DELTA-MENDOTA SGMA

WY2025 Annual Report

for the Delta-Mendota Subbasin

March **2026**

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WY2025 Annual Report
Delta-Mendota Subbasin

March 2026

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EXECUTIVE SUMMARY AND BACKGROUND

The Groundwater Sustainability Agencies (GSAs) of the Delta-Mendota Subbasin (Subbasin) have collaborated to prepare this Annual Report for Water Year 2025 (WY2025), defined as the period from October 1, 2024 to September 30, 2025, in compliance with California Code of Regulations (CCR) Title 23, Division 2, Chapter 1.5, Subchapter 2, Article 7 Annual Reports and Periodic Evaluations by the Agency. CCR 23 §356.2 outlines the annual report's required content. This Annual Report compares data collected during this period against previously-collected data to form an understanding of Subbasin conditions through the current reporting year.

The Delta-Mendota Groundwater Subbasin (DWR Basin 5-022.07) is located in the northwestern portion of the San Joaquin Valley Groundwater Basin and adjoins nine (9) other subbasins in the San Joaquin Valley Groundwater Basin. The Delta-Mendota Subbasin boundaries generally correspond to DWR's California's Groundwater Bulletin 118 – Update 2003 (Bulletin 118) groundwater basin boundaries descriptions, with jurisdictional boundary modifications incorporated into the 2016 and 2018 Bulletin 118 groundwater basin boundary definitions.

The western San Joaquin Valley is a highly agricultural region with an economy dependent on the agricultural industry. There are no large cities or industries in the Delta-Mendota Subbasin to provide an alternative economic base; hence, the availability of Central Valley Project (CVP) and State Water Project (SWP) imported water supplies and other surface water supplies (primarily from the San Joaquin and Kings Rivers) are essential elements to the economic health of the region. Other uses of CVP and local surface water in the Subbasin are for municipal and industrial (M&I) purposes and wildlife refuge water supply. The Delta-Mendota Subbasin, and the seven GSA Group regions it contains, are shown in **Figure ES-1**.

In 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of California's groundwater resources. The Delta-Mendota Subbasin (5-022.07) is one of 21 alluvial basins and subbasins identified by the California Department of Water Resources (DWR) as being in a state of critical overdraft. Beginning in 2017, GSAs within the Subbasin formed to address the long-term reliability of groundwater through the development of six GSPs. The six Delta-Mendota Subbasin GSPs were developed in a coordinated fashion with the goal of achieving sustainability for the Subbasin as a whole. The GSAs adopted their respective GSPs and submitted them to DWR on January 23, 2020, prior to the January 31, 2020 deadline. On January 21, 2022, DWR released an "Incomplete" determination for all six Delta-Mendota Subbasin GSPs and the Common Chapter. The six GSPs and Common Chapter were revised to address the deficiencies identified by DWR and were resubmitted to DWR by the July 20, 2022 deadline. On March 2, 2023, DWR released an "Inadequate" determination for all six Delta-Mendota Subbasin GSPs and the associated Common Chapter, and deferred the subbasin to the State Water Resources Control Board (SWRCB). During WY2023 and WY2024, representatives from the Delta-Mendota Subbasin began preparing a single GSP for the Subbasin and initiated consultation with the SWRCB in parallel with the single GSP development as part of the State intervention process. In July 2024, the *Delta-Mendota Subbasin Groundwater Sustainability Plan* [1] was released as the single 2024 GSP for the Subbasin and the plan was adopted by all 23 GSAs by November 2024.

[1] Full document is available at: https://deltamendota.org/final-gsp-documents/

Following adoption of the 2024 GSP, the GSAs in the Subbasin began implementing the GSP as the SWRCB completes its evaluation and contemplates approving the 2024 GSP and sending the Delta-Mendota Subbasin GSP back for DWR's review. SWRCB evaluation continued throughout WY2025. The GSA Groups (**Table ES-1**), which developed from the previous six regional GSPs in the Subbasin, continue to work collaboratively to collectively work toward sustainable groundwater management under the 2024 GSP.

TABLE ES-1: DELTA-MENDOTA SUBBASIN GSA GROUPS AND ASSOCIATED GSAS/MEMBER AGENCIES

GSA Group	GSA(s) and Member Agencies
Aliso Water District	• Aliso Water District GSA
Central Delta-Mendota	• Central Delta-Mendota GSA o County of Fresno o County of Merced o Eagle Field Water District o Fresno Slough Water District o Mercy Springs Water District o Pacheco Water District o Panoche Water District o San Luis Water District o Santa Nella County Water District o Tranquillity Water District • Oro Loma Water District GSA[1] • Widren Water District GSA[1]
Farmers Water District	• Farmers Water District GSA
Fresno County	• County of Fresno GSA – Delta Mendota Management Area A • County of Fresno GSA – Delta-Mendota Management Area B
Grassland	• County of Merced GSA – Delta-Mendota • Grassland GSA o Grassland Water District o Grassland Resource Conservation District
Northern Delta-Mendota	• City of Patterson GSA • DM-II GSA o Del Puerto Water District o Oak Flat Water District • Northwestern Delta-Mendota GSA o County of Merced o County of Stanislaus • Patterson Irrigation District GSA o Patterson Irrigation District o Twin Oaks Irrigation District • West Stanislaus Irrigation District GSA

GSA Group	GSA(s) and Member Agencies
San Joaquin River Exchange Contractors	• City of Dos Palos GSA • City of Firebaugh GSA • City of Gustine GSA • City of Los Banos GSA • City of Mendota GSA • City of Newman GSA • County of Madera GSA – Delta-Mendota • County of Merced GSA – Delta-Mendota • San Joaquin River Exchange Contractors GSA o Central California Irrigation District o Columbia Canal Company o Firebaugh Canal Water District o San Luis Canal Company • Turner Island Water District GSA – Delta-Mendota

[1] During WY 2026, the Oro Loma Water District GSA and Widren Water District GSA plan to withdraw as GSAs and will join the Central Delta-Mendota GSA as member agencies.

The sustainability goal for the Delta-Mendota Subbasin was established to succinctly state the objectives and desired conditions of the Subbasin that culminates in the absence of undesirable results by 2040:

> *The Delta-Mendota Subbasin will manage groundwater resources for the benefit of all users of groundwater in a manner that allows for operational flexibility, ensures resource availability under drought conditions, and does not negatively impact surface water diversion and conveyance and delivery capabilities. This goal will be achieved through the implementation of the proposed projects and management actions to reach identified measurable objectives and milestones through the implementation of the Groundwater Sustainability Plan, and through continued coordination with neighboring subbasins to ensure the absence of undesirable results by 2040.*

Conditions for each applicable sustainability indicator in the Subbasin are compared to the numeric sustainable management criteria (SMC) established in the single 2024 GSP, as it became the prevailing document defining the path for groundwater sustainability as of WY2025. Throughout the Subbasin, groundwater elevations during WY2025 were largely above their respective minimum thresholds (MTs). No undesirable results relative to the chronic lowering of groundwater levels sustainability indicator were observed in WY2025; and therefore, no undesirable results relative to the reduction of groundwater in storage were observed (as these two sustainability indicators are interconnected). Additional monitoring and modeling data are needed in portions of the Subbasin to fully evaluate potential undesirable results related to groundwater quality and land subsidence relative to SMC set in the 2024 GSP. There were no undesirable results relative to the depletions of interconnected surface water sustainability indicator in WY2025.

Current conditions throughout the Delta-Mendota Subbasin reflect the Below Normal water year classification, according to the San Joaquin Valley Water Year Hydrologic Classification Index, as groundwater levels and groundwater storage show stable trends compared to WY2024. Groundwater extractions totaled 442,300 acre-feet (AF), surface water supply totaled 1,438,100 AF, and total water use totaled 1,687,000 AF during WY2025. Change in groundwater storage during WY2025 decreased in the

Upper Aquifer by 101,800 AF and decreased in the Lower Aquifer by 19,300 AF, for a total decrease in storage of 121,100 AF.

Implementation activities conducted throughout WY2025 in the Subbasin included continued monitoring at representative monitoring sites for all relevant sustainability indicators (seawater intrusion is not an applicable sustainability indicator for the Delta-Mendota Subbasin), continued implementation of projects and management actions, continued initial implementation of Subbasin Pumping Reduction Plans (PRPs), and continued coordination by the 23 Delta-Mendota Subbasin GSAs, which included regular meetings of the Delta-Mendota Subbasin Coordination Committee, and preparation of the WY2024 Annual Report.

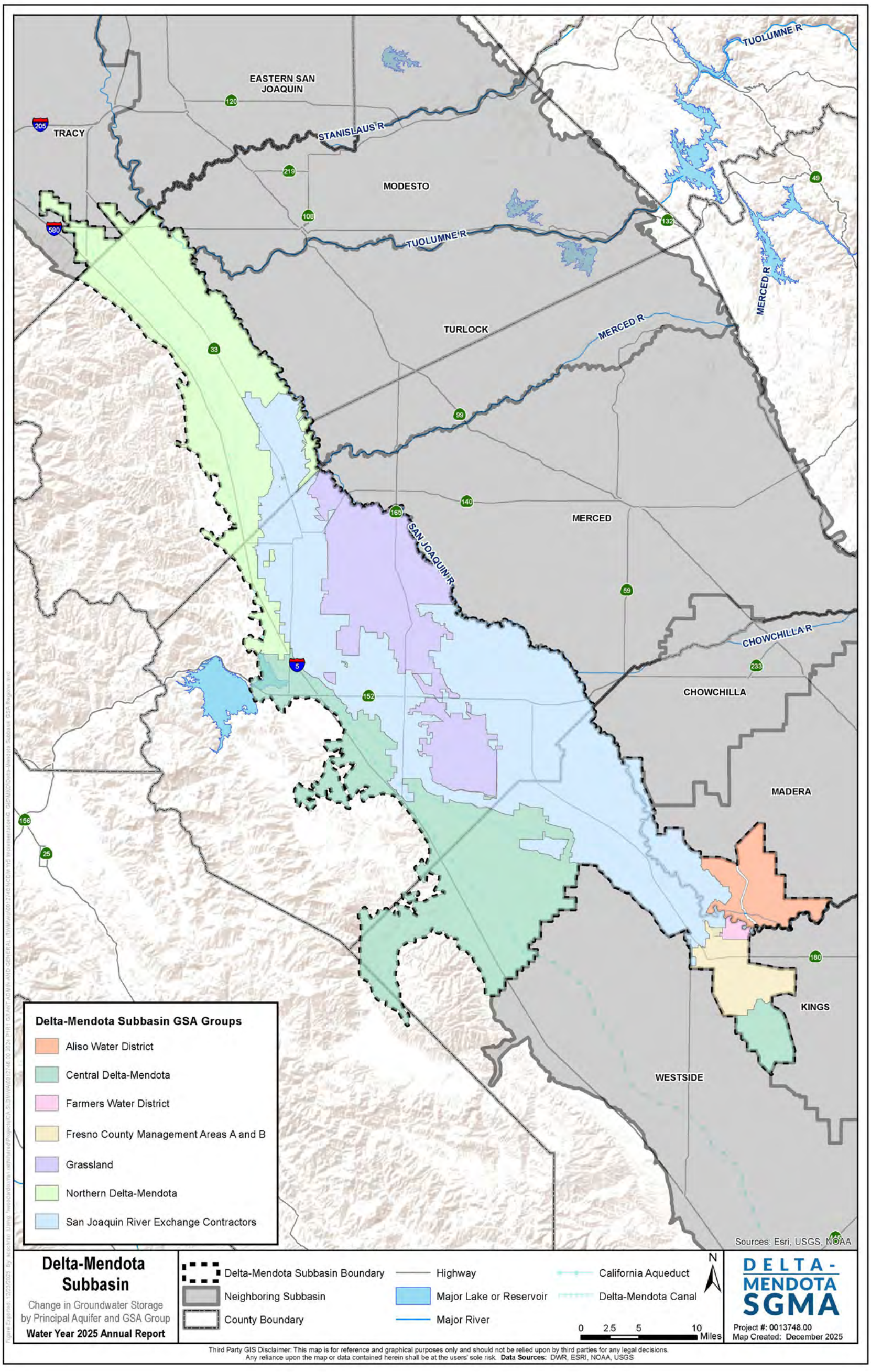

FIGURE ES-1: DELTA-MENDOTA SUBBASIN AND GSA GROUPS

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1. DATA ANALYSIS SUMMARY

The following subsections describe groundwater levels, changes in groundwater storage, and water use data collected during WY2025 in the Delta-Mendota Subbasin.

1.1 Groundwater Elevation

Groundwater elevation data are presented below in groundwater surface elevation contour maps for each of the two principal aquifers. These maps were generated from groundwater elevation data collected from wells in the representative monitoring network to illustrate the seasonal high and seasonal low conditions in each principal aquifer (Upper Aquifer and Lower Aquifer) in the Delta-Mendota Subbasin during WY2025, with measurements from additional wells also incorporated to improve the map accuracy. Seasonal high is defined as any groundwater level measurement recorded in February 2025, and seasonal low is defined as any groundwater level measurement recorded in August 2025[1]. Under the 2024 GSP, groundwater level monitoring is being conducted over 3-month windows on a quarterly basis with target months of February, May, August, and November for data collection, except when required more frequently per the Pumping Reduction Plans (PRPs) (**Appendix D**). As the 2024 GSP is implemented, seasonal high and seasonal low target months may change based on available data.

Hydrographs of groundwater elevations, including historical data through WY2025 and indicating water year type, are included in **Appendix A** for each well in the Subbasin's representative monitoring network for the chronic lowering of groundwater levels sustainability indicator. Since the end of the 2012-2016 drought (starting in WY2017), groundwater elevations at many locations have largely recovered to pre-drought levels and are generally similar to or higher than WY2012 pre-drought levels. During WY2019, groundwater elevations generally remained similar to WY2012 and WY2017 levels. Dry and critically dry conditions during WY2020 through WY2022 resulted in a mix of stable and declining groundwater levels throughout much of the Delta-Mendota Subbasin. Wet conditions during WY2023 resulted in a mix of stable and rising groundwater levels throughout the Delta-Mendota Subbasin which followed the most recent drought (WY2020 to WY2022). During WY2024 (Above Normal), average conditions generally supported stable groundwater levels, with some areas experiencing slight rise and others seeing slight declines relative to the wetter conditions of WY2023. In WY2025, groundwater levels remained fairly stable due to average (Below Normal) conditions with trends similar to those observed in WY2024.

Figure 1-1 and **Figure 1-2** present contour maps of groundwater elevations for WY2025 seasonal high (February 2025) and seasonal low (August 2025), respectively, for the Upper Aquifer. During WY2025 seasonal high conditions, groundwater elevations ranged from about 20 feet above mean sea level (ft MSL) to 120 ft MSL throughout the Subbasin (**Figure 1-1**). Groundwater generally flowed in the west to east and northeast direction throughout the Subbasin. During WY2025 seasonal low conditions, groundwater elevations also ranged from about 20 ft MSL to 120 ft MSL with similar flow direction patterns as observed during seasonal high conditions in the Subbasin (**Figure 1-2**).

Figure 1-3 and **Figure 1-4** present contour maps for groundwater elevations for WY2025 seasonal high (February 2025) and seasonal low (August 2025), respectively, for the Lower Aquifer. During WY2025 seasonal high conditions, groundwater elevations in the Lower Aquifer ranged from about -60 ft MSL to

[1] Note that August measurements may be impacted by groundwater pumping and may not be reflective of static groundwater conditions at certain locations within the Subbasin.

120 ft MSL (**Figure 1-3**). During WY2025 seasonal low conditions, groundwater elevations ranged from -80 ft MSL to 120 ft MSL (**Figure 1-4**). The large range in groundwater elevations are due to a combination of natural gradients from topographic influence (high topographic elevation in the west along the Coastal Range and lower elevation to the east near the Valley floor), groundwater pumping (see Section 7 of the 2024 GSP regarding aquifer properties), and regional groundwater flow patterns influenced by operations in adjacent subbasins. And in the extreme southern area of the subbasin Groundwater flow patterns Subbasin-wide in the Lower Aquifer are generally from the west to the east and northeast in the northern and central portions of the Subbasin, and from the east to west and north to south in the southern portion of the Subbasin.

