department of Water Resources
381843N1212261W001	04N07E20H003M	10/14/2024 00:00	78.341	76.917	-37.659	114.576		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Run 16	Department of Water Resources
381816N1213723W001	04N05E24J004	03/14/2025 13:00	23.8	22.4	5.8	16.6		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
381816N1213723W001	04N05E24J004	10/17/2024 13:00	23.8	22.4	3.8	18.6		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
381559N1213727W001	04N05E36H003	03/14/2025 13:00	24.93	23.43	4.13	19.30		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
381559N1213727W001	04N05E36H003	10/17/2024 13:00	24.93	23.43	-5.07	28.50		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
381317N1213524W001	03N06E05N003	03/14/2025 13:00	27.93	27.43	-17.07	44.50	Oil or foreign substance in casing	Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
381317N1213524W001	03N06E05N003	10/17/2024 13:00	27.93	27.43	-22.07	49.50		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380578N1212017W001	02N07E03D001	03/14/2025 13:00	57.27	56.27	-67.73	124.00		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1

380578N1212017W001	02N07E03D001	10/17/2024 13:00	57.27	56.27	-72.73	129.00		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
379976N1212308W001	02N07E29B001	03/14/2025 13:00	43.57	42.07			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
379976N1212308W001	02N07E29B001	10/17/2024 13:00	43.57	42.07			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
379661N1210011W001	01N09E05J001	03/14/2025 13:00	155.81	158.31	-33.19	191.50		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
379661N1210011W001	01N09E05J001	10/17/2024 13:00	155.81	158.31	-59.19	217.50		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
379316N1211665W001	01N07E14J002	03/14/2025 13:00	53.59	51.89	-56.41	108.30	Oil or foreign substance in casing	Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
379316N1211665W001	01N07E14J002	10/17/2024 13:00	53.59	51.89	-71.41	123.30	Oil or foreign substance in casing	Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
378824N1210000W001	01S09E05H002	03/13/2025 13:00	108.35	107.35	-41.65	149.00		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
378824N1210000W001	01S09E05H002	10/18/2024 13:00	108.35	107.35	-61.65	169.00		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
377810N1211142W001	02S08E08A001	03/13/2025 13:00	74.36	73.36			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1

377810N1211142W001	02S08E08A001	10/17/2024 13:00	74.36	73.36			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
377136N1212508W001	02S07E31N001	03/13/2025 13:00	26.36	25.36	14.36	11.00		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
377136N1212508W001	02S07E31N001	10/17/2024 13:00	26.36	25.36	14.36	11.00		Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380206N1210943W001	02N08E15M002	03/13/2025 13:00	86.06	87.16			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380206N1210943W001	02N08E15M002	10/17/2024 13:00	86.06	87.16			Temporarily inaccessible			ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380909N1212153W001	03N07E21L003	03/15/2025 13:00	60.39	58.89	-54.61	113.50	Oil or foreign substance in casing	Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
380909N1212153W001	03N07E21L003	10/17/2024 13:00	60.39	58.89	-54.61	113.50	Oil or foreign substance in casing	Steel tape measurement	Water level accuracy to nearest tenth of a foot	ESJ Subbasin	County of San Joaquin GSA - Eastern San Joaquin 1
381376N1212740W001	Lodi City Well #2	04/01/2025 08:25	50.94	50.94	2.64	48.30		Electric sounder measurement	Water level accuracy to nearest tenth of a foot		City of Lodi GSA
378163N1208321W001	01S10E26J001M	04/14/2025 09:30	212.5	212.5	78.42	134.08		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Easy access through hole in motor mount deck	Eastside San Joaquin GSA
378846N1208816W001	1S10E04C1-135	04/14/2025 10:30	163.42	160.42	56.37	104.05		Electric sounder measurement	Water level accuracy to nearest tenth of a foot	Easy access	Eastside San Joaquin GSA

378846N1208816W001	1S10E04C1-135	03/11/2025 13:57	163.42	160.42	49.02	111.40		Steel tape measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources
378846N1208816W001	1S10E04C1-135	10/07/2024 15:02	163.42	160.42	32.82	127.60		Steel tape measurement	Water level accuracy to nearest tenth of a foot		Department of Water Resources