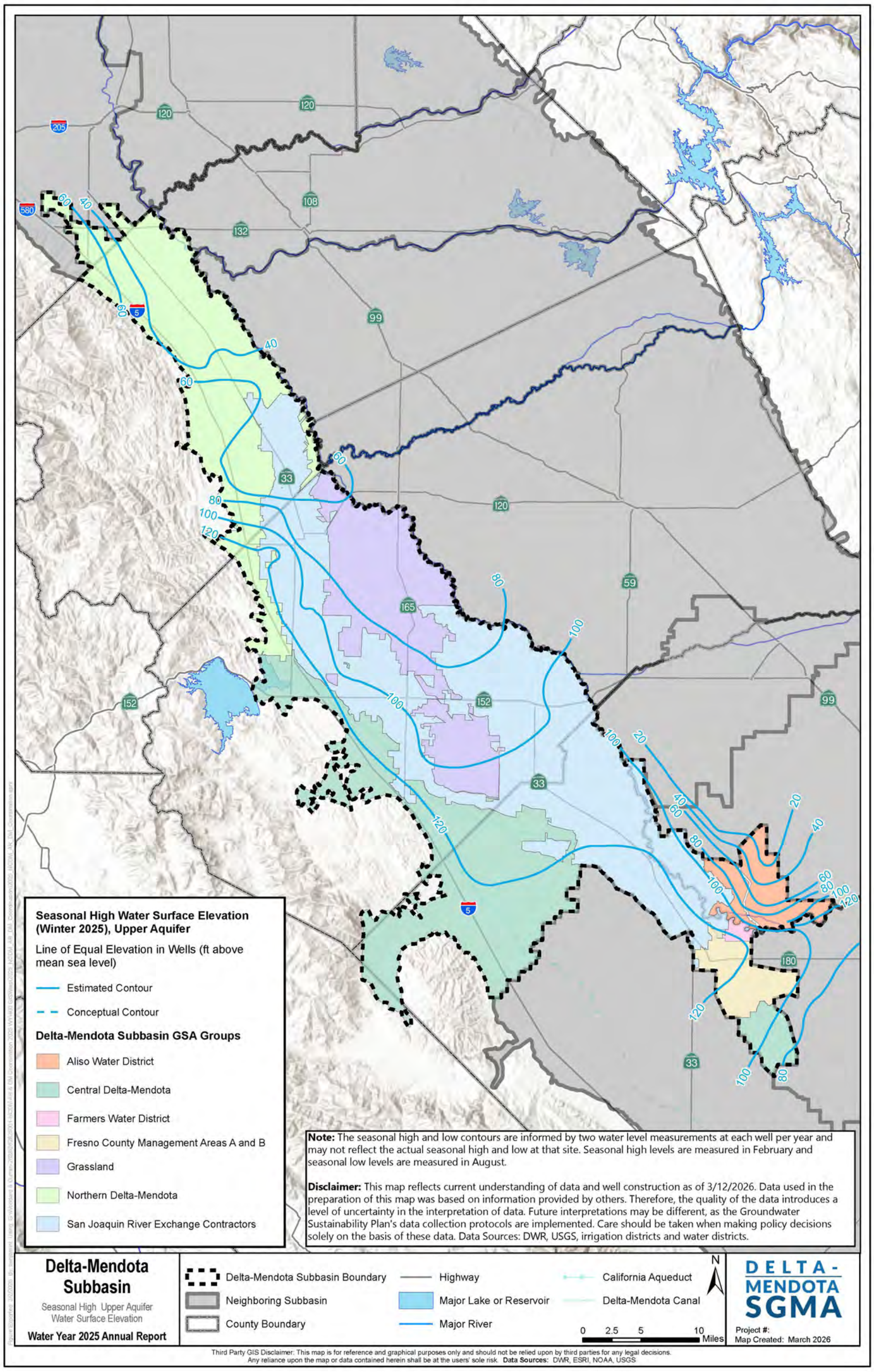

FIGURE 1-1: WY2025 SEASONAL HIGH (FEBRUARY 2025) GROUNDWATER ELEVATIONS, UPPER AQUIFER

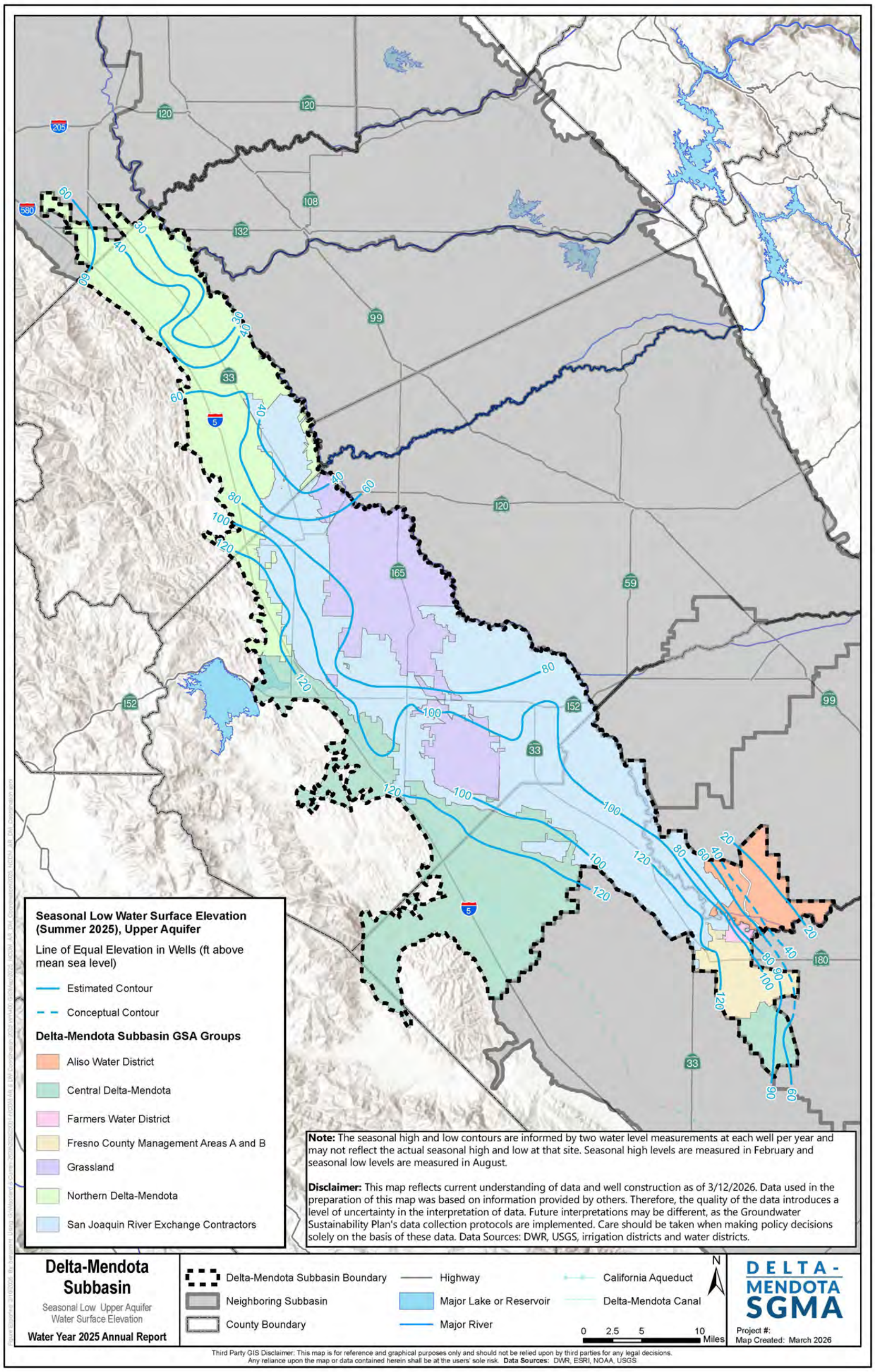

FIGURE 1-2: WY2025 SEASONAL LOW (AUGUST 2025) GROUNDWATER ELEVATIONS, UPPER AQUIFER

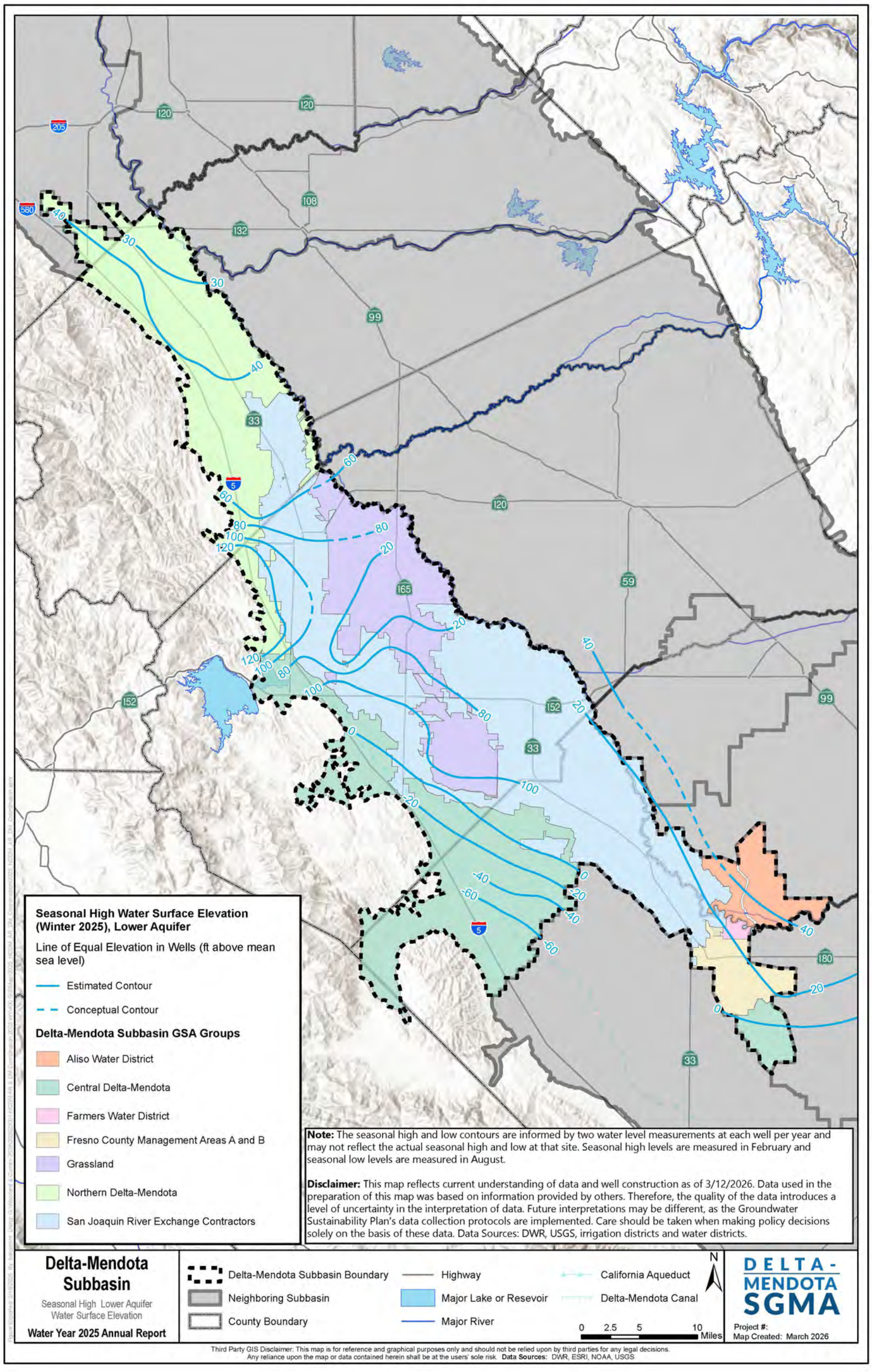

FIGURE 1-3: WY2025 SEASONAL HIGH (FEBRUARY 2025) GROUNDWATER ELEVATIONS, LOWER AQUIFER

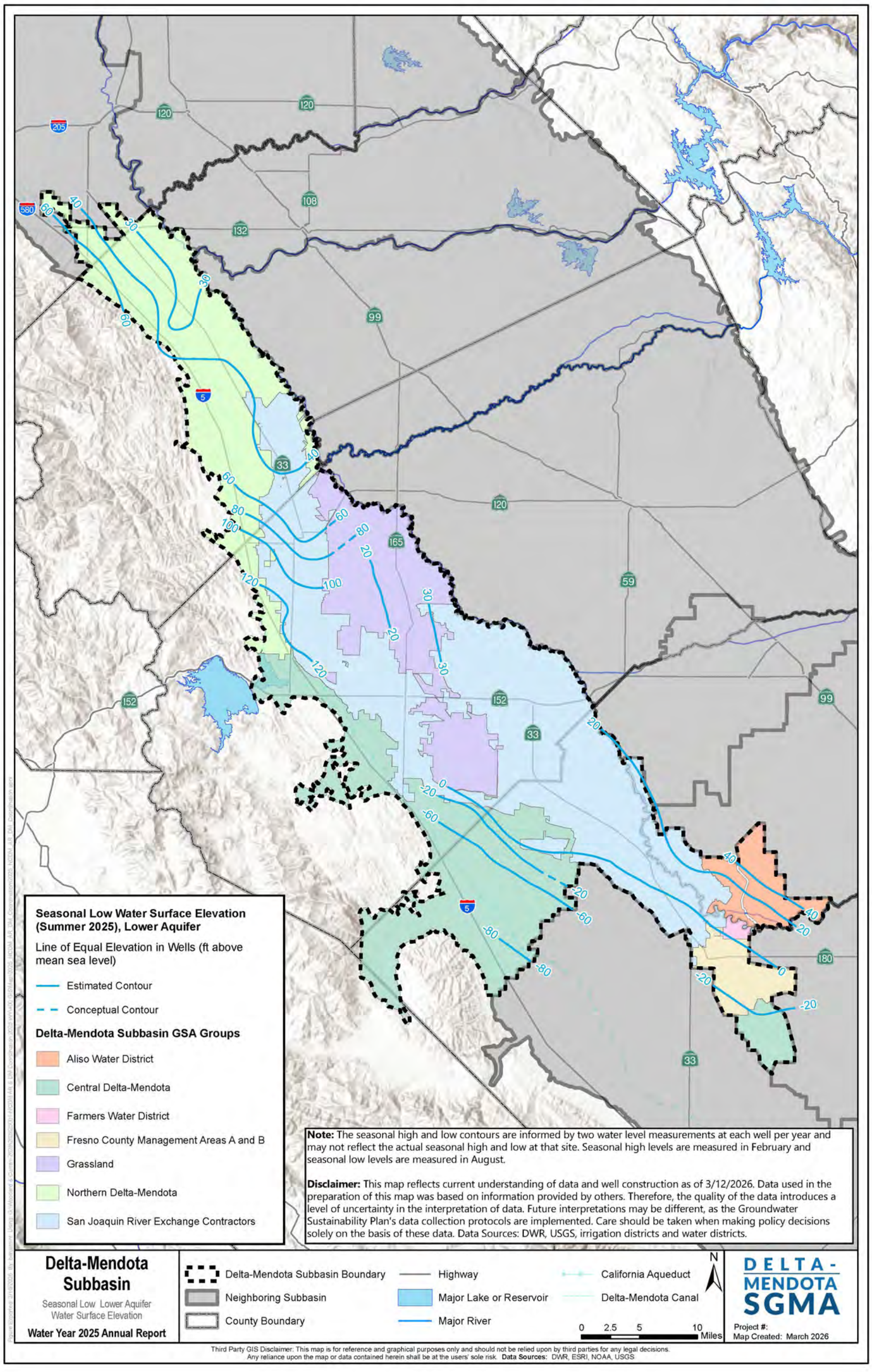

FIGURE 1-4: WY2025 SEASONAL LOW (AUGUST 2025) GROUNDWATER ELEVATIONS, LOWER AQUIFER

1.2 Groundwater Extraction

The following WY2025 groundwater extraction data, summarized in **Table 1-1**, are a combination of metered measurements and estimates from each of the seven GSA Group regions in the Delta-Mendota Subbasin. The accuracy of the measurements and estimates vary on a GSA Group region and site-by-site basis. The measurement methods also vary across the seven GSA Group regions and largely consists of self-reported groundwater extraction volumes from each GSA. As noted in **Section 2.2** in **Table 2-2**, implementation of Tier 1 Management Actions ALL-1 (GSA Well Permitting and Metering) and ALL-2 (Well Cataloging) are currently underway and nearly complete, which will facilitate direct measurement of groundwater extraction following full implementation (anticipated by the end of WY2026). **Table 1-2** shows the groundwater extraction measurement methods and accuracy by volume in the Delta-Mendota Subbasin during WY2025.

Agricultural groundwater pumping is the largest groundwater use sector by volume in the Delta-Mendota Subbasin at an estimated 396,000 acre-feet (AF) of extraction during WY2025, representing approximately 90% of total groundwater extractions in the Delta-Mendota Subbasin (**Table 1-1**). Urban/Domestic/Municipal (21,500 AF), Managed Wetlands (18,000 AF), and Industrial (6,800 AF) comprise the remaining 10% of total groundwater extractions in the Subbasin during WY2024 (**Table 1-1**). During WY2025, there were no quantifiable groundwater extractions for Managed Recharge, Native Vegetation, or Outside Subbasin water use sectors.

As noted, agricultural groundwater pumping is the largest groundwater use sector by volume in the Delta-Mendota Subbasin. Based on the currently GSA reported extraction data, agricultural pumping during WY2025 is estimated to be 278,100 AF, representing approximately 86% of total groundwater extractions in the Delta-Mendota Subbasin (**Table 1-1**). However, an independent estimate derived from a land-surface water budget approach indicates that agricultural groundwater pumping during WY2025 may be higher than the self-reported volumes. The land-surface water budget approach estimates groundwater extraction as the residual between crop evapotranspiration demand and available surface water supplies, accounting for effective precipitation and other water inputs. Based on this approach, agricultural pumping in WY2025 is estimated to fall within a range of approximately 278,100 AF to 396,000 AF.

The difference between these estimates likely reflects the varying levels of measurement accuracy and reporting approaches currently used across the Delta-Mendota Subbasin. In particular, reliance on self-reported pumping estimates, limited well metering, and differences in estimation methodologies may result in underreporting in some areas relative to basin-scale water budget estimates. For this reason, the range of estimates presented herein should be considered preliminary and subject to refinement. Ongoing implementation of subbasin-wide well metering, improved well cataloging, and standardized reporting procedures under Tier 1 Management Actions is expected to improve the accuracy and consistency of groundwater extraction data. These efforts, together with continued refinement of the land-surface water budget analysis, are anticipated to reconcile the discrepancies between reported and estimated groundwater pumping volumes by WY2026.

TABLE 1-1: WY2025 GROUNDWATER EXTRACTION BY WATER USE SECTOR

Water Use Sector	WY2025 Total (AF)	Measurement Method (Direct or Estimate) [1]	Measurement Accuracy (%)
Urban/Domestic/Municipal	21,500	Estimate	Unknown
Industrial	6,800	Estimate	Unknown
Agricultural	396,000	Estimate	Unknown
Managed Wetlands	18,000	Direct	Other
Managed Recharge	0	N/A	N/A
Native Vegetation	0	N/A	N/A
Other: Outside Subbasin	0	N/A	N/A
Total	**442,300**	**Estimate**	**Unknown**

[1] Measurements include a combination of direct measurements and estimated values; therefore, measurement method is reported as estimate in these cases.
N/A – not applicable

TABLE 1-2: WY2025 GROUNDWATER EXTRACTION VOLUME MEASUREMENT METHODS AND ACCURACY

Groundwater Extraction Volume (AF)	Measurement Type	Method	Accuracy	Accuracy Description
293,700	Direct	Meters	Other	Meter accuracy varies throughout the Subbasin based on water use sector and GSA, ranging from Unknown to 90-100%
200	Estimate	Electrical Records	Unknown	Unknown
148,400	Estimate	Land Use	Unknown	Unknown
0	N/A	Groundwater Model	N/A	N/A
0	N/A	Other: N/A	N/A	N/A

N/A – Not Applicable
AF – acre-feet

Figure 1-5 shows the general location and volume of groundwater extractions for each of the seven GSA Group regions during WY2025. Overall, groundwater extraction by GSA Group region is presented by the area covered by the individual GSA Group region and reflects, to some extent, the availability of surface water supplies within each GSA Group region. Surface water rights and contracted imported surface water volumes vary among the GSA Group regions where, for example, the San Joaquin River Exchange Contractors are reliant on their senior surface water rights, and agencies in the Central Delta-Mendota Region hold CVP contracts with water rights junior to their neighbors and are thus are more likely to be subject to shortages. For region-specific information about groundwater use and hydrogeologic conditions unique to each GSA Group region, refer to the 2024 GSP. As noted in the 2024 GSP, the estimated sustainable yield for the Upper Aquifer is estimated to range from 263,000 to 264,000 AFY with values for the Lower Aquifer ranging from 45,000 to 111,000 AFY, summing to a range from 308,000 to 375,000 AFY in total. There is currently insufficient information available relative to groundwater pumping by principal aquifer for the entirety of the Subbasin (varies by GSA Group region) to compare to the respective sustainable yields of each principal aquifer. Overall, total groundwater pumping for WY2025 is estimated to be 442,300 AF (as noted in **Table 1-1**), which is above the total sustainable yield range of the Subbasin. To improve the accuracy of future groundwater accounting, the Subbasin GSAs are actively advancing metering and well registration policies as outlined in the 2024 GSP, which are anticipated to be complete by the end of WY2026 (Tier 1 Management Actions ALL-1 and ALL-2, see **Section 2.2** for more information). These efforts are also integral components of the PRPs, which are being implemented to ensure that groundwater extractions are within the sustainable yield going forward (see **Section 2.4** for more information about PRPs).

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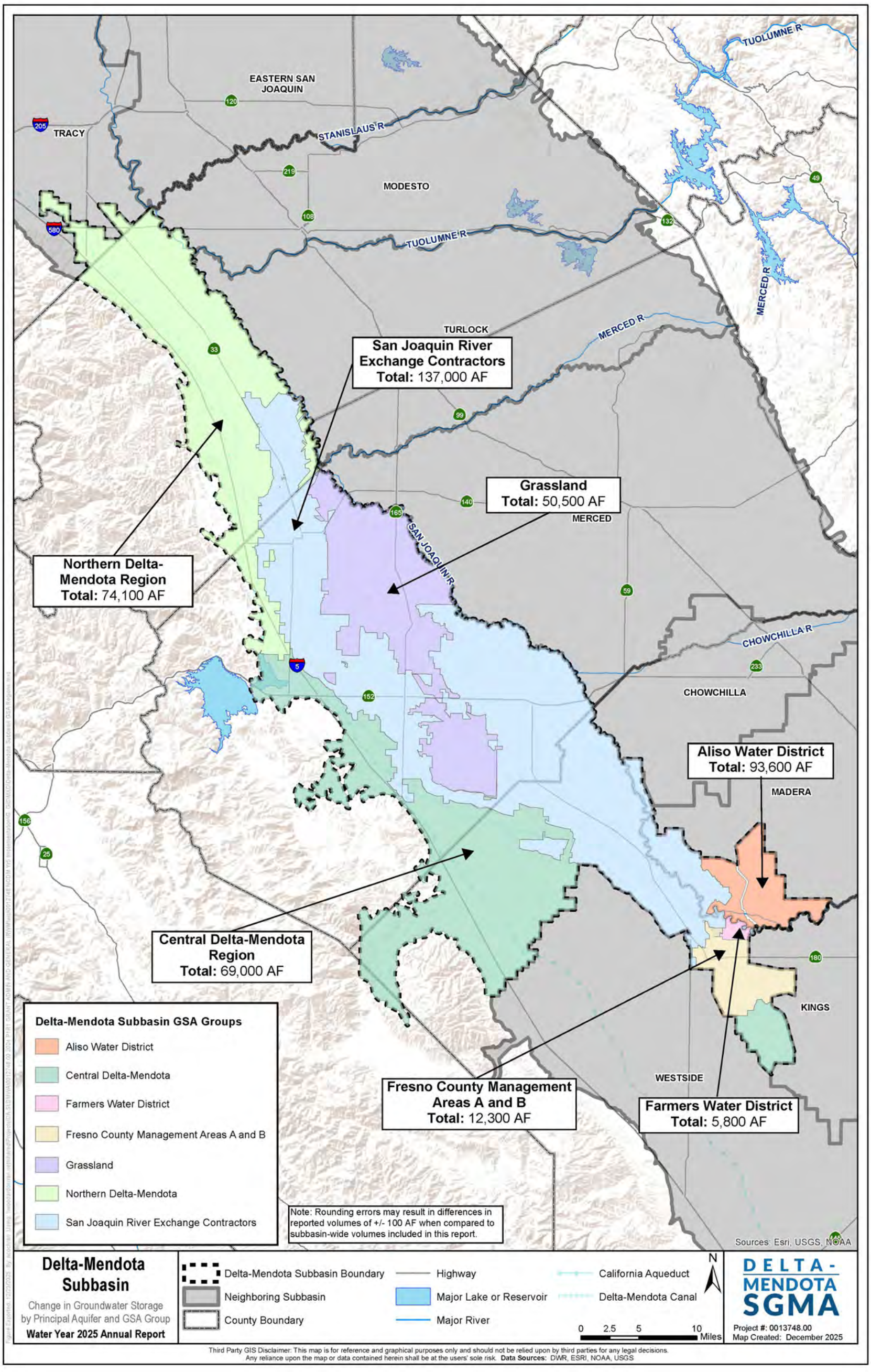

FIGURE 1-5: WY2025 GENERAL LOCATION AND TOTAL VOLUME OF GROUNDWATER EXTRACTIONS IN ACRE-FEET (AF)

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1.3 Surface Water Supply

The following surface water supply data are metered measurements from each of the seven GSA Group regions in the Delta-Mendota Subbasin.

CVP water accounts for the largest surface water source by volume at 1,209,900 AF during WY2025, representing approximately 84% of total surface water used within the Delta-Mendota Subbasin (**Table 1-3**). Water supplies from the Kings and San Joaquin Rivers (Other) account for 169,000 AF (12% of total) of surface water used during WY2025 (**Table 1-3**). The remaining 4% of surface water supplies during WY2025 consist of Local Imported Supplies (26,300 AF); Recycled Water (29,900 AF), which is sourced from the North Valley Regional Recycled Water Program and the North Grassland Water Conservation and Water Quality Control Project; water supplies sourced from local creeks, which include any naturally-occurring surface water course other than the Kings or San Joaquin Rivers (1,500 AF); and State Water Project (SWP) water (1,500 AF), where Oak Flat Water District is the only SWP contractor in the Delta-Mendota Subbasin (**Table 1-3**). A graphical representation of surface water supplies for WY2025 in the Delta-Mendota Subbasin is presented in **Figure 1-6**. Agriculture is the predominant surface water use sector within the Delta-Mendota Subbasin, with a lesser volume of CVP water delivered to Urban/Domestic/Municipal users and wildlife refuges.

TABLE 1-3: WY2025 SURFACE WATER SUPPLY

Surface Water Source	WY2025 Total (AF)	Methods Used to Determine
Central Valley Project (CVP)	1,209,900	Meters
State Water Project (SWP)	1,500	Meters
Colorado River Project	--	--
Local Supplies [1]	1,500	Meters
Local Imported Supplies	26,300	Meters
Recycled Water	29,900	Meters
Desalination	--	--
Other [2]	169,000	Meters
Total	**1,438,100**	**Meters**

[1] Surface water supplies sourced from local creeks, which include any naturally-occurring surface water course other than the Kings or San Joaquin Rivers.
[2] Surface water supplies sourced from the Kings and/or San Joaquin Rivers

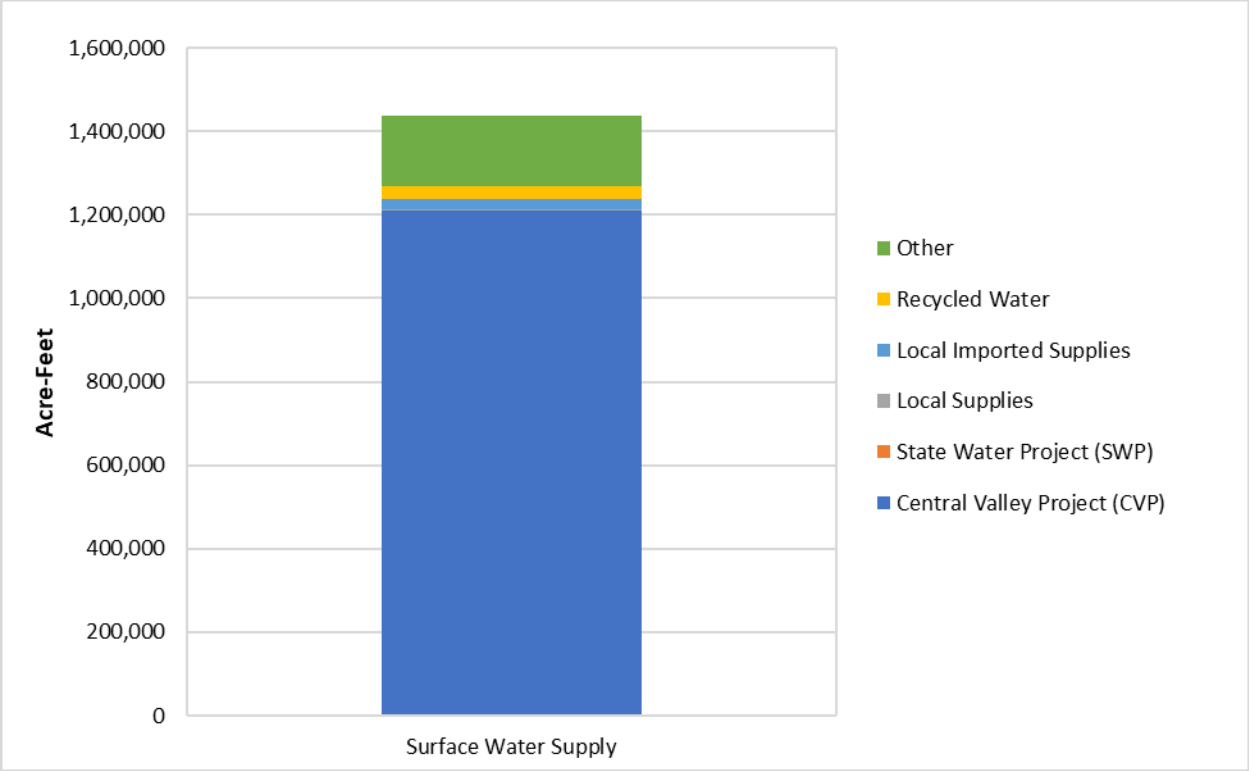

FIGURE 1-6: WY2025 SURFACE WATER SUPPLY

1.4 Total Water Use

Total water use by water use sector and supply type is shown in **Table 1-4** and consists of self-reported volumes from each GSA. The data presented in **Table 1-4** is a summation of data from the seven GSA Group regions and reflects a combination of metered measurements and estimates from each of the seven GSA Group regions in the Delta-Mendota Subbasin. The difference between these values and the sum of the various supplies available to the Subbasin (groundwater, surface water, and recycled/reuse water) reflects water lost through canal leakage, pipe leakage, and other percolating or unaccounted-for waters.

Agricultural water use comprises approximately 80% of the total water use in the Delta-Mendota Subbasin during WY2025 and is estimated to be 1,344,500 AF (**Table 1-4**). Managed Wetlands water use comprises approximately 19% of the total water use in the Subbasin during WY2025 at an estimated volume of 320,800 AF (**Table 1-4**). Collectively, Urban/Domestic/Municipal (16,100 AF), Managed Recharge (2,600 AF), and Industrial (3,000 AF) comprise the remaining 1% of total water use in the Subbasin during WY2025 (**Table 1-4**). A graphical representation of total water use for WY2025 in the Delta-Mendota Subbasin is presented in **Figure 1-7**.

TABLE 1-4: WY2025 TOTAL WATER USE

Total Water Use	WY2025 Total (AF) [1]	Measurement Method (Direct or Estimate)	Measurement Accuracy (%)
Urban/Domestic/Municipal	--	--	--
Groundwater	14,200	Estimate	Unknown
Surface Water	1,900	Direct	Other
Recycled Water	0	N/A	N/A
Reused Water	0	N/A	N/A
Other	0	N/A	N/A
Total	*16,100*	*Estimate*	*Unknown*
Industrial	--	--	--
Groundwater	3,000	Estimate	Unknown
Surface Water	0	N/A	N/A
Recycled Water	0	N/A	N/A
Reused Water	0	N/A	N/A
Other	0	N/A	N/A
Total	*3,000*	*Estimate*	*Unknown*
Agricultural	--	--	--
Groundwater	396,000	Estimate	Unknown
Surface Water	908,900	Direct	Unknown
Recycled Water	25,500	Direct	Unknown
Reused Water [2]	14,100	Estimate	Unknown
Other	0	N/A	N/A
Total	*1,344,500*	*Estimate*	*Unknown*
Managed Wetlands	--	--	--
Groundwater	18,000	Direct	Unknown
Surface Water	298,400	Direct	Unknown
Recycled Water	4,400	Direct	Unknown
Reused Water	0	N/A	N/A
Other	0	N/A	N/A
Total	*320,800*	*Direct*	*Unknown*
Managed Recharge	--	--	--
Groundwater	0	N/A	N/A
Surface Water	2,600	Direct	Unknown
Recycled Water	0	N/A	N/A
Reused Water	0	N/A	N/A
Other	0	N/A	N/A
Total	*2,600*	*Direct*	*Unknown*

Total Water Use	WY2025 Total (AF) [1]	Measurement Method (Direct or Estimate)	Measurement Accuracy (%)
Native Vegetation	--	--	--
Groundwater	0	N/A	N/A
Surface Water	0	N/A	N/A
Recycled Water	0	N/A	N/A
Reused Water	0	N/A	N/A
Other	0	N/A	N/A
Total	*0*	N/A	N/A
Other: N/A	--	--	--
Groundwater	0	N/A	N/A
Surface Water	0	N/A	N/A
Recycled Water	0	N/A	N/A
Reused Water	0	N/A	N/A
Other	0	N/A	N/A
Total	*0*	N/A	N/A
Total	***1,687,000***	***Estimate***	***Unknown***

[1] Differences in reported volumes in Table 1-3 compared to Table 1-1 and Table 1-2 account for actual water use in Table 1-3 (incorporating water loss through canal leakage, pipe leakage, and other percolating waters), compared to extracted groundwater in Table 1-1 and metered contracted surface water supplies in Table 1-2.
[2] Includes drain water/recirculated water utilized within Mercy Springs Water District and Patterson Irrigation District service areas.

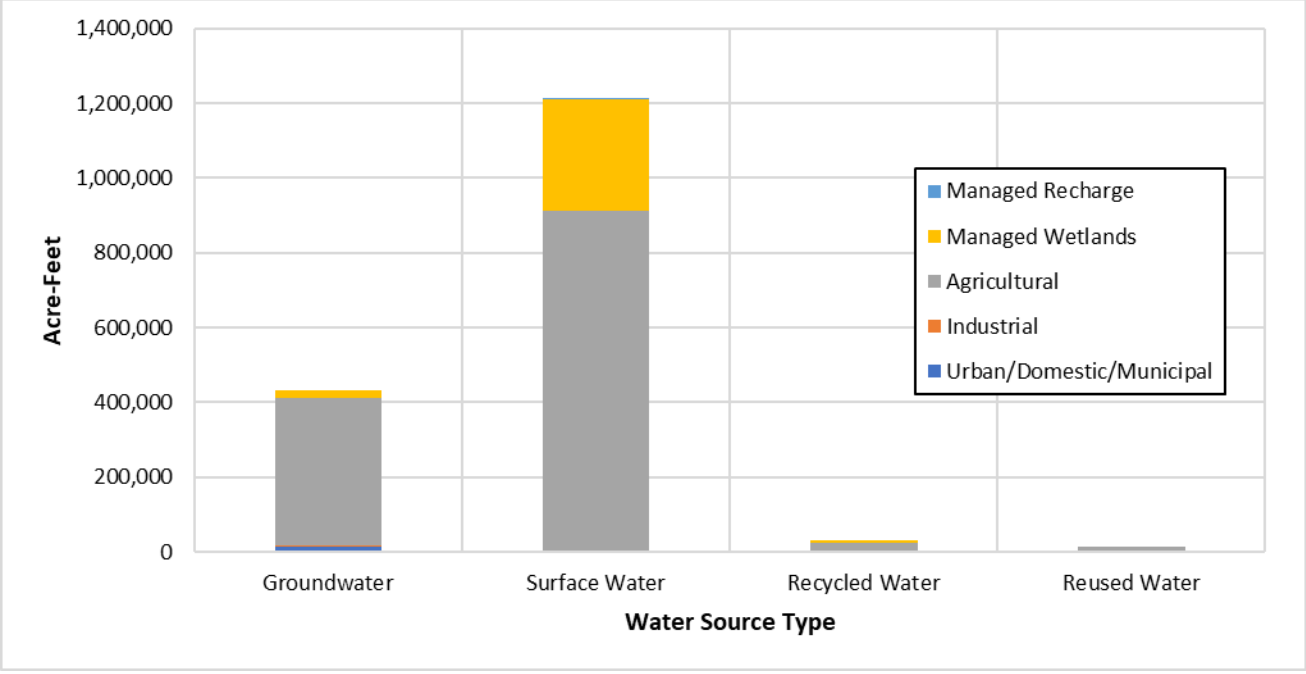

FIGURE 1-7: WY2025 TOTAL WATER USE

1.5 Change in Storage

The change in groundwater storage for the Delta-Mendota Subbasin is shown below in a series of graphs depicting groundwater use and annual change in groundwater storage for WY2025, along with the cumulative change in groundwater storage. Change in groundwater storage for WY2025 was calculated using the Central Valley Hydrologic Model Version 2 (CVHM2 or Model), consistent with the methodology presented in the single GSP. For this Annual Report, the Model has been extended through WY2025 and updated using locally available surface water delivery and pumping data for WY2023 through WY2025.

The model extension and updates were only focused on the Delta-Mendota Subbasin. Conditions outside the Subbasin were simulated using simplifying assumptions, including repetition of historical conditions with similar water year types, precipitation patterns, and surface water delivery conditions. As a result, conditions in adjacent subbasins were not updated with the same level of detail as within the Subbasin. Additionally, the Model has yet to undergo calibration to local groundwater levels and subsidence observations. As discussed in the GSP, uncertainty in modeled storage change remains significant, particularly with respect to the subsidence component and the associated estimate of water released caused by subsidence, which reflects changes in aquitard storage. Evaluations conducted during development of the GSP indicated that the Model may overestimate aquitard storage change within the Subbasin, and that simulated subsidence can be influenced by regional pumping conditions outside the Subbasin boundaries. Therefore, the change in storage estimation provided in this Annual Report is likely overestimating the overdraft in the Subbasin. Additional data collection and targeted calibration efforts are needed to refine storage and subsidence parameterization, particularly in the Lower Aquifer, and to improve confidence in modeled storage change estimates. The Subbasin is currently reviewing available monitoring data and Model performance through a technical ad hoc committee to evaluate calibration and on-going model maintenance strategy.

Based on the Model, for WY2025, the Upper Aquifer experienced a storage decrease of 101,800 AF and the Lower Aquifer experienced a storage decrease of 19,300 AF (**Table 1-5**). Combined, total change in storage in the Delta-Mendota Subbasin decreased by 121,100 AF during WY2025. Cumulative change in storage in the Upper Aquifer, Lower Aquifer, and total are presented in **Table 1-5**, where WY2014 through WY2024 change in storage were estimated from seasonal high to seasonal high conditions as presented in prior Annual Reports with the addition of WY2025 estimated change in storage using the Model showing end of water year conditions. From WY2014 through WY2025, groundwater stored in the Upper Aquifer decreased by approximately 164,400 AF, and in the Lower Aquifer, decreased by approximately 649,900 AF for a total cumulative decrease of 805,300 AF over the 12-year period. It should be noted that the period in question includes the height of the 2012-2016 drought (WY2014 through WY2016), which was then followed by normal and wet conditions through WY2019, dry conditions in WY2020, Shasta Critical conditions in WY2021 and WY2022, wet conditions in WY2023, above normal conditions in WY2024, and below normal conditions in WY2025.

TABLE 1-5: ANNUAL AND CUMULATIVE CHANGE IN STORAGE BY PRINCIPAL AQUIFER FROM WY2014 TO WY2025

Principal Aquifer	Annual Change in Storage, WY2025 (AF)	Cumulative Change in Storage, WY2014 to WY2025 (AF)[1]
Upper Aquifer	-101,800	-164,400
Lower Aquifer	-19,300	-640,900
Total	**-121,100**	**-805,300**

[1] Change in storage for WY2014 through WY2024 uses methods as presented in prior Annual Reports and includes seasonal high to seasonal high change as opposed to end of water year change as presented for WY2025.

Figure 1-8 shows annual change in groundwater stored by water year type with cumulative change in groundwater storage at the Subbasin level as calculated using methods described in previous Annual Reports and above for WY2025. In general, groundwater stored largely decreases during Dry and Shasta Critical water years and increases during Wet and Normal water years. Following the end of the 2012-2016 drought (starting in WY2017), groundwater storage increased due to increased precipitation, availability of imported surface water supplies, and decreased groundwater extraction. As a result, the negative trend in cumulative change in storage turned into a positive trend through WY2018 and plateaued through WY2020 and began to decrease in WY2021 and WY2022 due to critically dry conditions and a resulting increased reliance on groundwater. During WY2023, an overall increase in storage was observed across the Upper Aquifer and Lower Aquifer due to wet conditions and cumulative change in storage began to increase. An overall increase in storage was similarly observed in WY2024, resulting in continued recovery of both principal aquifers as well as continued increase in cumulative change in storage as a result of above normal conditions. In WY2025, an overall decrease in storage was observed due to below normal conditions, resulting in a decrease in cumulative change in storage as a result of increased groundwater pumping and decreased surface water availability. Note that due to a change in methods in calculating change in storage in WY2025 using CVHM2 may result in overestimation of overdraft conditions; therefore, caution should be taken when comparing prior water year change in storage results with those calculated by the Model for WY2025.

Figure 1-9 shows annual groundwater extraction estimates with cumulative change in groundwater storage at the Subbasin level. Groundwater extractions are greater in volume during Dry and Shasta Critical water years as compared to Normal and Wet water years, where increased precipitation and availability of imported water supplies result in a reduced reliance on groundwater. **Figure 1-9** demonstrates an inverse relationship between change in storage and groundwater extraction, where cumulative change in storage becomes more negative as groundwater extraction increases, and becomes more positive as groundwater extraction decreases. Cumulative change in storage long-term trends are heavily impacted by consecutive Dry and Shasta Critical water years (as evident in WY2021 and WY2022), with limited surface water availability and increased groundwater use, creating a compounding depletion of groundwater storage. As a result of wet conditions in WY2023 and above normal conditions in WY2024, respectively, cumulative change in storage trends have increased as a result of reduced groundwater pumping and are near cumulative change in storage at the start of the prior drought (WY2021 through WY2022). As noted above, due to increased groundwater pumping as a result of below normal conditions in WY2025 and a change in methods using CVHM2 to calculate change in storage (likely resulting in an overestimation of overdraft conditions), cumulative change in storage trends have become decreasing.

Figure 1-10 and **Figure 1-11** present change in groundwater storage by principal aquifer (Upper Aquifer and Lower Aquifer) during WY2025 (October 1, 2024 to September 30, 2025) by each CVHM2 model element[1]. On an element basis, the greatest decrease in storage in the Upper Aquifer was observed in the Aliso Water District, Northern Delta-Mendota, and Central Delta-Mendota GSA Group regions and the increase in storage was observed in the Central Delta-Mendota GSA Group region and scattered elements throughout the southern portion of the Subbasin (**Figure 1-10**). In the Lower Aquifer, on an element basis, the greatest decrease in storage was observed in the central portion of the Subbasin within the Grassland and San Joaquin River Exchange Contractors GSA Group regions, where increase in storage was observed along the Coast Range in the Central Delta-Mendota GSA Group region (where there is no Corcoran Clay and is likely a Model artifact) and in the Aliso Water District GSA Group region along the shared boundary with the Madera Subbasin (**Figure 1-11**). As noted above, it should be reiterated that the Model has yet to undergo calibration to local groundwater levels and subsidence observations and does not account for changes in basin conditions in the adjoining subbasins; therefore this Annual Report is likely overestimating the overdraft of the Subbasin. A Subbasin technical ad hoc committee is currently evaluating model calibration and on-going model maintenance strategy.

[1] Each cell in the CVHM2 grid is 1 square mile (mi^2), or 640 acres.

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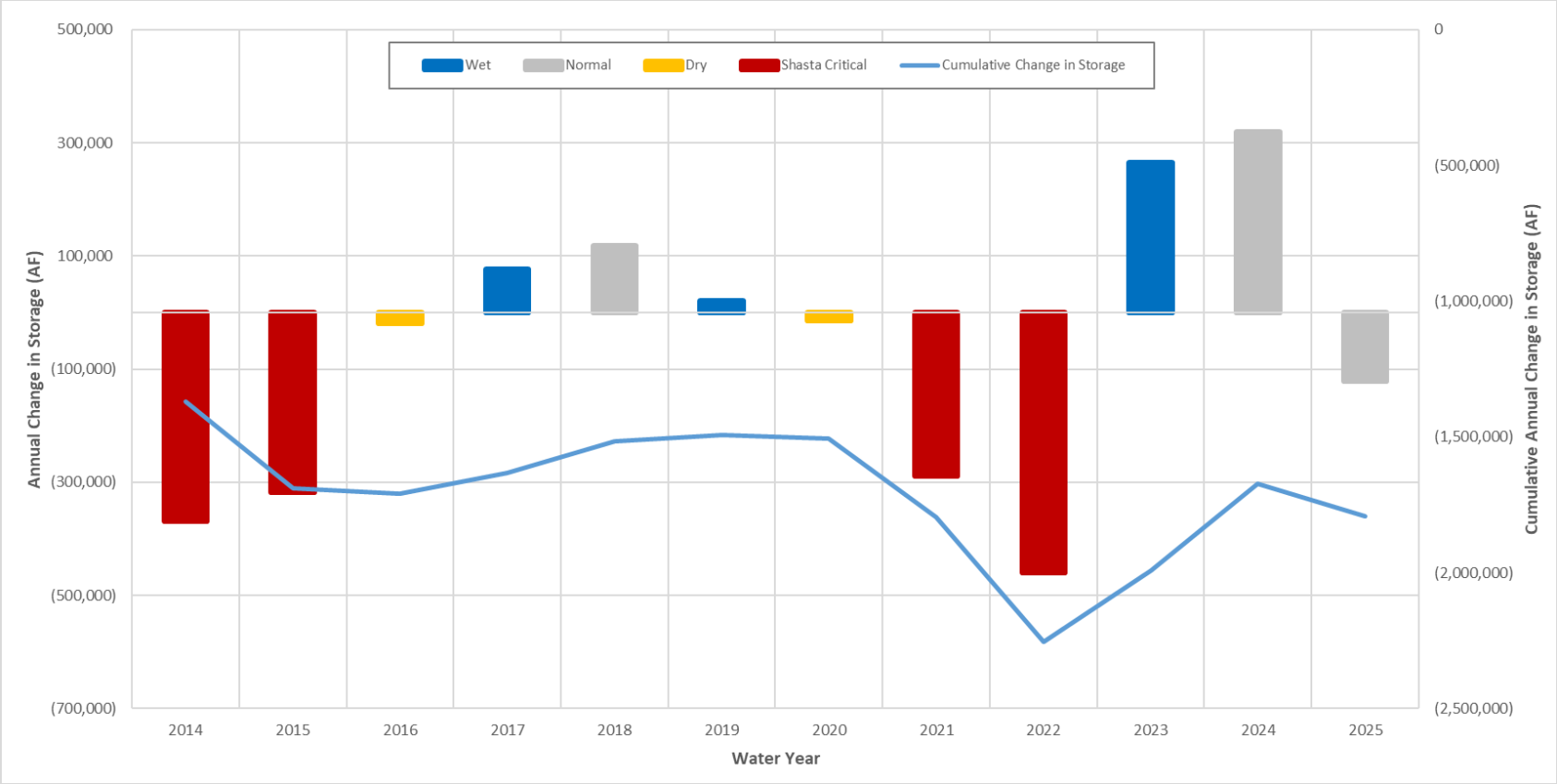

FIGURE 1-8: ANNUAL CHANGE IN STORAGE AND CUMULATIVE CHANGE IN STORAGE, SEASONAL HIGH 2013 TO SEASONAL HIGH 2025 [1]

[1] Water year types are mapped in the following manner according to the San Joaquin River Water Year Index water year types: Wet = Wet; Normal = Below Normal and Above Normal; Dry = Dry and Critical. Shasta Critical years are designated upon the request of the San Joaquin River Exchange Contractors and Grassland GSA Group regions as well as Tranquillity Irrigation District as this designation impacts surface water deliveries to exchange contracts and managed wetlands through the CVP. Shasta Critical designations are dependent on inflow to Shasta Reservoir and U.S. Bureau of Reclamation's operating rules for CVP deliveries.

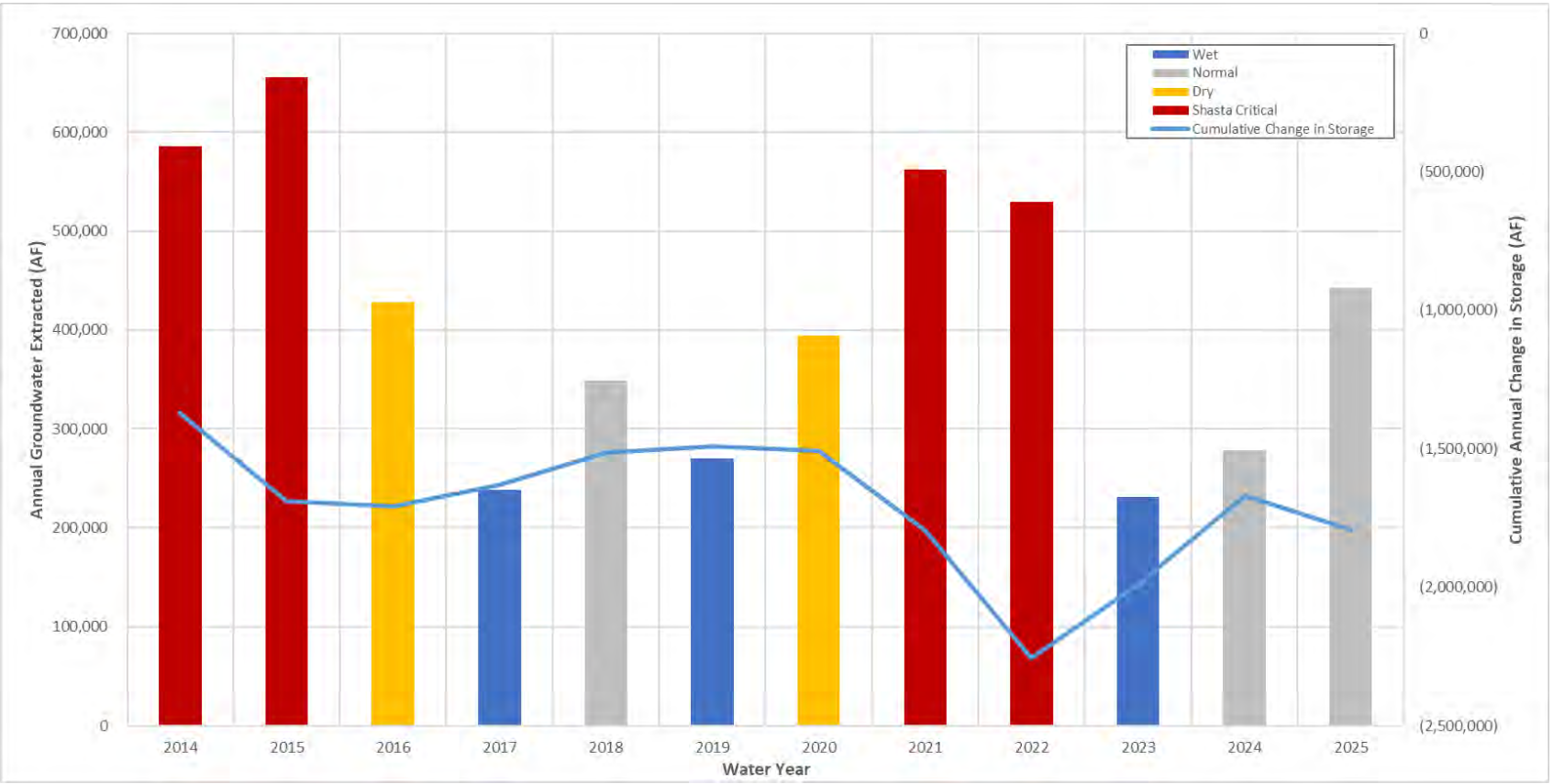

FIGURE 1-9: GROUNDWATER EXTRACTION ESTIMATES AND CUMULATIVE CHANGE IN STORAGE, WY2014 TO WY2025 [1]

[1] Water year types are mapped in the following manner according to the San Joaquin River Water Year Index water year types: Wet = Wet; Normal = Below Normal and Above Normal; Dry = Dry and Critical. Shasta Critical years are designated upon the request of the San Joaquin River Exchange Contractors and Grassland GSA Group regions as well as Tranquillity Irrigation District as this designation impacts surface water deliveries to exchange contracts and managed wetlands through the CVP. Shasta Critical designations are dependent on inflow to Shasta Reservoir and U.S. Bureau of Reclamation's operating rules for CVP deliveries.

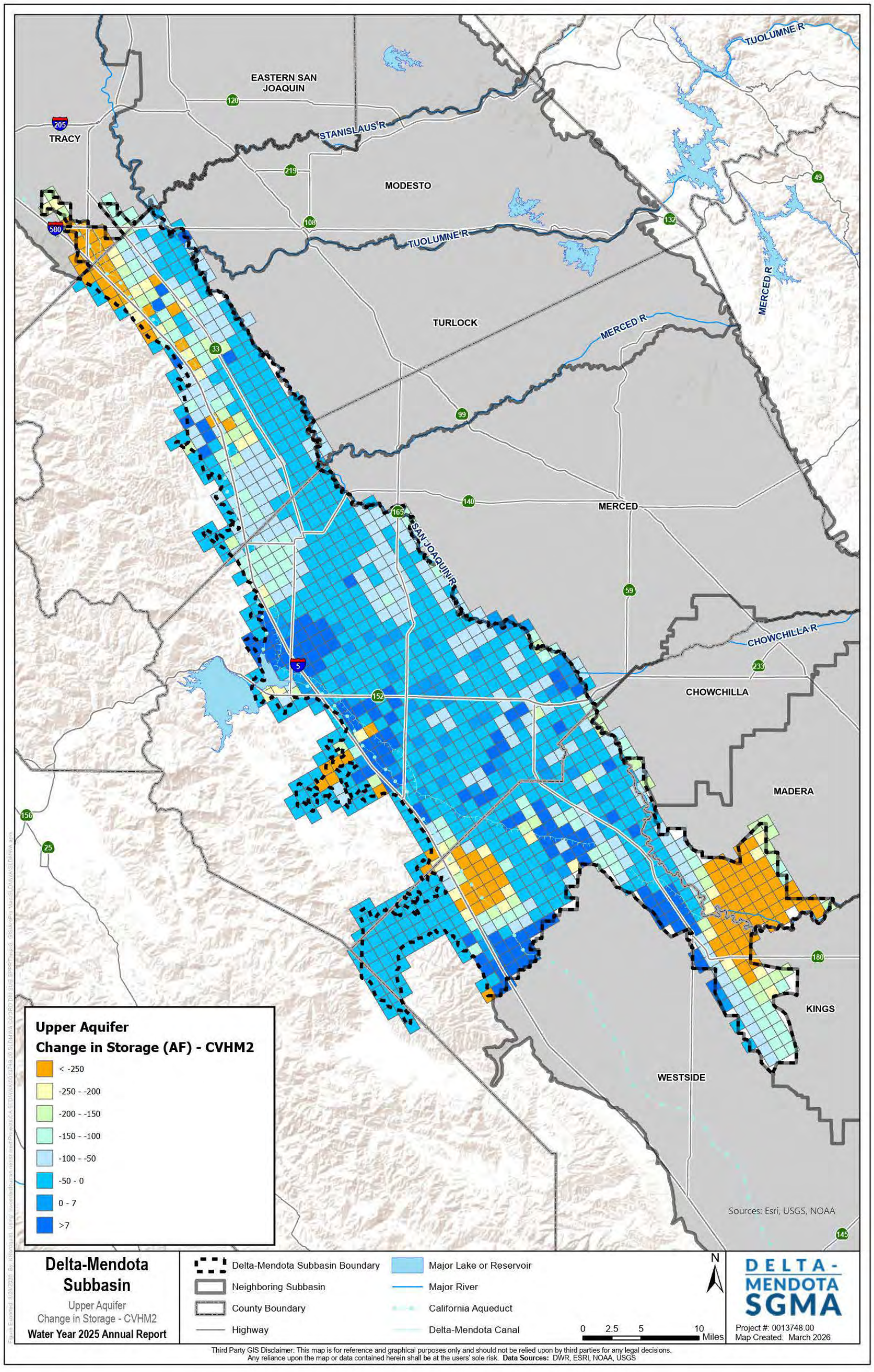

FIGURE 1-10: WY2025 UPPER AQUIFER CHANGE IN STORAGE BY CVHM2 MODEL ELEMENT

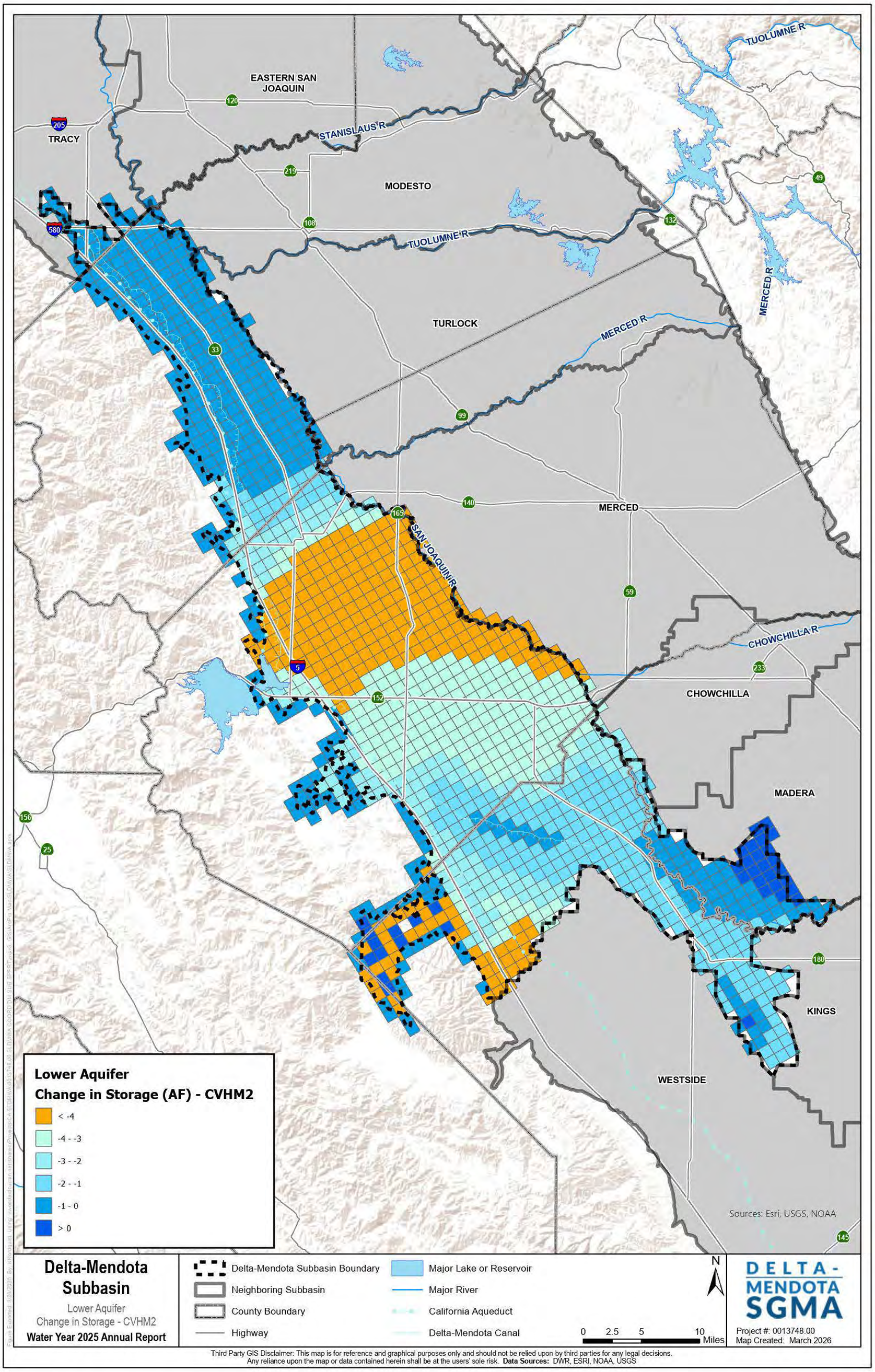

FIGURE 1-11: WY2025 LOWER AQUIFER CHANGE IN STORAGE BY CVHM2 MODEL ELEMENT

2. PROGRESS TOWARD IMPLEMENTATION

The following subsections contain a description of progress on GSP implementation during WY2025, including comparison of current conditions to the sustainable management criteria for each sustainability indicator, updates on projects and management actions, and progress on addressing recommended corrective actions to the GSP.

2.1 Current Conditions for Each Sustainability Indicator

Table 2-1 includes a summary of SMCs for each applicable sustainability indicator for the Delta-Mendota Subbasin. **Appendix B** contains representative monitoring network information in tabular and map forms, as well as numeric SMC in tabular form for each sustainability indicator applicable to the Delta-Mendota Subbasin.

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TABLE 2-1: SUMMARY OF SUSTAINABLE MANAGEMENT CRITERIA

Sustainability Indicator	Undesirable Results Criteria	Minium Threshold	Measurable Objective
Chronic Lowering of Groundwater Levels	At least one of the following occurs as a result of groundwater management in the Basin: 1. Groundwater levels decline below the established MTs in 25 percent or more of the RMW-WLs for two consecutive years (i.e., eight consecutive quarterly measurements), or 2. More than 10 drinking water wells are reported as dry in any given year, or 3. More than 170 drinking water wells are cumulatively reported dry by 2040 (10 wells per year over 17 years)	2015 Low Groundwater Elevation (Measured or Approximated Based on Available Data and Allowing for a Minimum of 20 Feet of Operational Flexibility Between the MO and MT)	2015 High Groundwater Elevation (Measured or Approximated)
Reduction in Groundwater Storage	Chronic Lowering of Groundwater Levels Used as a Proxy	Chronic Lowering of Groundwater Levels Used as a Proxy	Chronic Lowering of Groundwater Levels Used as a Proxy
Seawater Intrusion	Not Applicable	Not Applicable	Not Applicable
Degraded Water Quality	MTs for groundwater quality COC are exceeded in 15 percent of the RMW-WQs in three consecutive semiannual monitoring events and are caused by groundwater management within the Basin.	The greater concentration of either: 1. The applicable health-based screening standard (i.e., the MCL). 2. The baseline condition at each RMW-WQ, defined as the average measured concentrations in either: (1) the last calendar year with data in the period of 2010-2014; or if no data are available from 2010-2014, (2) the first calendar year with data after 2014 plus the maximum annual fluctuation range.	MT concentration for each RMW-WQ and COC.

Sustainability Indicator	Undesirable Results Criteria	Minium Threshold	Measurable Objective
Land Subsidence	The extent or rate of subsidence exceeds the applicable MT at any RMS-LS as a result of groundwater management within the Basin, based on a 5-year moving average.	Extent: 2.0 ft of cumulative subsidence between 2020 and 2040; Rate: Maximum five year moving average rate of 0.2 ft/year of subsidence	Extent: 0.0 ft of cumulative subsidence after 2040 Rate: 0.0 ft/yr of subsidence after 2040
Interconnected Surface Water	MT is exceeded for two consecutive years caused by groundwater extraction within the Basin.	Model-estimated Basin-wide depletion rate of 12,000 AFY.	Model-estimated Basin-wide depletion rate of 6,700 AFY.

Abbreviations
AFY = Acre-Feet per Year
COC = Constituent of Concern
Ft/year = Feet per Year
MO = Measurable Objective
MT = Minimum Threshold
RMS = Representative Monitoring Site
RMS-LS = Representative Monitoring Site for Land Subsidence
RMW-WL = Representative Monitoring Well for Chronic Lowering of Groundwater Levels
RMW-WQ = Representative Monitoring Well for Degraded Water Quality

2.1.1 Chronic Lowering of Groundwater Levels

As documented in the 2024 GSP, groundwater level monitoring is conducted on a quarterly basis (ideally February, May, August, and November). As noted in **Table 2-1**, an undesirable result for the chronic lowering of groundwater levels sustainability indicator occurs when at least one of the following criteria occurs as a result of groundwater management in the Subbasin:

1. Groundwater levels decline below the established MT in 25% or more of the RMW-WLs for two consecutive years (i.e., eight consecutive quarterly measurements), or
2. More than 10 drinking water wells are reported as dry in any given year, or
3. More than 170 drinking water wells are cumulatively reported dry by 2040 (10 wells per year over 17 years).

Given available data from WY2024 and WY2025 presented in **Appendix A**, groundwater levels within the Subbasin were largely near their measurable objectives or between their minimum thresholds and measurable objectives during WY2024 and WY2025. **Table 2-2** compares monitoring sites at which minimum threshold exceedances were observed during at least one monitoring event in WY2024 or WY2025, based on the first criterion of the undesirable result definition noted above. As PRPs began being implemented in WY2025, an action response to each minimum threshold exceedance is also documented in **Table 2-2**, as requirement of PRP implementation. An undesirable result for the chronic lowering of groundwater levels sustainability indicator was not observed in WY2025 in the Delta-Mendota Subbasin.

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TABLE 2-2: WY2025 GROUNDWATER LEVELS MINIMUM THRESHOLD EXCEEDANCES AND RESPONSE

DMS ID	GSA Group	WY 2024 Minimum Threshold Exceedance	WY 2025 Minimum Threshold Exceedance	Pumping Reduction Plan – Action Response Summary
09-001	Aliso Water District		X	Measurement questionable – grease/tar found in well casing. Historical inconsistencies in measurement values. Investigating influence from neighboring subbasin and may consider replacing well. Measurements in September, October, and November 2025 were above the minimum threshold.
09-004	Aliso Water District		X	Measurement in October 2025 demonstrated recovery of 33 feet to above the minimum threshold. Further recovery is anticipated. No action required.
09-232	Aliso Water District		X	Minimum threshold for well is preliminary, as no groundwater level measurements were available during SMC development. SMC to be recalculated once sufficient data is collected.
07-189	Central Delta-Mendota		X	Landowner provided with supplemental water. The 2-mile radius for the well indicates less than 0.25 AF/acre pumped in the area.
07-212	Central Delta-Mendota		X	Landowner provided with supplemental water. The 2-mile radius for the well indicates less than 0.25 AF/acre pumped in the area.
11-006	Grassland		X	Well recovered from August 2025 exceedance in October 2025 measurement. Nearby pumping appeared to stop in late October 2025. Continued monitoring planned to confirm sustained recovery with reduced nearby pumping.

DMS ID	GSA Group	WY 2024 Minimum Threshold Exceedance	WY 2025 Minimum Threshold Exceedance	Pumping Reduction Plan – Action Response Summary
11-021	Grassland		X	Wellhead was removed and pump was shut off in June 2025. Well videoed by landowner and showed multiple casing ruptures. Removed from representative monitoring network due to no longer reflecting aquifer conditions. Identification of a replacement well is in progress.
01-003	Northern Delta-Mendota	X		Not applicable. Exceedance only occurred in WY2024, prior to implementation of the PRP.
01-008	Northern Delta-Mendota	X		Not applicable. Exceedance only occurred in WY2024, prior to implementation of the PRP.
14-022	San Joaquin River Exchange Contractors		X	Identified as measurement error. Well is located in area with negligible groundwater pumping. Exceedance is assumed to be caused by activities not associated with GSA actions. No further action is required.

According to DWR's Dry Well Reporting System dataset published to the SGMA Data Viewer[1], in October 2024 (as reported in the WY2024 Annual Report), a well was reported dry just outside of the City of Gustine GSA within the San Joaquin River Exchange Contractors GSA Group region, and an undisclosed interim solution has been provided to the well owner. It should be noted that the reported dry well is indicated to be 20 feet deep and Merced County requires a 50-foot annular seal on domestic wells.[2] As part of implementation of the single GSP, the Subbasin GSAs adopted a well mitigation policy to address impacts to domestic and small community water system wells associated with declining groundwater levels. Additional details about the policy can be found in Section 16.1.7.2 of the 2024 GSP. The policy is effective as of WY2025.

During WY2025, the following changes to the representative monitoring network for the chronic lowering of groundwater levels sustainability indicator were implemented (by GSA Group):

- Central Delta-Mendota GSA Group
    - DMS ID 07-018 removed due to the well being obstructed by compacted soil resulting from land use operations. A replacement well is currently being identified.
- Grassland GSA Group
    - DMS ID 11-013 removed due to the well being abandoned and back-filled with cement slurry
    - DMS ID 11-021 removed due to multiple casing ruptures and therefore no longer reflecting aquifer conditions. Identification of a replacement well is in progress.
    - DMS ID 19-002-ISW was a planned well at the time of single GSP development. This well has been replaced with DMS ID 19-011, 19-012, and 19-013 (multi-completion well installed in 2025).
- Northern Delta-Mendota GSA Group
    - DMS ID 02-002 was removed due to the well being inoperable. DMS ID 02-118 added as a replacement.
    - DMS ID 03-008 and 03-009 were planned wells at the time of single GSP development. These wells have been replaced by DMS ID 03-010, 03-011, and 03-012 (multi-completion well installed in 2025) and will be used for interconnected surface water monitoring.
    - DMS ID 04-006 removed as well has been abandoned
    - DMS ID 04-007 removed due to discontinued monitoring
    - DMS ID 04-001 removed and replaced with DMS ID 04-212 (ARRA 120), as noted in WY2024 Annual Report

[1] Local Reported Dry Wells dataset published to the SGMA Data Viewer and available at https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#currentconditions.
[2] Merced County Code of Ordinances, Title 9 General Health and Safety, Chapter 9.28.060 Water Well Standards, 5. Well Seals: https://ecode360.com/43015748#43015801.

- DMS ID 04-212 added to replace DMS ID 04-001, removed in WY2025
- DMS ID 04-210 and 04-211 removed due to redundancy with DMS ID 06-008 and 06-009 (both to be installed in early 2026)
- DMS ID 04-213, 04-214, 04-215, and 04-216 added to fill data gaps
- DMS ID 05-127 removed due to well owner rescinding permission for monitoring. DMS ID 06-008 has been identified as a replacement (installed in January 2026).

- San Joaquin River Exchange Contractors GSA Group
  - DMS ID 16-002 removed due to redundancy and nearby wells available for monitoring

2.1.2 Reduction of Groundwater Storage

Reduction of groundwater storage uses the chronic lowering of groundwater levels SMC and representative monitoring network as a proxy for assessing sustainability. Therefore, conditions presented in **Section 2.1.1** also apply to reduction of groundwater storage.

2.1.3 Degraded Water Quality

During preparation of the 2024 GSP, an expanded list of constituents of concern was selected for future monitoring as part of GSP implementation. Groundwater sampling consistent with the 2024 GSP representative monitoring locations and list of constituents of concern occurred throughout WY2025 with sampling occurring on a biannual basis (February and August). Samples were analyzed for arsenic; nitrate as nitrogen (N); 1,2,3-trichloropropane (1,2,3-TCP); gross alpha radioactivity; total dissolved solids (TDS); and hexavalent chromium to be able to assess current conditions relative to SMC established in the 2024 GSP.

As noted in **Table 2-1**, undesirable results for groundwater quality are based on three consecutive semiannual monitoring events and are caused by groundwater management within the Delta-Mendota Subbasin. As WY2025 was the first full year of implementation of the single GSP, only two groundwater quality sampling events have occurred (in February and August 2025). Additional data collected in WY2026 will be used to assess for the presence of undesirable results in the Subbasin. **Table 2-3** documents minimum threshold exceedances observed for nitrate and TDS during WY2025, where representative monitoring sites had sufficient data and established numeric sustainable management to perform this assessment, as well as action responses per the PRPs. Following the WY2025 sampling event, sufficient data were available for additional wells to calculate sustainable management criteria for nitrate as N, TDS, and the other remaining constituents (arsenic; 1,2,3-TCP; gross alpha radioactivity; and hexavalent chromium) as documented in **Appendix B.** Data collected in WY2026 will be compared against newly calculated sustainable management criteria in the WY2026 Annual Report.

TABLE 2-3: WY2025 GROUNDWATER QUALITY MINIMUM THRESHOLD EXCEEDANCES AND RESPONSE

DMS ID	GSA Group	Nitrate as N Minimum Threshold Exceedance	TDS Minimum Threshold Exceedance	Pumping Reduction Plan – Action Response Summary
01-002	Northern Delta-Mendota		X (August only)	Apparent correlation between groundwater levels and quality at this well. GSA to move toward quarterly sampling to better understand relationship between groundwater levels and groundwater quality.
01-004	Northern Delta-Mendota	X (February and August)		No statistical correlation between groundwater levels and quality. No action required. GSA to continue to monitor site to ensure there is no correlation.
02-002	Northern Delta-Mendota		X (August only)	Proxy well used, as DMS ID 02-002 has been inoperable since 2022. Well was removed from representative monitoring network in WY2025 and will be replaced with DMS ID 02-118.
05-124	Northern Delta-Mendota	X (February only)		For August 2025 sampling event, nitrate as N concentration dropped below the minimum threshold. No further action required.
07-016	Central Delta-Mendota		X (August only)	Well provides drinking water to the community of Santa Nella and has historically had high TDS. Groundwater in Santa Nella s blended with treated surface water and distributed to municipal and industrial customers. Blended water remains under 500 mg/L and meets drinking water standards regulated by SWRCB Division of Drinking Water.
07-018	Central Delta-Mendota		X (February and August)	Well removed from representative monitoring network in WY2025 due to obstruction by soil as a result of land use operations. Identification of replacement well is in progress.

DMS ID	GSA Group	Nitrate as N Minimum Threshold Exceedance	TDS Minimum Threshold Exceedance	Pumping Reduction Plan – Action Response Summary
07-028	Central Delta-Mendota		X (February and August)	Well only pumped for water quality testing. Corrective measures being taking by conveying more surface water into Eagle Field Water District's system than Lower Aquifer groundwater extractions. Well has known water quality issues.
07-031	Central Delta-Mendota		X (August only)	Calculated sustainable management criteria may not be reflective of existing background concentrations. Further investigation requested to establish criteria appropriate for this site.
07-032	Central Delta-Mendota		X (August only)	Calculated sustainable management criteria may not be reflective of existing background concentrations. Further investigation requested to establish criteria appropriate for this site.
07-034	Central Delta-Mendota		X (February only)	Well unable to be sampled in August 2025 due to well repairs. February 2025 results to be confirmed during February 2026 sampling event.
07-036	Central Delta-Mendota	X (February only)	X (February and August)	Well only pumped for water quality testing in WY2025. Further investigation is on-going.

DMS ID	GSA Group	Nitrate as N Minimum Threshold Exceedance	TDS Minimum Threshold Exceedance	Pumping Reduction Plan – Action Response Summary
08-002	Central Delta-Mendota		X (August only)	Minimal pumping from well over past 3 years. No apparent correlation found between declining groundwater levels and TDS concentration, as groundwater levels have been static or trending upward. Surrounding lands may be impacted by drainage issue, resulting in high TDS concentrations as well as other constituents. Additional historical data from the well to be evaluated to recalculate sustainable management criteria to account for fluctuations in TDS concentration.
11-018	Grassland		X (August only)	Groundwater levels not taken at this well in WY2025. Currently evaluating potential correlation of TDS concentration and groundwater levels.
19-004	Grassland		X (February and August)	Groundwater levels not taken at this well in WY2025. Currently evaluating potential correlation of TDS concentration and groundwater levels.
14-003	San Joaquin River Exchange Contractors		X (February only)	For August 2025 sampling event, TDS concentration dropped below the minimum threshold. No further action required.

DMS ID	GSA Group	Nitrate as N Minimum Threshold Exceedance	TDS Minimum Threshold Exceedance	Pumping Reduction Plan – Action Response Summary
14-005	San Joaquin River Exchange Contractors		X (February and August)	Historically shallow saline groundwater area with TDS exceedances dating back to 2015. Groundwater level is above minimum threshold and exceedance does not appear to be caused by groundwater management in the Subbasin, as data do not show correlation between increased observed TDS concentrations and decreasing groundwater levels.
14-007	San Joaquin River Exchange Contractors		X (February and August)	Historically shallow saline groundwater area with TDS exceedances dating back to 2015. Groundwater level is above minimum threshold and exceedance does not appear to be caused by groundwater management in the Subbasin, as data do not show correlation between increased observed TDS concentrations and decreasing groundwater levels.
14-027	San Joaquin River Exchange Contractors		X (February and August)	TDS concentration at the well hovers around 1,000 mg/L. Well operated by City of Los Banos and is subject to Title 22 drinking water quality reporting and compliance. Groundwater level is above minimum threshold and exceedance does not appear to be caused by groundwater management in the Subbasin, as data do not show correlation between increased observed TDS concentrations and decreasing groundwater levels.

DMS ID	GSA Group	Nitrate as N Minimum Threshold Exceedance	TDS Minimum Threshold Exceedance	Pumping Reduction Plan – Action Response Summary
22-002	San Joaquin River Exchange Contractors		X (February and August)	TDS concentration at well has slowly degraded over time. Well operated by City of Gustine and is subject to Title 22 drinking water quality reporting and compliance. Groundwater level is above minimum threshold and exceedance does not appear to be caused by groundwater management in the Subbasin, as data do not show correlation between increased observed TDS concentrations and decreasing groundwater levels.

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During WY2025, the following changes to the representative monitoring network for the degraded water quality sustainability indicator were implemented (by GSA Group):

- Central Delta-Mendota GSA Group
    - DMS ID 07-018 removed due to the well being obstructed by compacted soil resulting from land use operations. A replacement well is currently being identified.
- Grassland GSA Group
    - DMS ID 11-021 removed due to multiple casing ruptures and therefore no longer reflecting aquifer conditions. Identification of a replacement well is in progress.
    - DMS ID 19-002 was added to the representative monitoring network (previously only monitored for groundwater levels)
- Northern Delta-Mendota GSA Group
    - DMS ID 02-002 removed due to the well being inoperable. DMS ID 02-118 added as a replacement.
    - DMS ID 03-008 and 03-009 were planned wells at the time of single GSP development. These wells have been replaced by DMS ID 03-010 for groundwater quality monitoring.
    - DMS ID 04-006 removed as the well has been abandoned
    - DMS ID 04-007 removed due to discontinued monitoring
    - DMS ID 04-212 added to replace DMS ID 04-001 which was removed in WY2025
    - DMS ID 04-210 and 04-211 were planned sites during single GSP development and locations for the wells have not be secured
    - DMS ID 04-216 added to fill a data gap
    - DMS ID 05-127 removed due to well owner rescinding permission for monitoring. Identification of a replacement well is still in progress.
- San Joaquin River Exchange Contractors GSA Group
    - DMS ID 16-002 removed due to redundancy and nearby wells available for monitoring

2.1.4 Seawater Intrusion

Seawater intrusion is not an applicable sustainability indicator to the Delta-Mendota Subbasin.

2.1.5 Land Subsidence

During preparation of the single GSP, the representative monitoring network and SMC for land subsidence were revised. As a result of the transition to implementation of the single GSP during WY2025, there are insufficient monitoring data to allow for a current conditions assessment for land subsidence, as undesirable results are identified based on a 5-year moving average rate of subsidence. Additionally the U.S. Bureau of Reclamation (USBR) will no longer conduct surveying along the Delta-Mendota Canal (last conducted in 2024) or provide subsidence benchmark monitoring services for the San Joaquin River Restoration Program

(last surveyed in July 2025)[1]. As noted in Section 13.5.2.6 of the 2024 GSP, available Interferometric Synthetic Aperture Radar (InSAR) data published by DWR will be monitored in addition to the 42 representative monitoring sites for land subsidence (see **Appendix B** for more information).

Figure 2-1 shows InSAR data available through DWR's SGMA Data Viewer[2] from October 2024 to October 2025 within and surrounding the Delta-Mendota Subbasin. Based on the best available data, vertical displacement within the Subbasin was between -0.1 and 0.1 feet throughout the majority of the Subbasin, indicating no subsidence. Vertical displacement of between -0.2 and -0.1 feet was observed in the southern portion of the Subbasin (within the Aliso Water District, Farmers Water District, Fresno County Management Areas A and B, Grassland, and San Joaquin River Exchange Contractor GSA Groups) near the shared boundaries with the Merced, Chowchilla, Madera, and Kings Subbasins. As noted in **Table 2-2**, all Subbasin GSAs have adopted a well metering policy as of 2025. Beginning in 2026, well metering data are required to be reported by each well owner to the GSA.

Additionally, beginning in WY2025, each GSA Groups began implementing their Subsidence Avoidance Plan under the PRPs (see Section 2.4 for more information). The purpose of the Subsidence Avoidance Plans is to proactively address land subsidence that does not or is not projected to comply with the GSP as soon as feasible and implement pumping cutbacks that will bring the identified regions into the sustainability path of the Subbasin. Pumping cutbacks under the Subsidence Avoidance Plan are triggered based on two components:

- **Critical Infrastructure Component**: The three-year moving average subsidence rate exceeds 0.2 feet per year within 0.5 miles of critical infrastructure.
- **Hotspot Mitigation Component**: The five-year linear trend established based on land survey data indicates a projected subsidence of more than 2 feet by 2040 (the minimum threshold), or more than 1.5 feet by 2030 (the interim milestone) or exceedance of any subsequent interim milestone.

The Critical Infrastructure Component was not trigged in the Delta-Mendota Subbasin in WY2025. Available InSAR data were used to assess the Hotspot Mitigation Component of the PRPs. It should be noted that InSAR data accuracy is approximately 20 millimeters, or approximately 0.79 inches[3], and leveling/grading of agricultural fields may inaccurately be identified as subsidence in the InSAR dataset. GSAs were made aware of potential hotspots and many are actively investigating the cause of potential subsidence. GSAs that have completed their investigations and have identified that no action is needed indicate that there is either no or minimal Lower Aquifer pumping in the identified hotspot. During WY2026, additional data will be collected as part of 2024 GSP implementation to be able to assess the 5-year moving average rate of subsidence at each representative monitoring site in comparison to available InSAR data to determine avoidance of undesirable results and ultimately achievement of the measurable objective by 2040.

In March 2022, the Delta-Mendota Subbasin received funding under DWR's SGM Program SGMA Implementation – Round 1 for critically overdrafted basins. Work to be completed under the grant includes

[1] Based on information available during preparation of this Annual Report. Both programs have provided valuable information to monitor and assess progress toward sustainability in the Delta-Mendota Subbasins. The Subbasin GSAs will continue to coordinate and advocate to USBR the importance of continued subsidence surveying.
[2] DWR's SGMA Data Viewer can be accessed at: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#currentconditions
[3] Source: https://data.cnra.ca.gov/dataset/5e2d49e1-9ed0-425e-9f3e-2cda4a213c26/resource/b9f6f30b-e998-4cf1-b4e1-5d530356f172/download/towill_insar-cgps_wy23_finalreport_02-22-2024_v1.pdf

filling subsidence monitoring data gaps through the construction of up to ten survey benchmarks. During WY2025, the Subbasin GSAs finalized the locations and type of subsidence monitoring sites to be installed within the Subbasin prior to the work completion date of the grant in April 2026.

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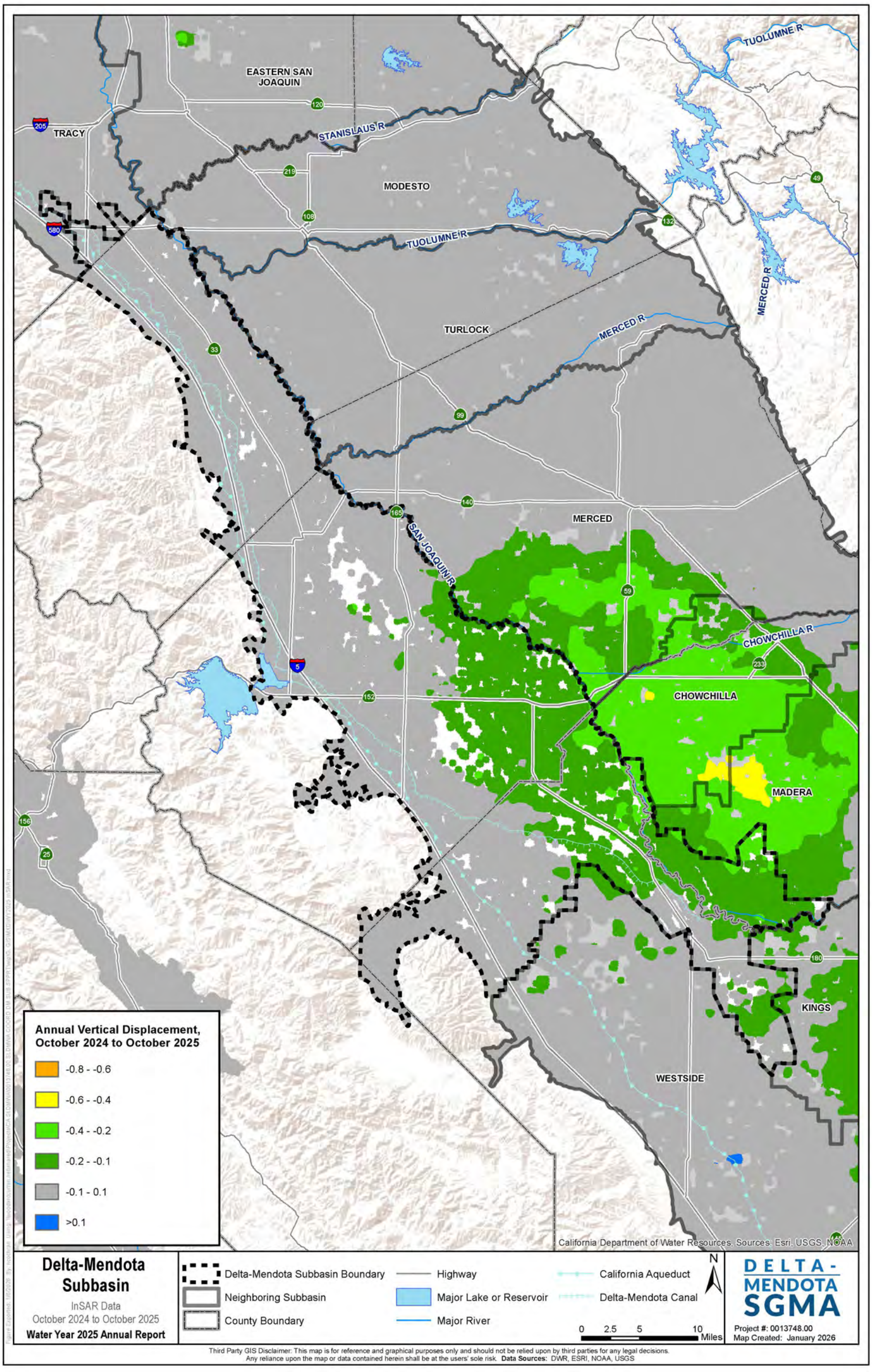

FIGURE 2-1: ANNUAL VERTICAL DISPLACEMENT FROM OCTOBER 2024 TO OCTOBER 2025, DELTA-MENDOTA SUBBASIN

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2.1.6 Depletion of Interconnected Surface Water

As noted in **Table 2-1**, an undesirable result for the interconnected surface water sustainability indicator would occur if the minimum threshold is exceeded for two consecutive years caused by groundwater extraction within the Delta-Mendota Subbasin. The minimum threshold is defined as the model-estimated subbasin-wide depletion rate of 12,000 AFY. The CVHM2 was used to estimate the subbasin-wide depletion rate for the Delta-Mendota Subbasin during WY2025 by developing with and without groundwater pumping scenarios. Calculated depletions along the San Joaquin River, following the approach outlined in the GSP, estimate 5,265 AF of depletion caused by groundwater pumping within the Subbasin in WY2025. As the minimum threshold was not exceeded in WY2025, an undesirable result did not occur.

In March 2022, the Delta-Mendota Subbasin received funding under DWR's SGM Program SGMA Implementation – Round 1 for critically overdrafted basins. Work to be completed under the grant includes filling of interconnected surface water monitoring data gaps through the installation of up to six monitoring wells at three sites within the Grassland and Northern Delta-Mendota GSA group regions (identified in **Appendix B**):

- Grassland GSA Group
    - DMS ID 19-011 – Installed September 2025
    - DMS ID 19-012 – Installed September 2025
    - DMS ID 19-013 – Installed September 2025
- Northern Delta-Mendota GSA Group
    - DMS ID 03-010 – Installed March 2025
    - DMS ID 03-011 – Installed March 2025
    - DMS ID 03-012 – Installed March 2025
    - DMS ID 06-008 – Installed in January 2026
    - DMS ID 06-009 – Installed in January 2026

2.2 Projects and Management Actions

Projects and management actions (P/MAs) continued to be implemented by the GSAs during WY2025. Implementation of P/MAs, reduction of groundwater pumping, and augmentation of groundwater supplies with other sources are collectively being utilized to achieve sustainability in the Subbasin. P/MAs are grouped into four tiers. Tier 1 P/MAs have been implemented since 2020 and are currently operational. Tier 2 and Tier 3 P/MAs are planned for full operation by 2030 and 2040, respectively. Tier 4 P/MAs are conceptual projects that will be implemented after 2040 or on an as-needed basis to meet sustainability after Tier 1, 2, and 3 P/MAs have been implemented.

Table 2-2 includes an implementation summary of the P/MAs that have been implemented since 2020 and are currently operational, as well as their resulting benefits to groundwater conditions and/or groundwater management in the Subbasin, as discussed in the 2024 GSP. Information regarding P/MAs of all tiers is

presented in **Appendix C** as included in the 2024 GSP, such as status and expected benefits, with updates provided where necessary.

TABLE 2-4: TIER 1 P/MAS IMPLEMENTATION SUMMARY (2020-2025)

ID	Name	Status	Summary of Current Benefits
Tier 1 Projects			
AWD-2	San Joaquin River and Chowchilla Bypass Flood Water	In 2024, the District increased engagement in consultation efforts with the SWRCB on the pending standard water right application. The temporary water rights are no longer necessary until 2029 as the District is relying on SB122 flood diversion permissions.	These permits allow for the diversion of up to 10,000 AFY of available San Joaquin River flood water from the Chowchilla Bypass. In WY 2023, AWD diverted approximately 7,500 AF of flood flows for recharge by application to crops and direct recharge using temporary pumps and ponds (see AWD-3). In Water Year 2024, no water was diverted from the Chowchilla Bypass by the District due to the lack of available supply in the Bypass.
AWD-3	Chowchilla Bypass Recharge Facility	In 2025, AWD completed project design. Bid opening occurred in September with a Notice to Proceed in October. Construction is anticipated to be completed in March 2026.	80 acres of previous tree crop land were retired to construct recharge ponds, resulting in an estimated 250 AFY of pumping reduction. In WY 2023, AWD used a temporary turnout to apply water for direct recharge. In the future, water may be used to implement groundwater recharge on a larger area.
CDM-2 / GWD-1 / SJREC-5	Los Banos Creek Diversion Facility	Construction completed in 2017.	This project has an average yield of 7,000 AFY and provides benefits to the riparian corridor along the Los Banos Creek, improves wetland habitat, flood protection to the City of Los Banos (a DAC) and water supply for the riparian water users. Project yield is split evenly between CCID, SLWD, and GWD.
CDM-3 / GWD-2 / SJREC-6	Los Banos Creek Detention Reservoir Regulation and Storage Project (previously known as Los Banos Creek Storage Project)	A pilot project was completed in Fall 2020, and funding for this project was received as part of the SGM Program SGMA Implementation – Round 1 Grant awarded in April 2022. Completion of construction for full project buildout is scheduled for spring 2026.	This project will provide 8,000 AF of additional water storage. It provides flood protection to the City of Los Banos and temporary storage of water or groundwater that can be used to meet peak irrigation and wildlife water management demands. Project storage is split evenly between CCID, SLWD, and GWD. The Project released about 9,000 AF for use by riparian landowners along Los Banos Creek during fall 2025 in order for construction activities to commence.
GWD-3	North Grassland Water Conservation and Water Quality Control Project	Construction of facilities was completed in 2020. An enhancement adding new points of diversion and an intertie pipeline is scheduled for construction in 2024 and 2025.	This project currently provides an average yield of approximately 16,000 AFY of recirculated Level 2 CVP refuge supply. The planned project enhancements are estimated to yield an additional 14,000 AFY by 2026.

ID	Name	Status	Summary of Current Benefits
GWD-4 / NDM-3	North Valley Regional Recycled Water Program - Modesto and Early Turlock Years	Recycled water deliveries to DPWD customers from the City of Modesto and City of Turlock began in December 2017 and March 2020, respectively. Additional recycled water supplies are expected to increase gradually from project completion, from 14,000 AFY in 2020 to 59,000 AFY in 2040 and onward as the cities grow.	The Program currently delivers a total of 27,000 AFY of recycled water to Grassland GSA and DPWD that offsets groundwater pumping, reducing declines in groundwater elevation and storage and associated potential degradation in water quality. Additionally, this project offsets groundwater pumping from the Lower Aquifer, resulting in a reduced risk of inelastic land subsidence, and reduces pumping near Interconnected Surface Water.
NDM-4 / SJREC-7	Orestimba Creek Recharge and Recovery Project	Construction completed in February 2026. A Temporary Water Right Permit has been issued and an application for an appropriative water right has been filed for this project.	Project proponents (DPWD and CCID) each store up to 7,500 AFY in the previously farmed 80-acre facility. During Below Normal WYs, project proponents can withdraw 3,750 AF, less a 10 percent leave behind. In Dry and Critical WYs, project proponents can withdraw 7,500 AF, less a 10 percent leave behind. On average, the project is expected to yield 1,485 AFY each (2,970 AFY total). Additionally, retirement of 80 acres of previously irrigated land has resulted in an estimated 250 AFY pumping reduction. In Wet WYs, flood flows will be diverted from Orestimba Creek to the project, reducing downstream pressure on the City of Newman, CCID's main canal, and the floodplain of the San Joaquin River.
SJREC-8	Red Top Area Subsidence Mitigation	Construction was completed in 2017. In 2017, almost 50,000 AF was recharged directly into the adjacent Chowchilla Subbasin or used in-lieu of pumping groundwater. In 2018, an additional 10,000 AF of surface water was put to beneficial use.	This project targets reducing subsidence in the Subbasin caused by pumping outside of the Subbasin. The subsidence rate at Sack Dam (San Luis Canal Company headworks) was reduced from 0.42 feet/ year to 0.12 feet/year, or 70 percent. Subsidence rates in the following years have remained substantially lower than pre-implementation rates.
Tier 1 Management Actions			
ALL-1	GSA Well Permitting and Metering	Implementation of the Well Permitting Review is underway for all counties and their respective GSA(s). All counties in the Subbasin have updated their well permitting process and requirements to include a step for GSA review (see Section 5.3.4 of the GSP). Several GSAs (AWD, Central Delta-Mendota, PID, DPWD, WSID, Madera County) have a metering policy in place. Water Budget Monitoring is ongoing and will be continued as part of the basin-wide Monitoring and Data Collection Plan (see Section 16.1.1.2 of the 2024 GSP). Further, this is addressed in each region's Pumping Reduction Plan.	Increased GSA access to and input on well permits help to determine if the pumping associated with a new well will cause undesirable results in each GSA's jurisdictional area and to ensure that groundwater extractions are metered or measured in some fashion, ensuring that new wells are compliant with current and future sustainable practices.

ID	Name	Status	Summary of Current Benefits
		The status of well permitting and metering by each GSA group as of WY2025 is as follows: • **Aliso Water District** – Metering policy adopted in September 2024 and groundwater pumping regulations adopted in August 2025. Monthly meter reads reported quarterly starting in December 2024. As of January 2026, over 95% compliance with registration and metering. Non-responsive well owners have received violation notices for failure to comply with policies. Anticipate all active production wells will be metered and registered by summer 2026. • **Central Delta-Mendota** – Well registration required no later than April 2021. Metering required by December 2023. • **Farmers Water District** – Well registration and metering is complete for all active production wells. • **Fresno County Management Areas A and B** – In progress. Anticipated to be fully implemented before the end of WY2026. • **Grassland** – Well Registration Policy and Well Metering and Reporting Policy adopted in June 2025. As of January 2026, 75% of active production wells have been registered. Outreach to landowners continues until all wells are registered, metered, and reporting annual pumping volumes. • **Northern Delta-Mendota** – Estimated 80% compliance with well registration and metering. GSAs are working with remaining well owners to complete registration and metering, which is anticipated by end of 2026. • **San Joaquin River Exchange Contractors** – 100% compliance with well registration and metering since the 1990s.	
ALL-2	Well Cataloging	Implementation is underway and supported by ALL-1 (GSA Well Permitting and Metering). The Subbasin GSAs have field-verified and logged the locations of several wells, as discussed in Section 5.1.5 of the 2024 GSP. Further, this is addressed in each region's Pumping Reduction Plan.	Cataloging and registering Subbasin wells into a database, which includes information about well construction, pump sizes, extraction amounts, water quality, etc., and helps to maintain accurate and up-to-date information about local groundwater conditions.

ID	Name	Status	Summary of Current Benefits
AWD-1 / NDM-1	Groundwater Extraction Fees / Incentives for Surface Water Use	AWD levies a groundwater extraction fee of $13.44/AF. Groundwater use is estimated based on a cropping-data estimate, or the grower may opt to provide flow meter data. AWD may adjust this fee following a Proposition 218 hearing. Landowners importing surface water receive up to a 4:1 credit against groundwater extraction fees. Specifically, for each AF of surface water imported, landowners receive credit to offset the extraction fees for up to 4 AF of groundwater. Similarly, Del Puerto Water District has enacted a policy that requires growers to pre-purchase allocated CVP supplies up to 50% allocation. This policy therefore incentivizes growers to use available surface before pumping groundwater.	These policies encourage AWD and DPWD growers to use surface water supplies, reducing overall groundwater demands. The AWD policy incentivizes the use of up to 10,000 AFY of San Joaquin River flood flows (see AWD-2). Since 2020, some AWD growers have temporarily fallowed fields on an annual basis, which has reduced their groundwater extraction fees. In Water Year 2024, AWD landowners diverted approximately 700 AF of surface water. DPWD is projecting 4,000-10,000 AFY of reduced pumping as a result of the policy.
CDM-1	Revision to Tranquillity Irrigation District Lower Aquifer Pumping	A Well Water Operations Plan was established in 2017 and is implemented on an annual basis.	This revised pumping strategy limits extraction from Lower Aquifer wells has an estimated groundwater savings of 5,000 - 7,000 AFY.
NDM-2	Drought Contingency Planning in Urban Areas	Included and actively being implemented as part of the City of Patterson's adopted 2020 Urban Water Management Plan.	These planning strategies can be expanded upon, if necessary, and applied in order to minimize impacts to groundwater storage and water levels when supplies become limited.
SJREC-1	Groundwater Allocations - Madera County GSA	From 2021 to 2025, allocations are designed to reduce transitional water by 2 percent annually.	Approximately 80 AFY of water savings, counted towards the Madera County GSA's allocation in the Basin-wide Overdraft Mitigation Plan (see Section 16.1.1.2 of the GSP)
SJREC-2	Private Well Pumping for Credits	Since implementation in the 1990s, private landowners can pump private well water into district facilities. As part of this P/MA, all water pumped for credit is subject to policies including established trigger water levels to restrict the mining of groundwater in impacted areas, water quality standards, and maximum mining limits. These policies also prohibit the export of groundwater out of an impacted area if the water level is below the trigger level.	This policy allows the SJREC to regulate pumping and minimize impacts due to pumping in high-risk areas.
SJREC-3	Mitigation for Migration of Shallow Saline Groundwater	Projects including the San Joaquin River Improvement Project and Westside Drainage Management Plan have been implemented, which have encouraged management actions including the installation of subsurface tile lines and the installation of 18 wells to lower the perched water table and reduce discharge of subsurface drainage systems.	Discharge of poor-quality groundwater from upslope drainage areas to the south and west has been reduced, conserving groundwater quality in SJREC agricultural areas.

ID	Name	Status	Summary of Current Benefits
SJREC-4	Annual Groundwater Assessment Report	The SJREC completes a Groundwater Assessment Report annually.	The report establishes recommended limits of exported groundwater in impacted areas if the groundwater elevation is below an established trigger level and advises how each monitoring zone within the SJREC area should be managed for the current year.

Abbreviations:
AF = acre-feet
AFY = acre-feet per year
AWD = Aliso Water District
CCID = Central California Irrigation District CDM = Central Delta-Mendota
CVP = Central Valley Project
DAC = Disadvantaged Community
DPWD = Del Puerto Water District
GSA = Groundwater Sustainability Agency GWD = Grassland Water District
NDM = Northern Delta-Mendota
P/MA = Project and Management Action
SGM = Sustainable Groundwater Management
SGMA = Sustainable Groundwater Management Act
SJREC = San Joaquin River Exchange Contractors
SLWD = San Luis Water District
SWRCB = State Water Resources Control Board
WY = Water Year

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2.3 Progress Made in Addressing Recommended Corrective Actions in the Department's GSP Determination

The Delta-Mendota Subbasin is currently under state intervention by the SWRCB. Therefore, the current 2024 GSP has not been approved by DWR and there are no current recommended corrective actions to address. The GSAs worked collaboratively with SWRCB staff throughout the development of the 2024 GSP to address corrective actions contained in the 2022 Inadequate determination letter and continue discussions with the SWRCB while implementing the 2024 GSP.

2.4 Other Information on Implementation Progress

Throughout WY2025, the Delta-Mendota Subbasin worked collaboratively to finalize adoption and begin implementation of the single GSP for the Subbasin in November 2024. An ad hoc subcommittee of the Delta-Mendota Coordination Committee members continued to meet with SWRCB staff during WY2025 to discuss the single GSP evaluation and review process. The Delta-Mendota Coordination Committee continued to meet monthly on the 2nd Monday of each month at 1pm in accordance with the Brown Act to coordinate implementation of the single GSP across the GSA Groups.

Implementation activities identified in Section 16.1 of the 2024 GSP include initiation of Pumping Reduction Plans to address overdraft and achieve sustainable conditions within the Subbasin. The PRPs detail the standards with which all GSAs must comply and includes a clear implementation plan and schedule to support successful execution beginning January 2025. The PRP consists of six components:

1. Monitoring and Data Collection Plan
2. Overdraft Mitigation Plan
3. Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan
4. Water Quality Minimum Threshold (WQ-MT) Exceedance Plan
5. Subsidence Avoidance Plan
6. Groundwater Allocation Backstop

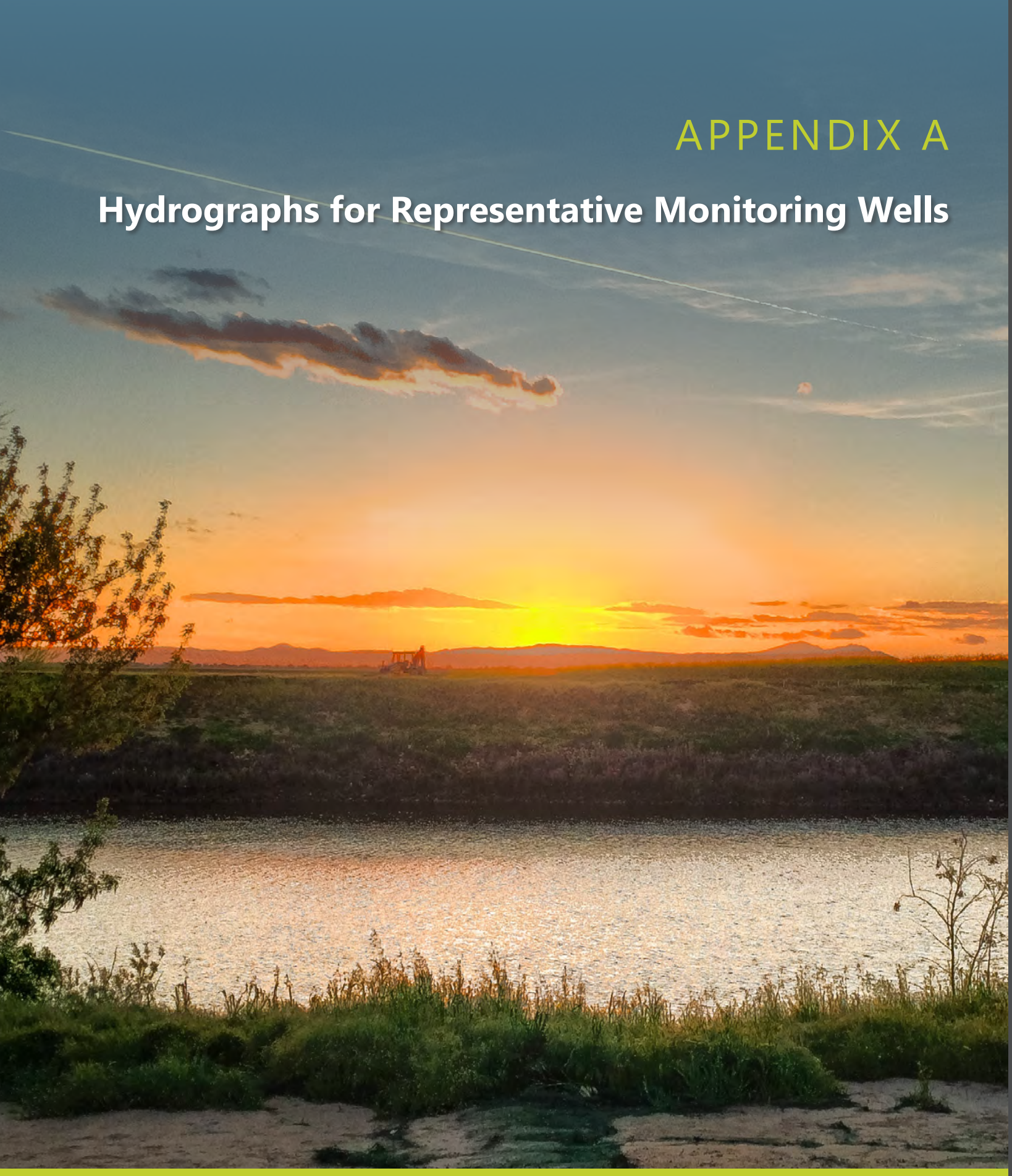
For applicable PRP components, specific triggers and procedures are defined. These include an entry trigger to activate the PRP, a zone of impact to determine where the PRP will be applied, a cutback approach to provide quantitative estimates of pumping reductions, an exit trigger to conclude the cutback once objectives are met, and enforcement measures to ensure successful implementation. Additional monitoring and reporting requirements are also included for each component, aligning with the Monitoring and Data Collection Plan. Each GSA Group adopted their respective PRPs in early WY2025. Copies of each adopted PRP are included in **Appendix D**. As noted in **Section 2.1**, investigation of potential PRP triggers occurred for the chronic lowering of groundwater levels (GWL-MT Avoidance Plan), degraded water quality (WQ-MT Exceedance Plan), and land subsidence (Subsidence Avoidance Plan) sustainability indicators in several GSA Group regions during WY2025. Details regarding investigation and action/resolution (where applicable) are also included in **Section 2.1**. Additionally, each GSA Group implemented their Monitoring and Data Collection Plan throughout WY2025. The Overdraft Mitigation Plans in each PRP will begin in WY2026 with annual overdraft reduction targets by principal aquifer through WY2030. Finally, the Groundwater Allocation

Backstop will only be implemented if the requirements of the 2024 GSP cannot be met (i.e., if the Overdraft Mitigation Plan is not achieved by 2030).

The well mitigation policy was developed to address impacts to domestic and small community water system wells associated with declining groundwater levels resulting from GSA management. Additional details about the policy can be found in Section 16.1.7.2 of the 2024 GSP.

2.5 Reporting Monitoring Data as Appendices

All historical groundwater level data collected through WY2025 are included in hydrographs in **Appendix A,** and a minimum of two annual measurements (seasonal high and seasonal low groundwater levels) were submitted to DWR's SGMA Portal for all representative monitoring sites. Data for all sustainability indicators are stored in the Delta-Mendota Subbasin Data Management System.



APPENDIX A

Hydrographs for Representative Monitoring Wells

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Local Site ID	DMS ID	GSA Group	GSA	CASGEM Station ID	Latitude (° NAD83)	Longitude (° NAD83)	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description	Well Type	Well Status	Well Completion Type	Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)	Principal Aquifer(s) Monitored
2480-72	09-001	Aliso Water District GSA Group	Aliso Water District GSA	368491N1203504W001	36.84797	-120.35053	158.34	157.34		Irrigation	Active	Single Well	335	160-328	Upper
12S16E31G001M	09-002	Aliso Water District GSA Group	Aliso Water District GSA	368438N1202621W001	36.8439	-120.2611	180.86	179.86		Irrigation	Active	Single Well	520	210-510	Upper
13S15E14M001M	09-003	Aliso Water District GSA Group	Aliso Water District GSA	367985N1203102W001	36.7986	-120.3092	166.89	166.39		Irrigation	Active	Single Well	304	180-304	Upper
13S16E30A001M	09-004	Aliso Water District GSA Group	Aliso Water District GSA	367755N1202599W001	36.77614	-120.2593	178.92	177.42		Irrigation	Active	Single Well	380	190-380	Upper
North Upper	09-231	Aliso Water District GSA Group	Aliso Water District GSA	369012N1202823W001	36.9012	-120.28235	169.1	171.6		Monitoring	Active	Part of a nested/multi-completion well	270	200-270	Upper
North Lower	09-232	Aliso Water District GSA Group	Aliso Water District GSA		36.9012	-120.28235	169.1	171.6		Monitoring	Active	Part of a nested/multi-completion well	350	320-350	Lower
South Lower	09-233	Aliso Water District GSA Group	Aliso Water District GSA		36.78263	-120.26268	170.2	172.8		Monitoring	Active	Single Well	500	470-500	Lower
MC15-1	07-002	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	370173N1208999W001	37.0173	-120.8999	176.3	175.46	Black mark on top of PVC casing-north side: 0.84 below land surface. USGS Well.	Monitoring	Active	Unknown	355	335-355	Lower
MC15-2	07-003	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	370173N1208999W002	37.0173	-120.8999	176.3	175.38	Black mark on top of PVC casing-north side: 0.92 below land surface. USGS Well.	Monitoring	Active	Unknown	160	150-160	Upper
MP091.68R	07-005	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	369097N1207554W001	36.9097	-120.7554	145.17	146.33	Paint mark	Irrigation	Inactive	Single Well	615	365-425, 426-455, 456-495, 496-615	Lower
KRCDTID03	07-009	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	366000N1202300W001	36.60276	-120.23201	169.23	169.96	Sounding Tube	Irrigation	Active	Single Well	543	434-510	Upper
KRCDTID02	07-010	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	366500N1202500W001	36.66167	-120.241	160.35	160.46	Sounding Tube	Irrigation	Active	Single Well	540	295-535	Upper
TW-4	07-014	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	366758N1202678W001	36.64294	-120.2405	157.5	157.5	GSE from DEM	Monitoring		Part of a nested/multi-completion well	690	650-690	Lower
TW-5	07-015	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	366430N1202404W001	36.67579	-120.26784	167.51	167.51	GSE from DEM	Monitoring		Unknown	670	630-670	Lower
Well 1	07-017	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	370929N1209258W001	37.09294	-120.92581	103.96	106.1	GSE from DEM	Other		Single Well		170-253	Upper

Local Site ID	DMS ID	GSA Group	GSA	CASGEM Station ID	Latitude (° NAD83)	Longitude (° NAD83)	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description	Well Type	Well Status	Well Completion Type	Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)	Principal Aquifer(s) Monitored
MP093.27L (Well 500)	07-028	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	369064N1207276W001	36.90641	-120.72764	133.92	135.58	None provided	Irrigation	Active	Single Well	647.5	438.9-462.2, 508.9-600.4	Lower
CDMGSA-01C	07-031	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	368176N1207307W003	36.8176	-120.73073	347.79	350.39	2.60' above ground surface	Monitoring	Active	Part of a nested/multi-completion well	608	320 - 340	Upper
CDMGSA-01D	07-032	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	368176N1207307W004	36.8176	-120.73073	347.79	350.3	2.51' above ground surface	Monitoring	Active	Part of a nested/multi-completion well	608	505 -525	Lower
TW-4 Upper	07-033	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	366758N1202678W002	36.64294	-120.2405	157.5	157.5	GSE	Monitoring	Active	Part of a nested/multi-completion well	700	405 - 445	Upper
MP098.74L	07-035	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	368871N1206355W001	36.8871	-120.63545	125	125.33	None provided	Irrigation	Active	Single Well	400	300 - 390	Upper
PWD Well 20	07-036	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA		36.7707	-120.64828	286.68	157.5	GSE	Irrigation		Single Well			Lower
AGC100012335-GDACX00005	07-170	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA		36.84885	-120.67171	212.52			Industrial	Active	Single Well		130-190	Upper
Well 18	07-189	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA		36.80762	-120.61143	233.88			Irrigation		Single Well	1220	600-1200	Lower
Well 31	07-212	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA		36.82214	-120.65364	219.75			Irrigation	Active	Single Well	1030	550-1010	Lower
MC18-1	07-007	Central Delta-Mendota GSA Group	Oro Loma Water District GSA	368896N1206702W001	36.8896	-120.6702	161.4	160.45	Black mark on top of PVC casing-north side: 0.95 below land surface. USGS Well.	Monitoring	Active	Nested Well	550	530-550	Lower
MC18-2	07-425	Central Delta-Mendota GSA Group	Oro Loma Water District GSA	368896N1206702W002	36.8896	-120.6702	161.4	159		Observation	Active	Nested Well	395	375-395	Upper
MP102.04L	08-002	Central Delta-Mendota GSA Group	Widren Water District GSA	368790N1205784W001	36.87901	-120.57835	164.65	164.65	GSE	Irrigation	Active	Single Well	420	183-223, 233-393	Upper
TSS-MW-325	10-009	Farmers Water District GSA Group	Farmers Water District GSA		36.76386	-120.32586	156.4	158.6		Monitoring		Part of a nested/multi-completion well	325	300-320	Upper
TSS-MW-485	10-010	Farmers Water District GSA Group	Farmers Water District GSA		36.76386	-120.32606	156.4	158.2		Monitoring		Part of a nested/multi-completion well	485	460-480	Lower
SPRECK-MW-7	12-001	Fresno County GSA Group	County of Fresno GSA - Delta- Mendota Management Area A		36.74963	-120.31976	160	160	TOC	Monitoring	Active	Single Well	150	110-150	Upper

Local Site ID	DMS ID	GSA Group	GSA	CASGEM Station ID	Latitude (° NAD83)	Longitude (° NAD83)	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description	Well Type	Well Status	Well Completion Type	Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)	Principal Aquifer(s) Monitored
HANS-7C1	13-001	Fresno County GSA Group	County of Fresno GSA - Delta- Mendota Management Area B		36.734	-120.37915	169.74	172	TOC	Irrigation	Active	Single Well	200	140-200	Upper
TL-HS-3	13-003	Fresno County GSA Group	County of Fresno GSA - Delta- Mendota Management Area B		36.77304	-120.36233	149.62	151.9	sounding port in well cap	Irrigation	Active	Single Well	410	120-410	Upper
TR-LA-565	13-011	Fresno County GSA Group	County of Fresno GSA - Delta- Mendota Management Area B		36.713453	-120.242149	164.71			Monitoring		Dual completion monitoring well	565	540-560	Lower
TR-UA-315	13-012	Fresno County GSA Group	County of Fresno GSA - Delta- Mendota Management Area B		36.713453	-120.242149	164.71			Monitoring		Dual completion monitoring well	315	290-310	Upper
1ML-5	11-005	Grassland GSA Group	County of Merced GSA - Delta- Mendota		37.10615	-120.93611	98	100.9		Monitoring	Inactive	Part of a nested/multi-completion well	480	450-480	Lower
1ML-6	11-006	Grassland GSA Group	County of Merced GSA - Delta- Mendota		37.1075	-120.93136	100	102.6		Monitoring	Inactive	Part of a nested/multi-completion well	470	440-470	Lower
1PL-4	11-022	Grassland GSA Group	County of Merced GSA - Delta- Mendota		37.10565	-120.83528	90	91.5		Irrigation	Active	Single Well	702	360-420, 480-702	Lower
2PU-1	19-002	Grassland GSA Group	County of Merced GSA - Delta- Mendota		37.30793	-120.98812	72.64			Irrigation	Active	Single Well	260	170-240	Upper
ISW-3-60	19-011	Grassland GSA Group	County of Merced GSA - Delta- Mendota		37.308725	-120.933882	67.53			Monitoring		Part of a nested/multi-completion well	60	40-50	Upper
ISW-3-350	19-012	Grassland GSA Group	County of Merced GSA - Delta- Mendota		37.308725	-120.933882	67.53			Monitoring		Part of a nested/multi-completion well	350	320-340	Lower
ISW-3-180	19-013	Grassland GSA Group	County of Merced GSA - Delta- Mendota		37.308725	-120.933882	67.53			Monitoring		Part of a nested/multi-completion well	180	150-170	Upper
1PL-1	11-010	Grassland GSA Group	Grasslands GSA		37.18202	-120.9065	81	83		Irrigation	Active	Single Well	750	370-410, 500-740	Lower
3PL-2	11-019	Grassland GSA Group	Grasslands GSA		37.21662	-120.88951	77	78.6		Other	Active	Single Well	780	300-760	Lower
1PL-6	11-020	Grassland GSA Group	Grasslands GSA		37.1635	-120.81814	87.4	88.92	Distance from ground to reference point: 1.52'	Irrigation		Single Well	510	310-510	Lower
1PU-2	11-023	Grassland GSA Group	Grasslands GSA		37.04636	-120.811	110.7	110.95	Distance from ground to reference point: 0.25'	Irrigation		Single Well	275	195-225	Upper
1PL-7	11-024	Grassland GSA Group	Grasslands GSA		37.11378	-120.78279	95.3	96.53	Distance from ground to reference point: 1.23'	Irrigation		Single Well	480	310-480	Lower

Local Site ID	DMS ID	GSA Group	GSA	CASGEM Station ID	Latitude (° NAD83)	Longitude (° NAD83)	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description	Well Type	Well Status	Well Completion Type	Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)	Principal Aquifer(s) Monitored
2MU-1	19-005	Grassland GSA Group	Grasslands GSA		37.31014	-120.94883	63.3	66.3	GSE and RPE from Summers Eng.	Monitoring		Single Well	39	14-39	Upper
2MU-4	19-008	Grassland GSA Group	Grasslands GSA		37.29914	-120.94467	62.7	65.7	GSE and RPE from Summers Eng.	Monitoring		Single Well	32	Dec-32	Upper
2MU-5	19-009	Grassland GSA Group	Grasslands GSA		37.30833	-120.93264	64.8	66.8	GSE and RPE from Summers Eng.	Monitoring		Single Well	24		Upper
1PU-3	19-010	Grassland GSA Group	Grasslands GSA		37.31892	-120.9841	68	68.71	Distance from ground to reference point: 0.71'	Irrigation		Single Well	525	30-180	Upper
Keystone well	02-009	Northern Delta-Mendota GSA Group	City of Patterson GSA	374772N1211672W001	37.47718	-121.16722	138.84	138.84		Irrigation	Active	Single Well	286		Upper
Floragold Well	02-109	Northern Delta-Mendota GSA Group	City of Patterson GSA		37.4698	-121.15038	118.05			Irrigation	Active	Single Well	360	300-320	Upper
Well 06	02-118	Northern Delta-Mendota GSA Group	City of Patterson GSA		37.461222	-121.125261	115.668	115.668	X on concrete well pedestal	Monitoring	Stand By	Single Well	365	225-355	Lower
MW-3	03-002	Northern Delta-Mendota GSA Group	City of Patterson GSA	374816N1211350W001	37.48156	-121.13503	96.16	96.16	PID April 2019 Control Survey	Monitoring	Unknown	Single Well	260	220-250	Upper
MP030.43R	01-001	Northern Delta-Mendota GSA Group	DM-II GSA	375509N1212609W001	37.55086	-121.26092	212.6	213.7	Paint mark	Irrigation	Inactive	Single Well	475	230-475	Lower
MP033.71L	01-002	Northern Delta-Mendota GSA Group	DM-II GSA	375313N1212242W001	37.53138	-121.22431	161	162.6	Paint mark	Irrigation	Inactive	Single Well	510	235-475	Lower
MP045.78R	01-003	Northern Delta-Mendota GSA Group	DM-II GSA	374061N1211212W001	37.4062	-121.12127	177.5	180.9		Irrigation	Inactive	Single Well	721		Lower
MC10-2	01-004	Northern Delta-Mendota GSA Group	DM-II GSA	372907N1210875W002	37.2907	-121.0875	177.4	176.82	Black mark on top of PVC casing-north side: 0.58 below land surface.	Monitoring	Active	Unknown	135	115-135	Upper
91	01-006	Northern Delta-Mendota GSA Group	DM-II GSA	372604N1210611W001	37.26042	-121.0611	136.1	137.6	Concrete pad	Irrigation	Active	Single Well	260	120-210	Lower
MP021.12L	01-007	Northern Delta-Mendota GSA Group	DM-II GSA	376429N1213651W001	37.64286	-121.36512	185.52	185.52	GSE from DEM	Unknown	Unknown	Single Well		400-570	Lower
MP051.66L	01-008	Northern Delta-Mendota GSA Group	DM-II GSA	373330N1210857W001	37.33295	-121.08571	123.42	124.17		Unknown		Single Well		290-470	Lower
Merc_9	01-128	Northern Delta-Mendota GSA Group	DM-II GSA		37.22013	-121.0558	153.22			Irrigation		Single Well	100	50-100	Upper
Merc_11	01-129	Northern Delta-Mendota GSA Group	DM-II GSA		37.23438	-121.04344	157.82			Irrigation		Single Well	138	36-138	Upper

Local Site ID	DMS ID	GSA Group	GSA	CASGEM Station ID	Latitude (° NAD83)	Longitude (° NAD83)	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description	Well Type	Well Status	Well Completion Type	Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)	Principal Aquifer(s) Monitored
MP058.28L	01-005	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	372424N1210754W001	37.24066	-121.07519	179.58	179.58		Irrigation	Active	Single Well	170	120-150	Upper
6S8E3405124U	05-124	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA		37.36257	-121.06959				Irrigation		Single Well	220		Upper
7S8E0205128L	05-128	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA		37.35901	-121.05825	118.1			Irrigation		Single Well	550	334-545	Lower
P259-1	06-001	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	374316N1210994W001	37.43139	-121.0994	113	112.18	Black mark on top of PVC casing-north side: 0.82 below land surface	Monitoring	Active	Unknown	430	390-410	Lower
P259-3	06-002	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	374316N1210994W003	37.43139	-121.0994	113	112.18		Monitoring	Active	Unknown	115	95-115	Upper
MW-2	03-001	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	375015N1211011W001	37.50146	-121.10113	58.72	58.72	PID April 2019 Control Survey	Monitoring	Active	Single Well	250	220-250	Upper
WSJ003	03-003	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	374940N1210862W001	37.494	-121.0862	57.93	57.93	PID April 2019 Control Survey	Irrigation		Single Well	255	130-250	Upper
ARRA 28	04-008	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA		37.57996	-121.2771	134.36	140	GSE	Irrigation		Single Well			Lower
ARRA 120	04-212	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA		37.515139	-121.203028	144.8	147.2	2.4 feet above GS	Irrigation	Active	Single well	620	200-400	Lower
WSID-06 Upper	04-213	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	376527N1213109W001	37.652806	-121.310963	97.4	100.23		Monitoring	Active	Part of a nested/multi-completion well	164	124-154	Upper
WSID-06 Mid	04-214	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	376527N1213109W002	37.652804	-121.310962	97.4	100.144		Monitoring	Active	Part of a nested/multi-completion well	454	424-444	Lower
WSID-06 Lower	04-215	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	376527N1213109W003	37.652805	-121.310964	97.4	100.027		Monitoring	Active	Part of a nested/multi-completion well	544	504-534	Lower
ARRA 29	04-216	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA		37.548599	-121.203152				Irrigation	Active	Single Well	470	300-420	
Firebaugh Well #17	15-001	SJREC Water Authority GSA Group	City of Firebaugh GSA		36.85422	-120.4418	148	148.5		Public Supply		Single Well	220	140-185	Upper
Gustine City #5	22-001	SJREC Water Authority GSA Group	City of Gustine GSA		37.25248	-120.99326	95	95.5		Public Supply		Single Well	451	370-444	Lower
Gustine City #6	22-002	SJREC Water Authority GSA Group	City of Gustine GSA		37.25735	-120.99682	94.3	95.3		Public Supply		Single Well	231	149-169, 169-230	Upper

Local Site ID	DMS ID	GSA Group	GSA	CASGEM Station ID	Latitude (° NAD83)	Longitude (° NAD83)	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description	Well Type	Well Status	Well Completion Type	Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)	Principal Aquifer(s) Monitored
CLB Well #12	16-001	SJREC Water Authority GSA Group	City of Los Banos GSA		37.05231	-120.8684	127	129.7		Domestic		Single Well	266	140-160. 230-240, 250-256	Upper
USGS-31J6	13-004	SJREC Water Authority GSA Group	City of Mendota GSA	37957	36.75517	-120.3732	154	154	TOC	Monitoring	Active	Single Well	495	480-490	Lower
Mendota City #7	17-001	SJREC Water Authority GSA Group	City of Mendota GSA		36.78405	-120.34527	163.14			Public Supply		Single Well	420	260-395	Upper
CCID Well #2	14-001	SJREC Water Authority GSA Group	City of Newman GSA		37.307	-121.054	106	107.5				Unknown	341		Upper
Newman City #6	18-001	SJREC Water Authority GSA Group	City of Newman GSA		37.31809	-121.03062	91	91.5		Public Supply		Single Well	510	350-500	Lower
Newman City #8	18-002	SJREC Water Authority GSA Group	City of Newman GSA		37.32212	-121.01333	80	80.5		Public Supply		Single Well	498	180-480	Lower
SDMW East - Lower Aquifer	23-003	SJREC Water Authority GSA Group	County of Madera GSA - Delta- Mendota		36.98381	-120.49898	124.9			Monitoring		Part of a nested/multi-completion well	400	340-390	Lower
SDMW East - Upper Aquifer	23-004	SJREC Water Authority GSA Group	County of Madera GSA - Delta- Mendota		36.98381	-120.49898	124.9			Monitoring		Part of a nested/multi-completion well	180	150-180	Upper
Well 01	07-016	SJREC Water Authority GSA Group	County of Merced GSA - Delta- Mendota	371004N1210072W001	37.10043	-121.00725	152.56	152.56		Public Supply	Active	Single Well		185-225	Lower
1005	14-002	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.78689	-120.37704	151.5	153.1				Unknown	260		Upper
1006	14-003	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.0157	-120.667	100	103.4				Unknown	190		Upper
1008	14-004	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.0409	-120.891	145	146.5				Unknown	220		Upper
1011	14-005	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.9783	-120.58	120	123.7				Unknown	175		Upper
1014	14-006	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.1736	-120.99553	112	114.5				Unknown	120		Upper
1043	14-007	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.932	-120.542	120	122.1			Active	Unknown	180		Upper
2410	14-008	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.06	-120.612	111	112.45				Unknown	200		Upper

Local Site ID	DMS ID	GSA Group	GSA	CASGEM Station ID	Latitude (° NAD83)	Longitude (° NAD83)	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description	Well Type	Well Status	Well Completion Type	Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)	Principal Aquifer(s) Monitored
1050	14-019	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.37365	-121.05724	105.6	112.2		Monitoring	Active	Single Well	600		Lower
1027	14-020	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.17346	-121.0184	139.8	140.4		Monitoring	Active	Single Well	280		Lower
1056	14-021	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.03177	-120.83356	120.7	122.05		Irrigation	Active	Single Well	610	400-600	Lower
Elrod #4 Well #21	14-022	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.85206	-120.3996	149	153.7		Irrigation		Single Well	316	159-252	Upper
26B	14-023	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.86067	-120.51073	166.39								Lower
CCID 2723	14-024	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.86125	-120.51044	156			Monitoring		Single Well	720	450-530, 530-610, 610-690, 690-700	Lower
SDMW West - Lower Aquifer	14-025	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.98352	-120.50053	123			Monitoring		Part of a nested/multi-completion well	400	330-380	Lower
SDMW West - Upper Aquifer	14-026	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		36.98352	-120.50053	123			Monitoring		Part of a nested/multi-completion well	210	190-210	Upper
CLB Well #10	14-027	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		37.05317	-120.826	109	111		Domestic		Single Well	218	125-165, 198-208	Upper
TIWD #17	20-001	SJREC Water Authority GSA Group	Turner Island Water District GSA - Delta-Mendota		37.15494	-120.75037	88			Monitoring		Single Well	140		Upper

Abbreviations

amsl = above mean sea level
bgs = below ground surface
CASGEM = California Statewide Groundwater Elevation Monitoring
DEM = Digital Elevation Model
DMS = Data Management System
ft = feet
GSA = Groundwater Sustainability Agency
GSE = ground surface elevation
ID = identification
NAD83 = North American Datum of 1983
PID = Patterson Irrigation District
PVC = polyvinyl chloride
RPE = reference point elevation
SJREC = San Joaquin River Exchange Contractors
TOC = Top of Casing

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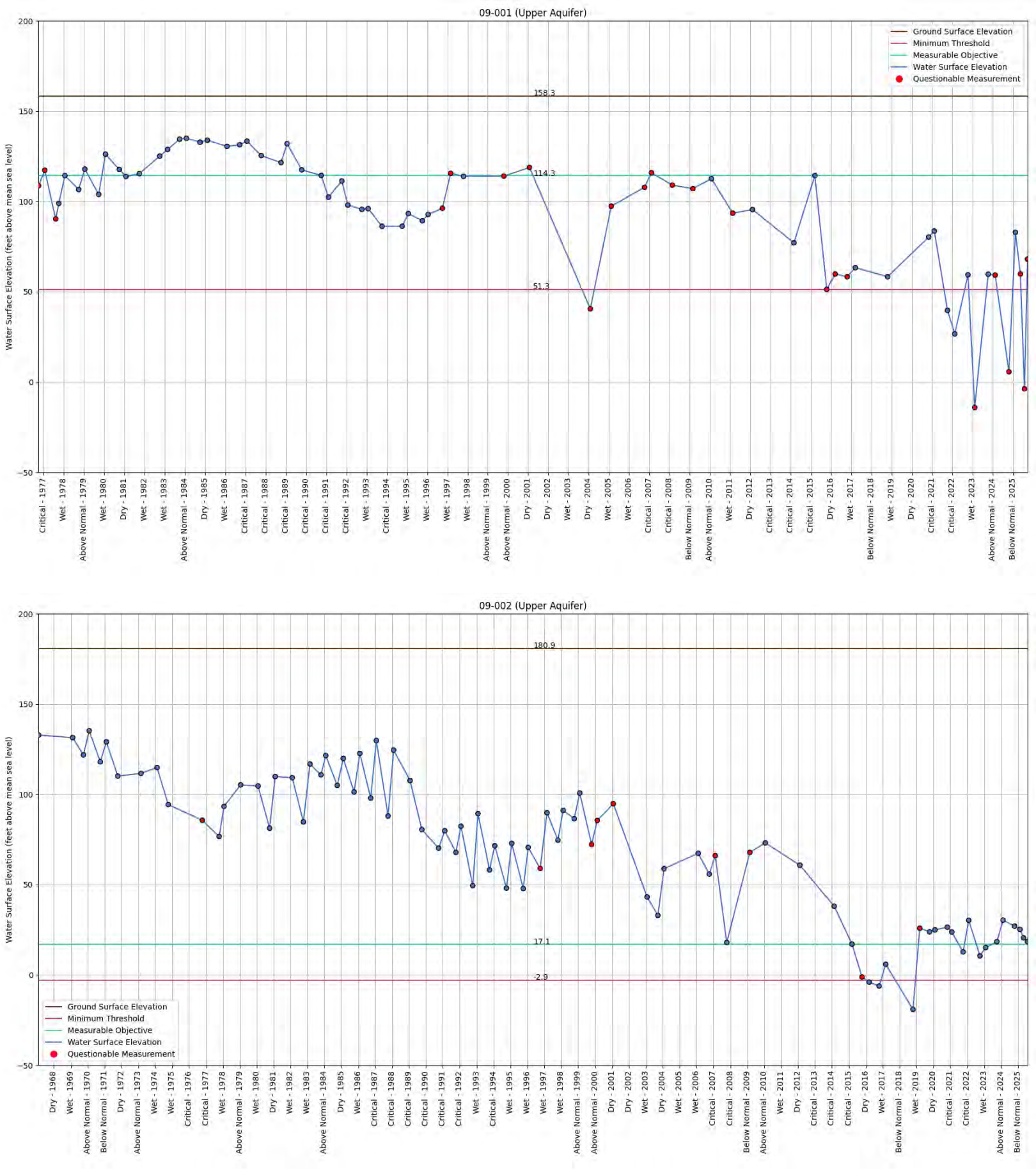
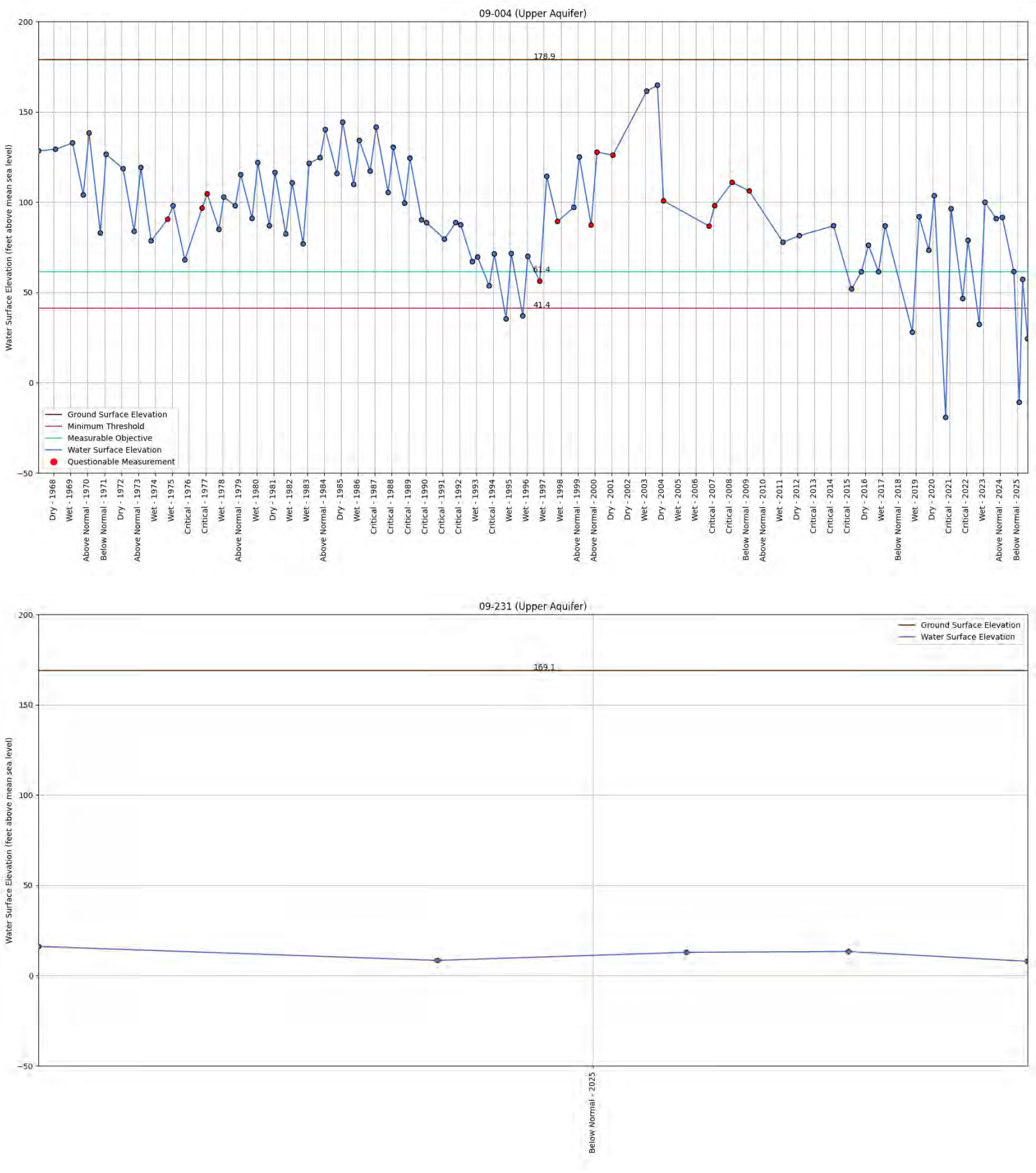
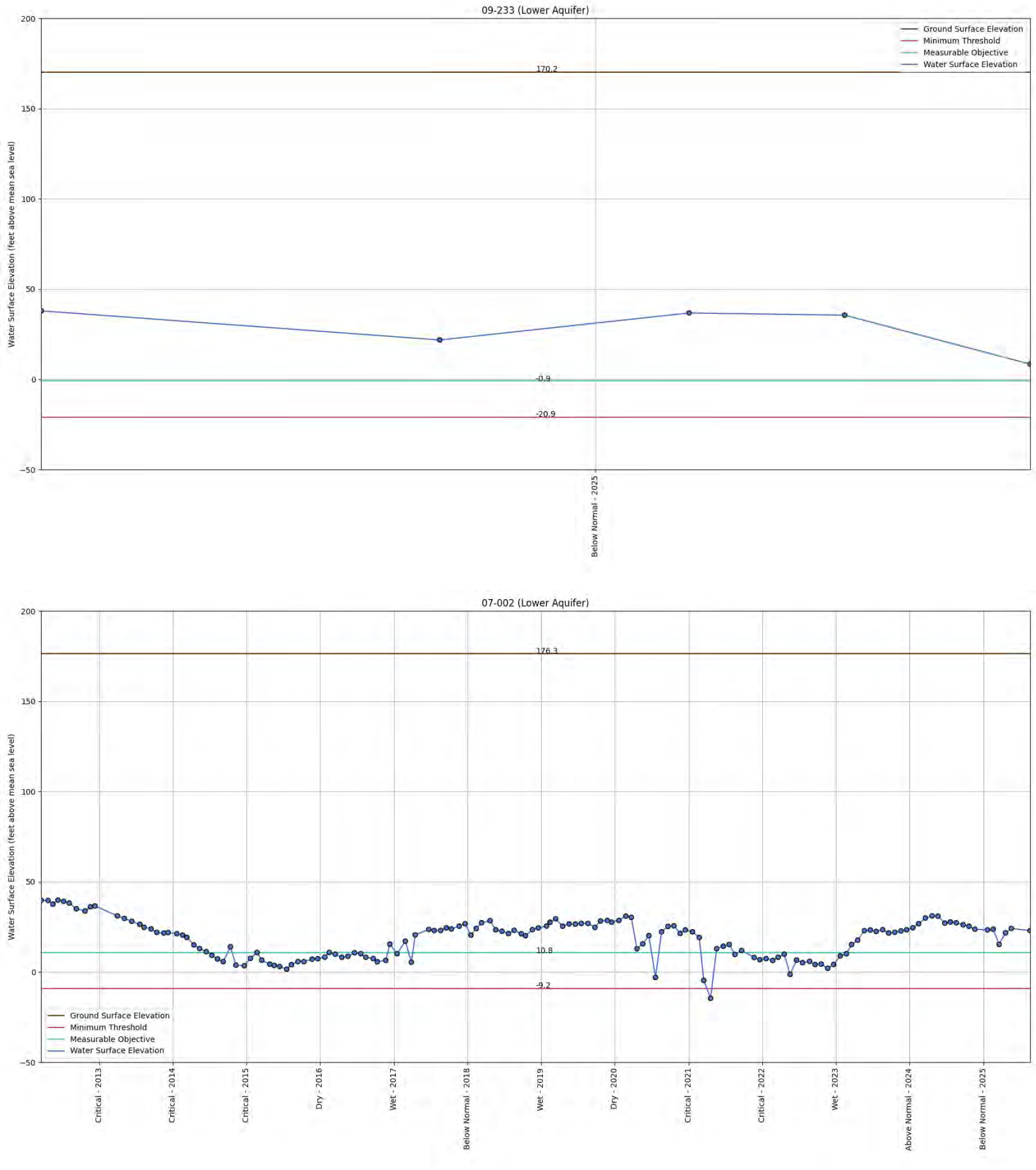
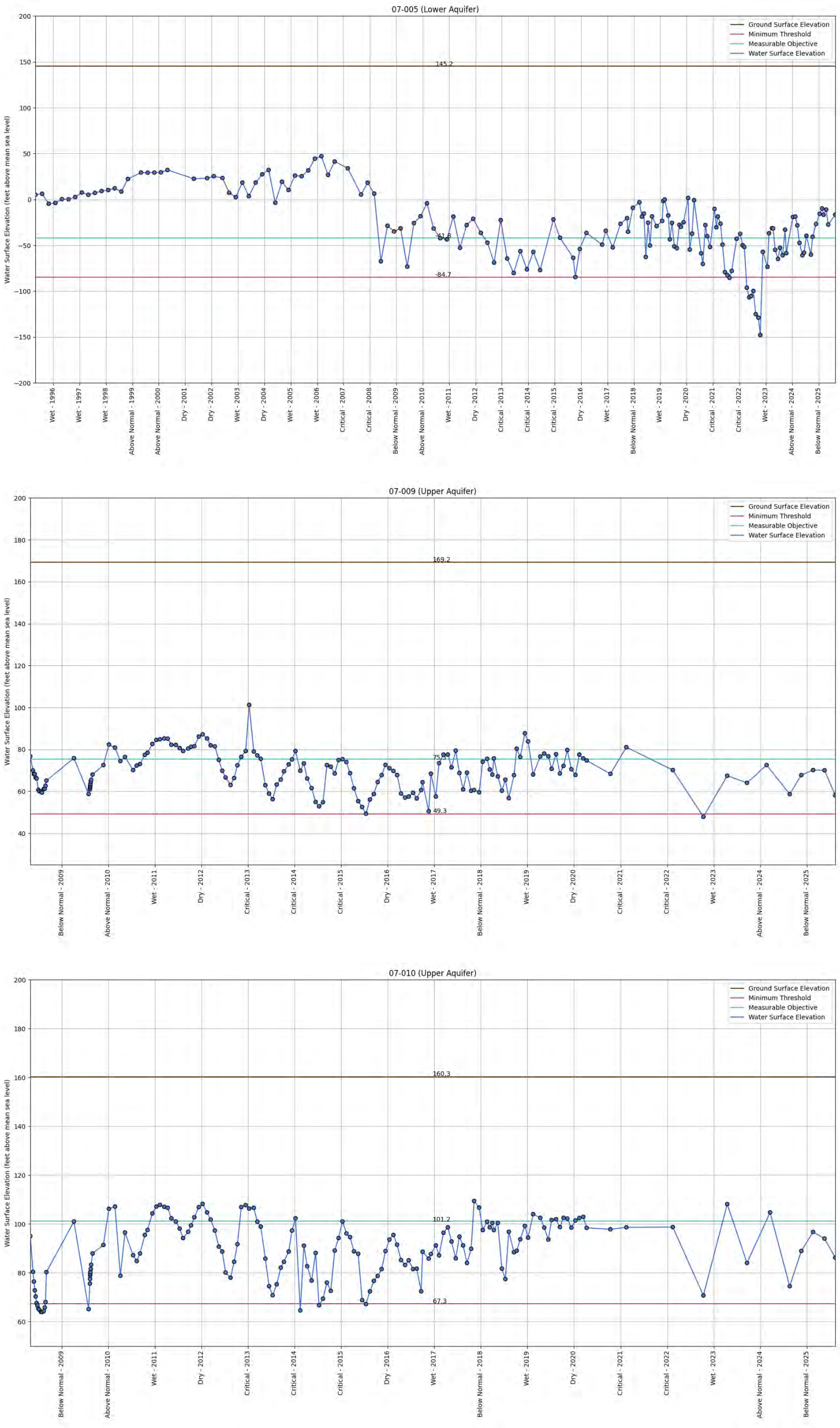
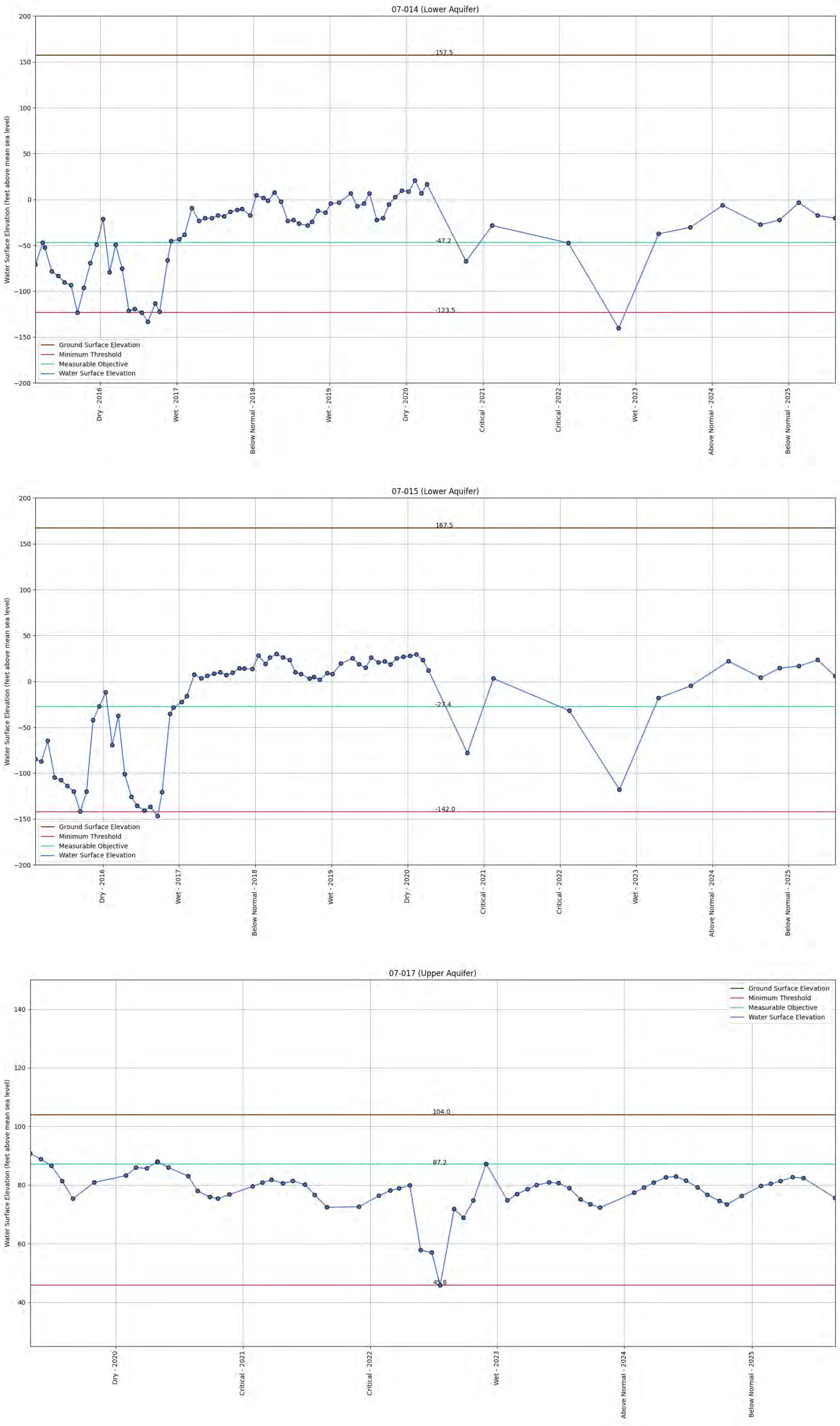
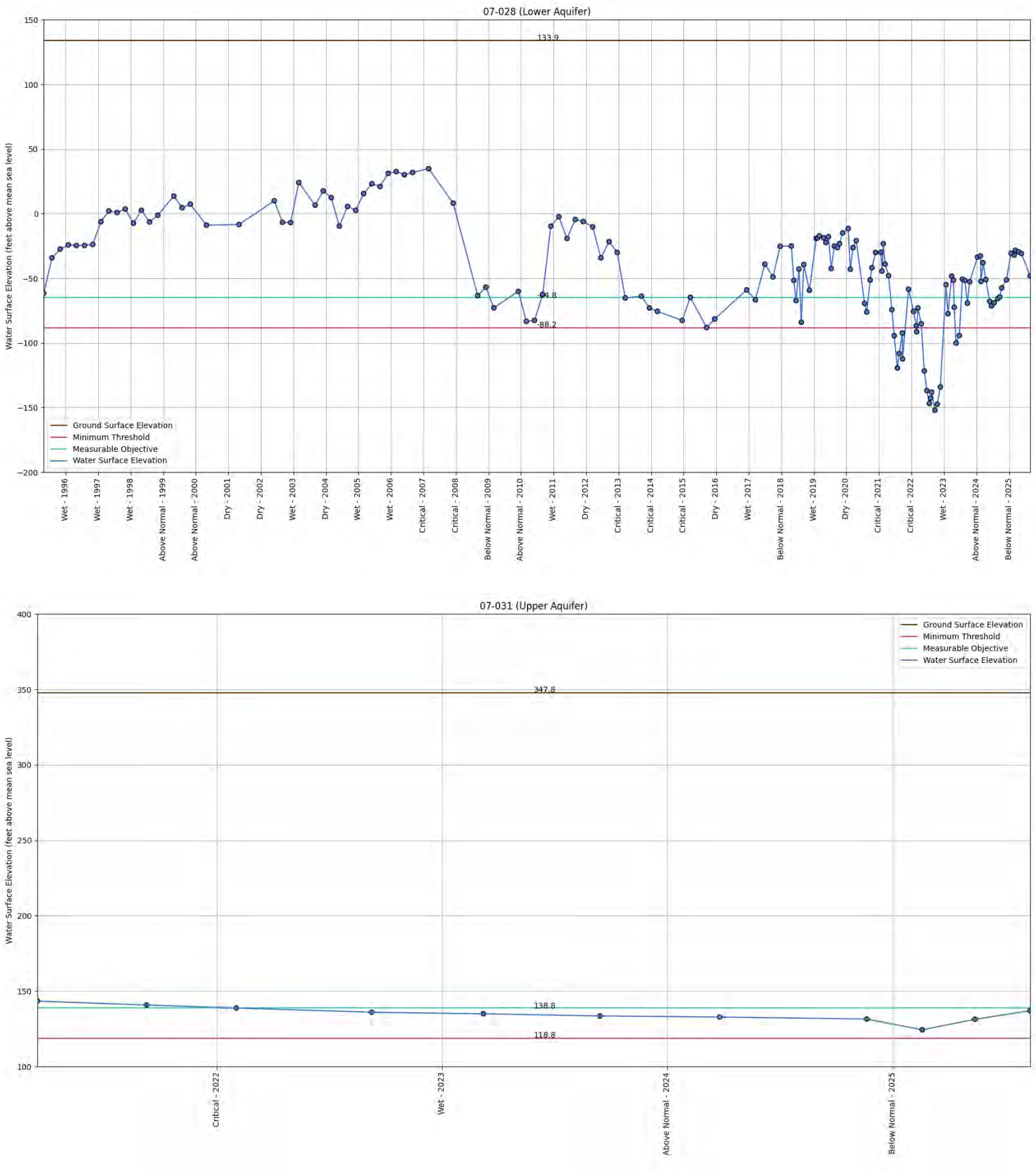

09-001 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Questionable Measurement
158.3
114.3
51.3
09-002 (Upper Aquifer)
180.9
17.1
-2.9
09-003 (Upper Aquifer)
166.9
52.9
32.9

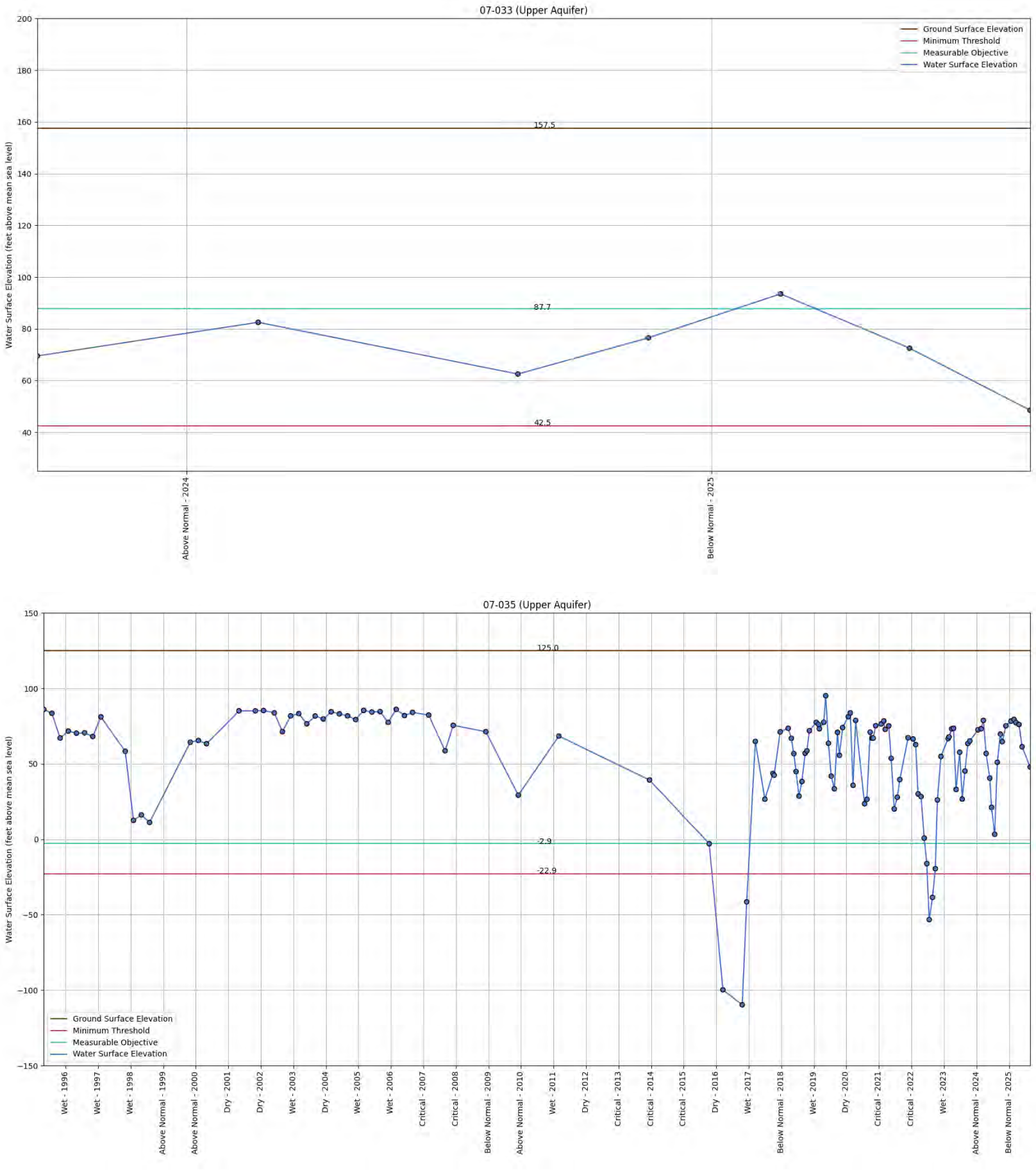

09-004 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
178.9
61.4
41.4
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Questionable Measurement
09-231 (Upper Aquifer)
169.1
Below Normal - 2025
09-232 (Lower Aquifer)
-10.2
-30.2

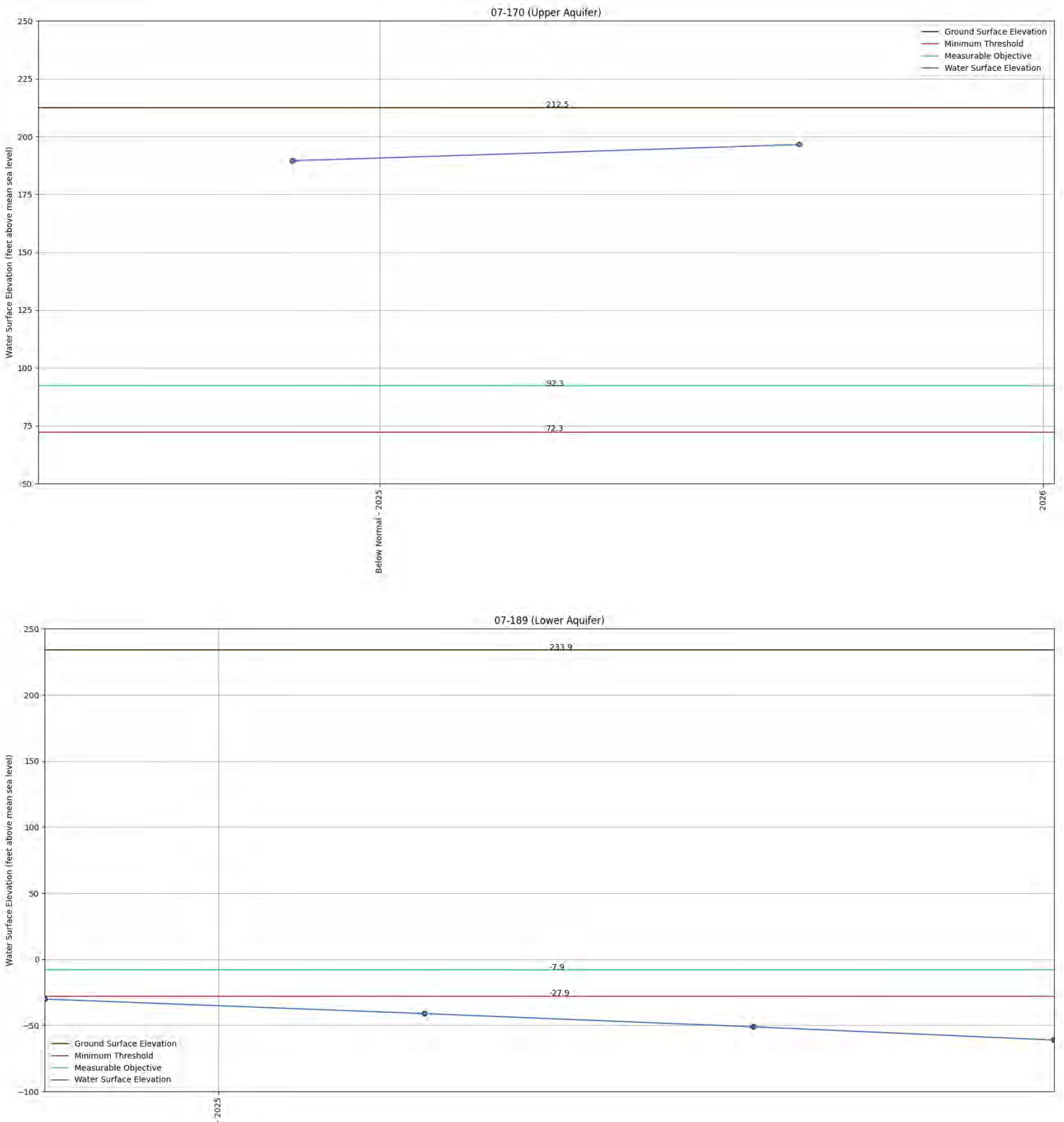

09-233 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
170.2
-0.9
-20.9
Water Surface Elevation (feet above mean sea level)
200
150
100
50
0
−50
07-002 (Lower Aquifer)
176.3
10.8
-9.2
07-003 (Upper Aquifer)
89.9
68.6
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

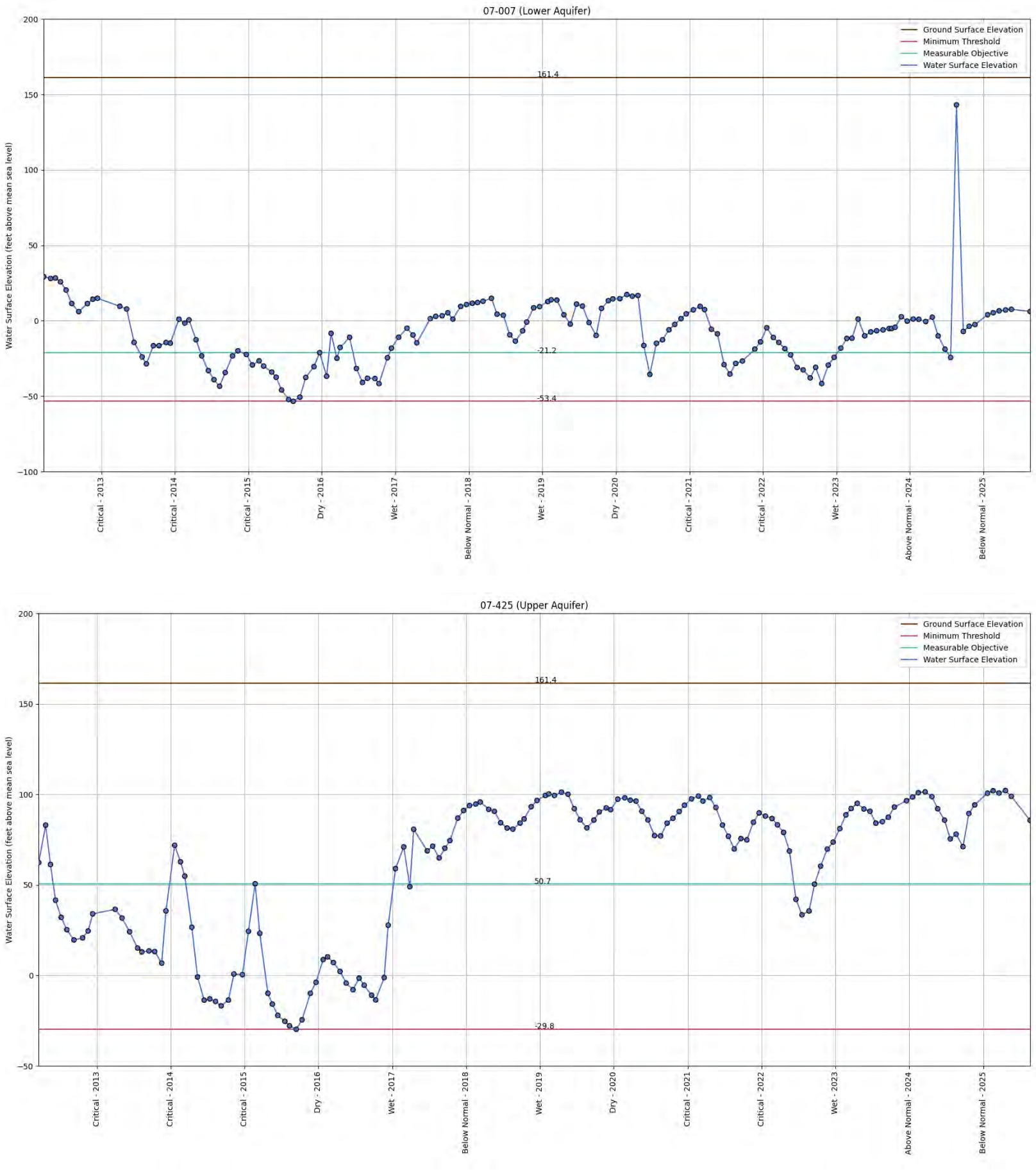

07-005 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
145.2
-41.8
-84.7
Water Surface Elevation (feet above mean sea level)
200
150
100
50
0
−50
−100
−150
−200
Wet - 1996
Wet - 1997
Wet - 1998
Normal - 1999
Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Normal - 2009
Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
Above
Above
Below
Above
Below
Above
Below
07-009 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
169.2
75.5
49.3
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
80
60
40
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
07-010 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
160.3
101.2
67.3
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
80
60
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

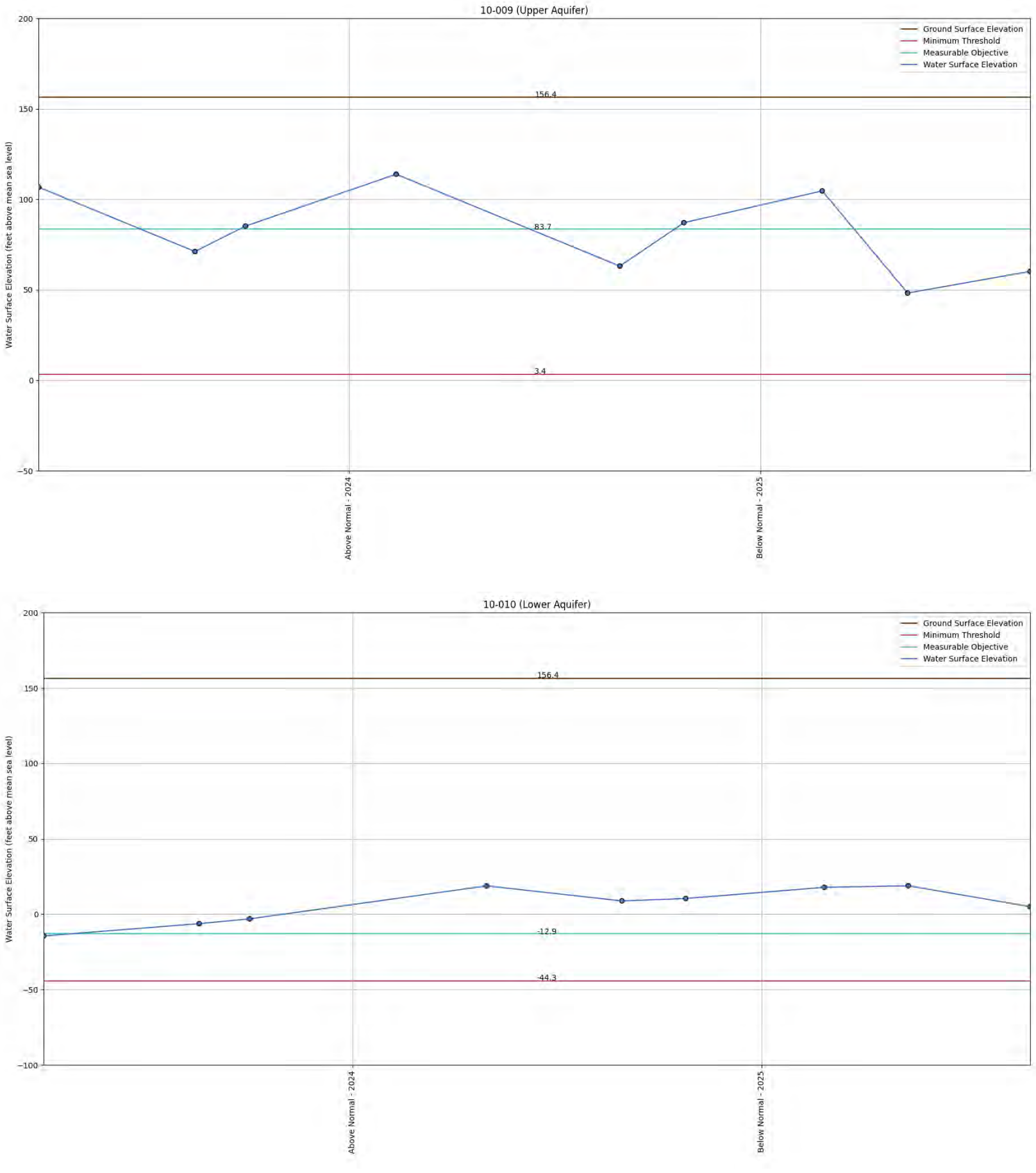

07-014 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
157.5
-47.2
-123.5
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
07-015 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
167.5
-27.4
-142.0
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
07-017 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
104.0
87.2
45.8
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

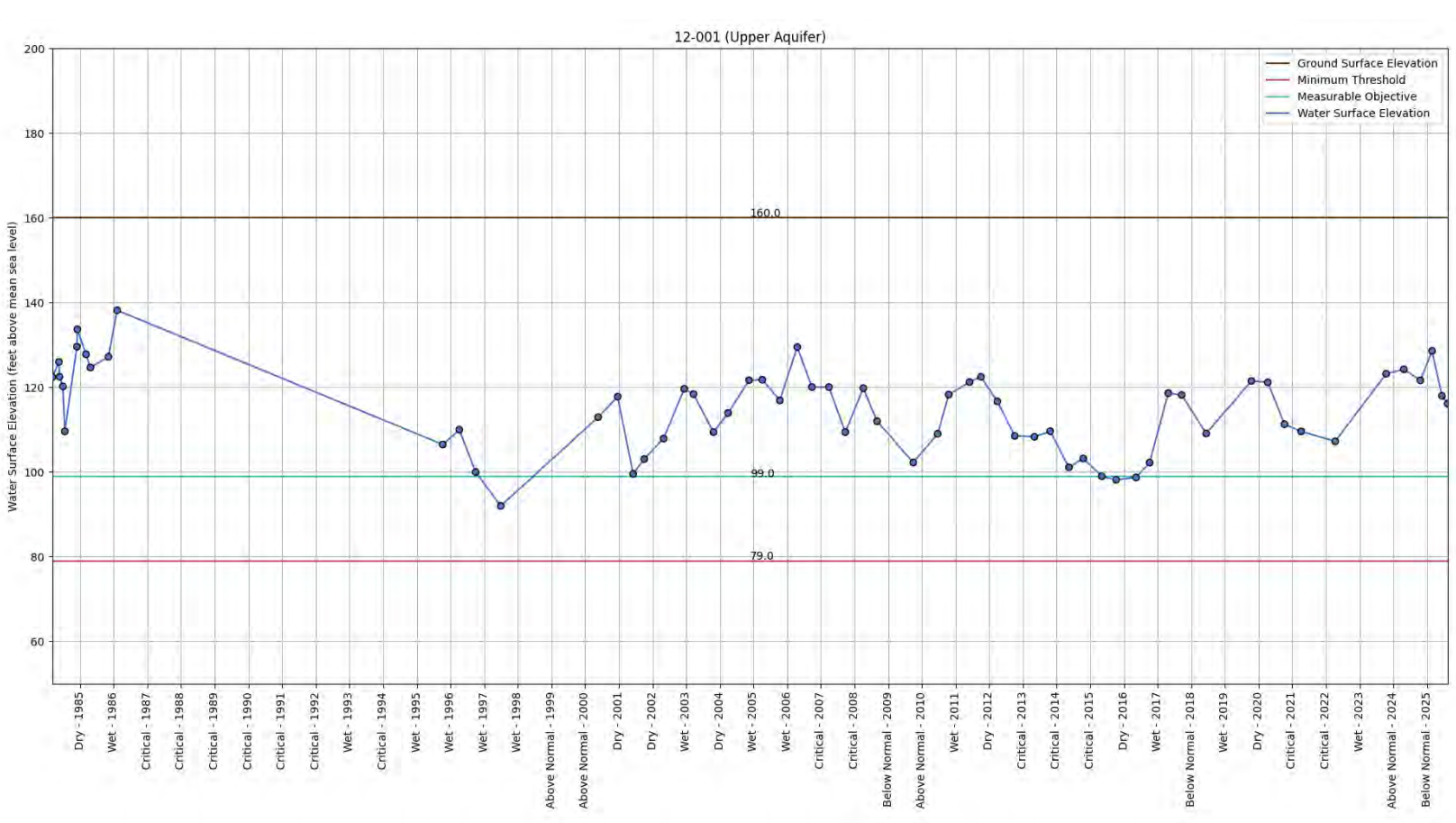

07-028 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
133.9
-64.8
-88.2
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 1996
Wet - 1997
Wet - 1998
Normal - 1999
Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Normal - 2009
Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
Above
Above
Below
Above
Below
Above
Below
07-031 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
347.8
138.8
118.8
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
07-032 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
347.8
141.4
121.4
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

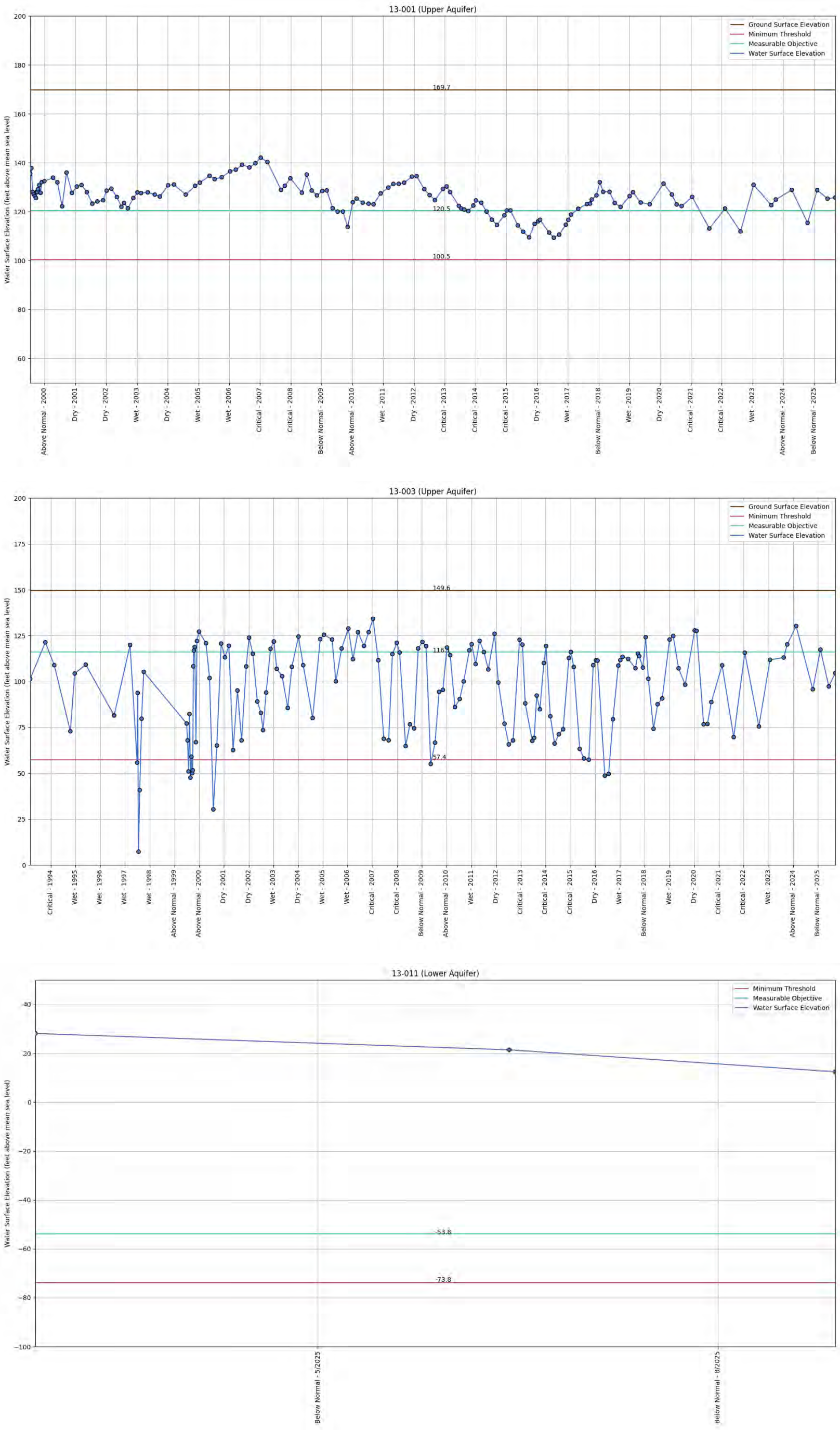

07-033 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
157.5
87.7
42.5
07-035 (Upper Aquifer)
125.0
-2.9
-22.9
07-036 (Lower Aquifer)
286.7
-55.3
-186.3
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

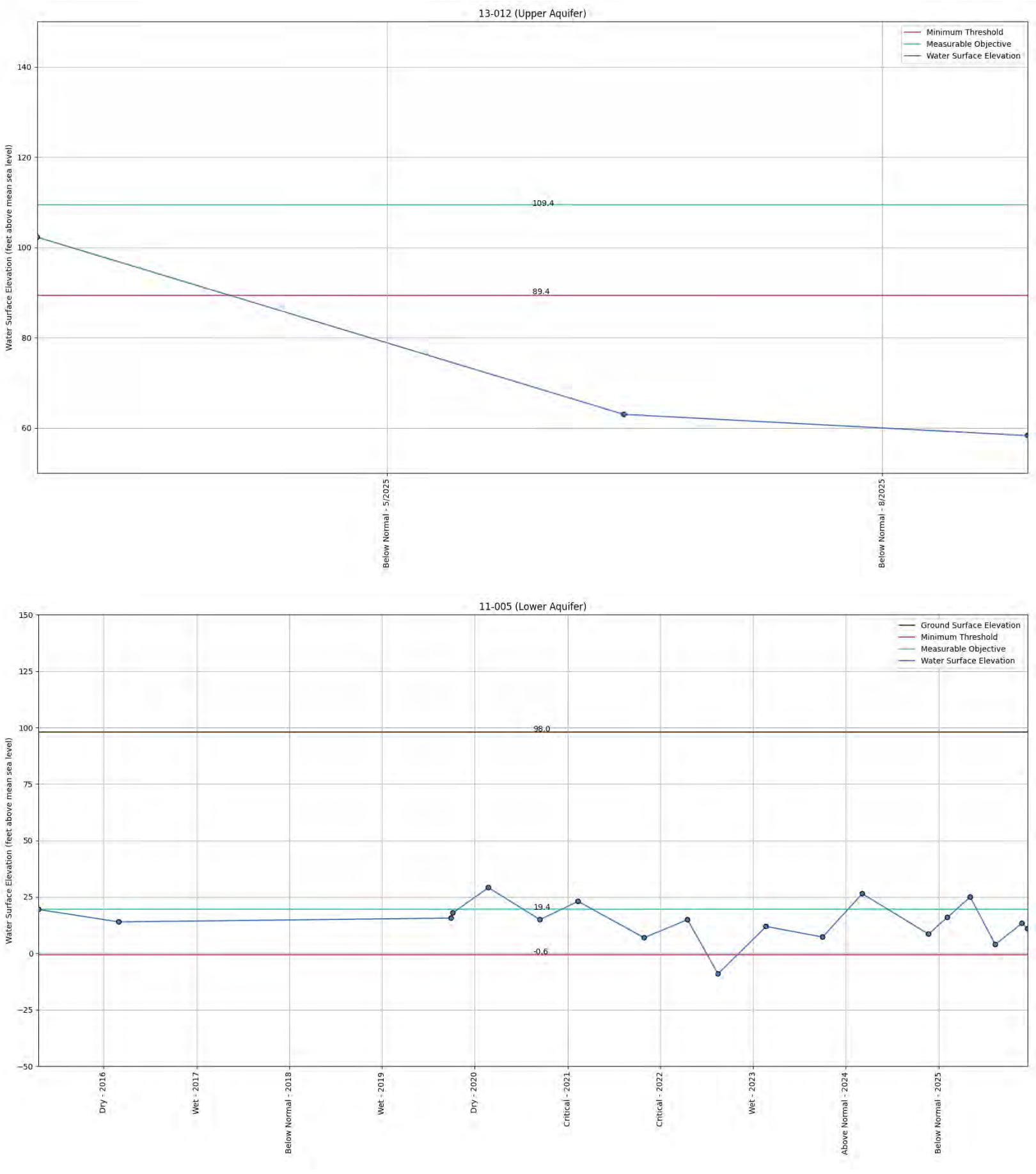

07-170 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
212.5
92.3
72.3
250
225
200
175
150
125
100
75
50
rmal - 2025
2026
07-189 (Lower Aquifer)
233.9
-7.9
-27.9
Below Normal - 2025
07-212 (Lower Aquifer)
219.8
-19.8
-39.8
Below Normal - 2025

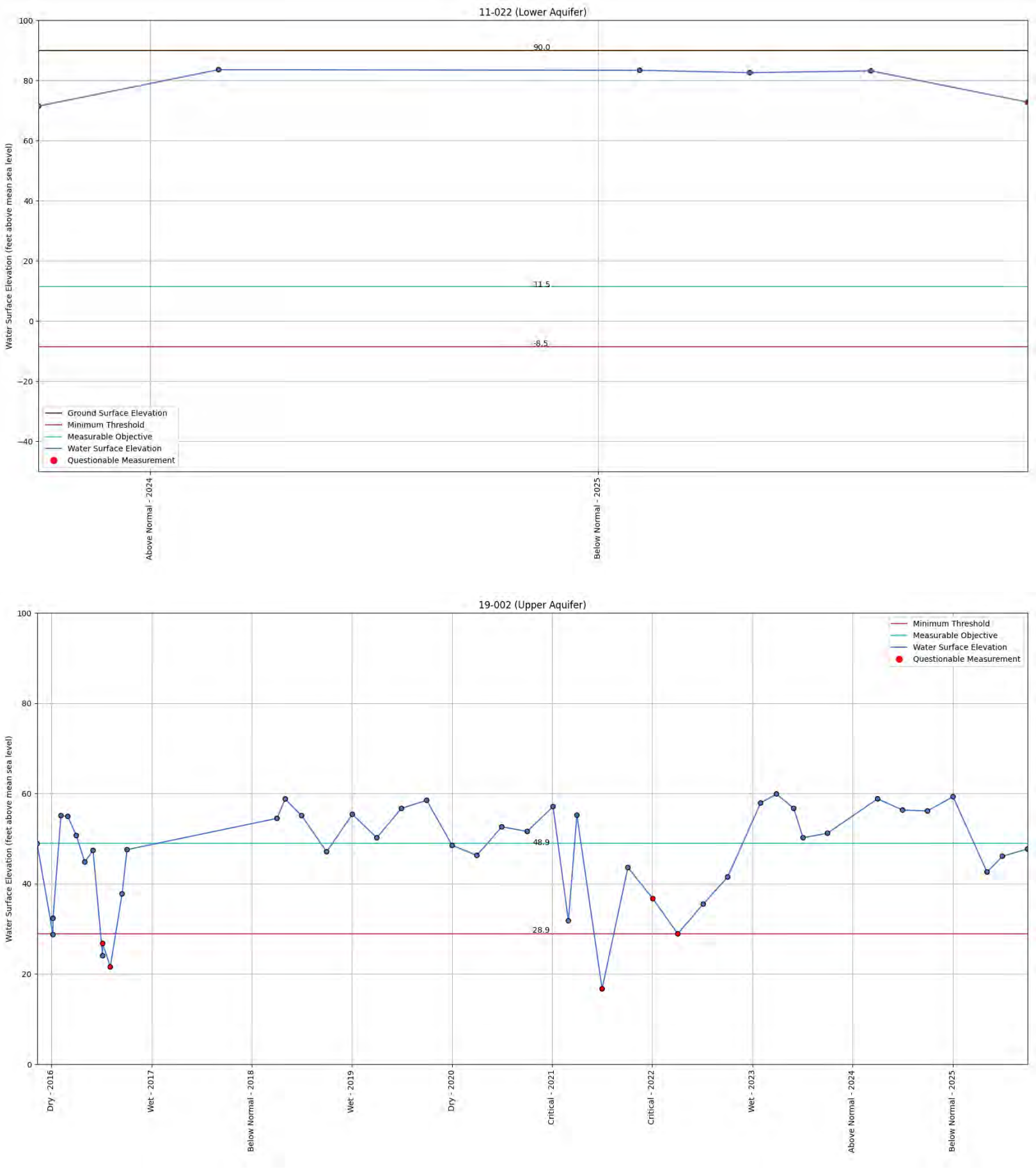

07-007 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
161.4
-21.2
-53.4
Water Surface Elevation (feet above mean sea level)
200
150
100
50
0
−50
−100
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Below Normal - 2025
07-425 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
161.4
50.7
-29.8
Water Surface Elevation (feet above mean sea level)
200
150
100
50
0
−50
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
08-002 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
164.7
83.7
50.7
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
80
60
40
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

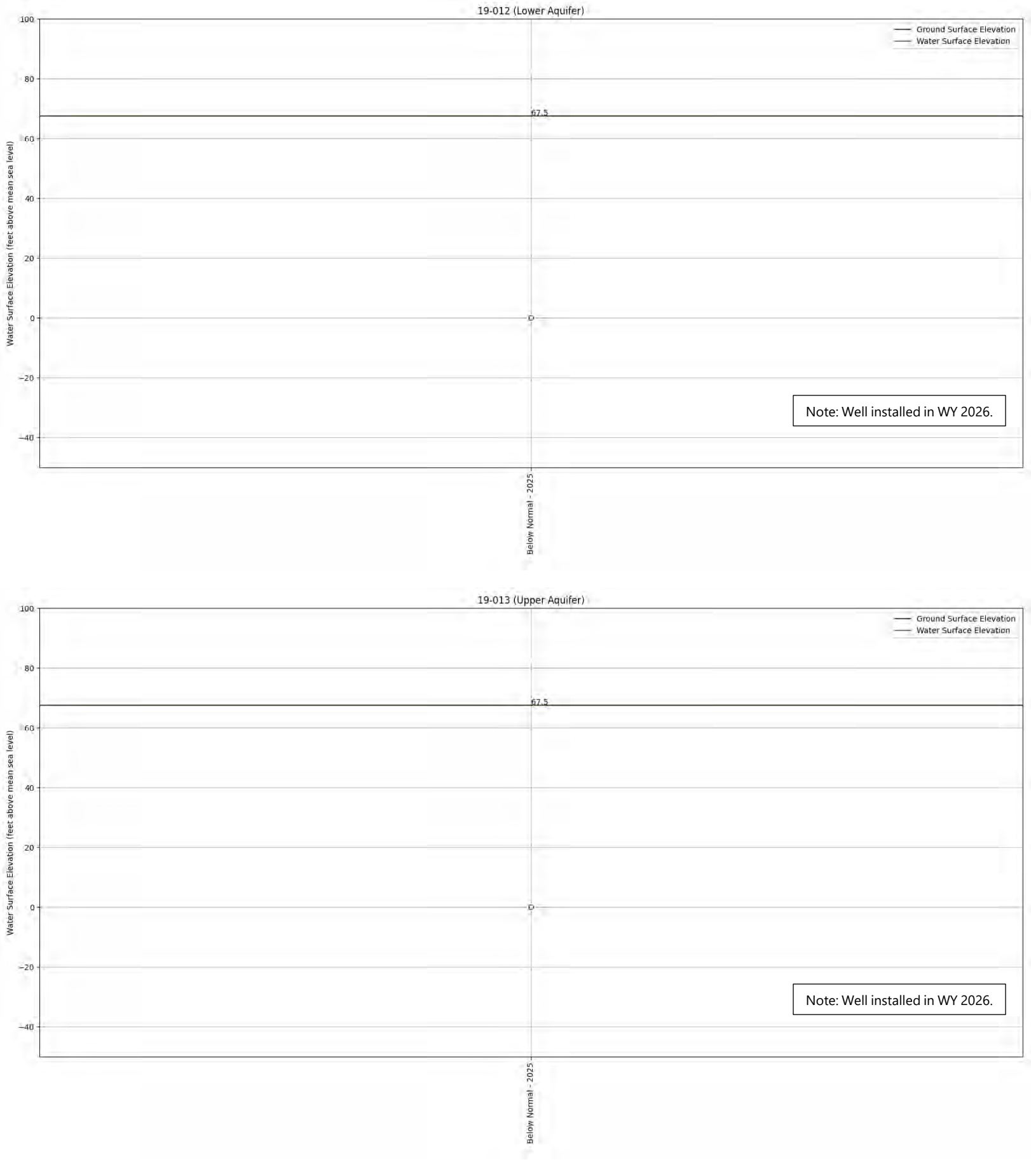

10-009 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
156.4
83.7
3.4
Water Surface Elevation (feet above mean sea level)
200
150
100
50
0
−50
Above Normal - 2024
Below Normal - 2025
10-010 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
156.4
-12.9
-44.3
Water Surface Elevation (feet above mean sea level)
200
150
100
50
0
−50
−100
Above Normal - 2024
Below Normal - 2025

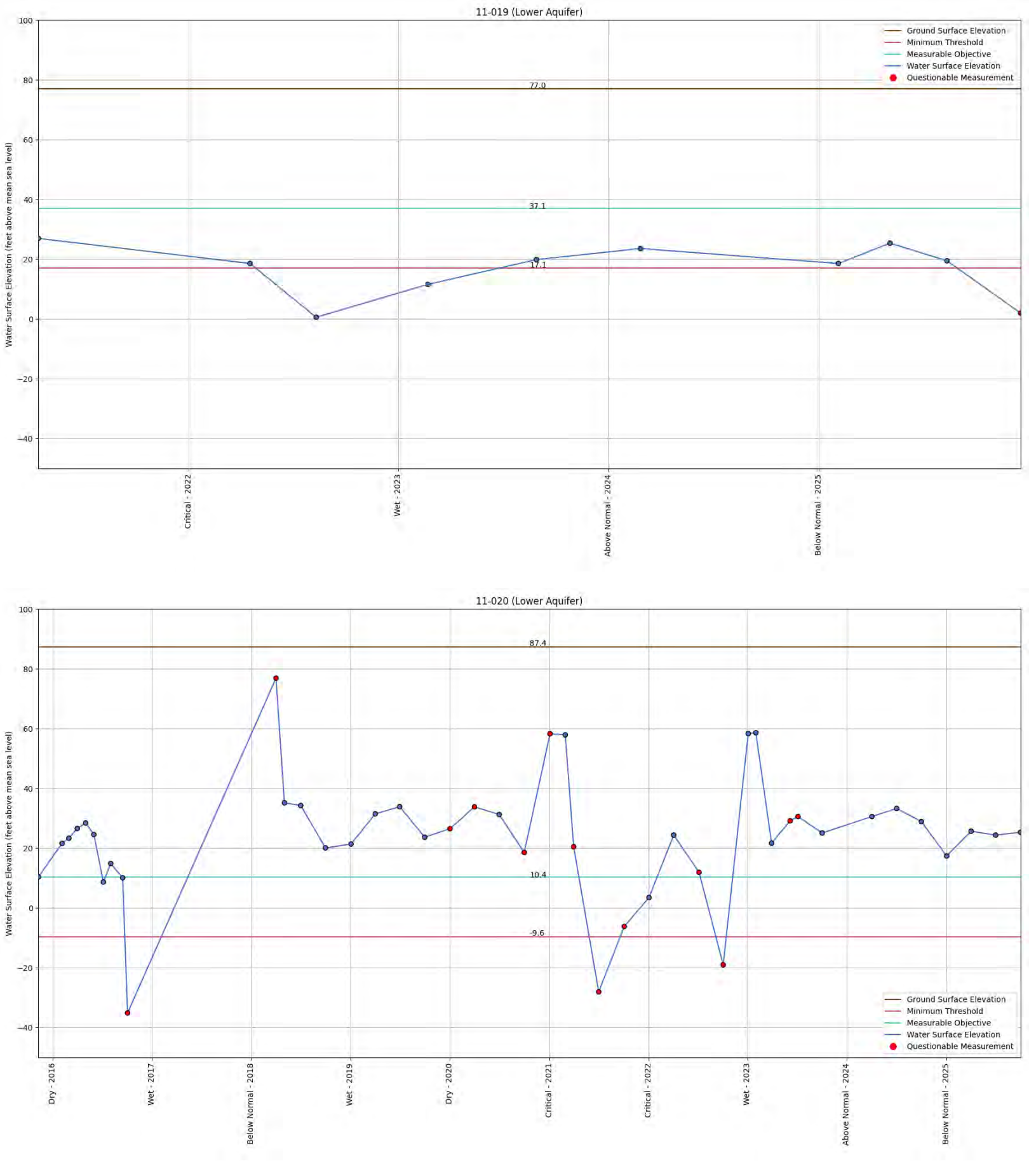

12-001 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
160.0
99.0
79.0
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
80
60
Dry - 1985
Wet - 1986
Critical - 1987
Critical - 1988
Critical - 1989
Critical - 1990
Critical - 1991
Critical - 1992
Wet - 1993
Critical - 1994
Wet - 1995
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

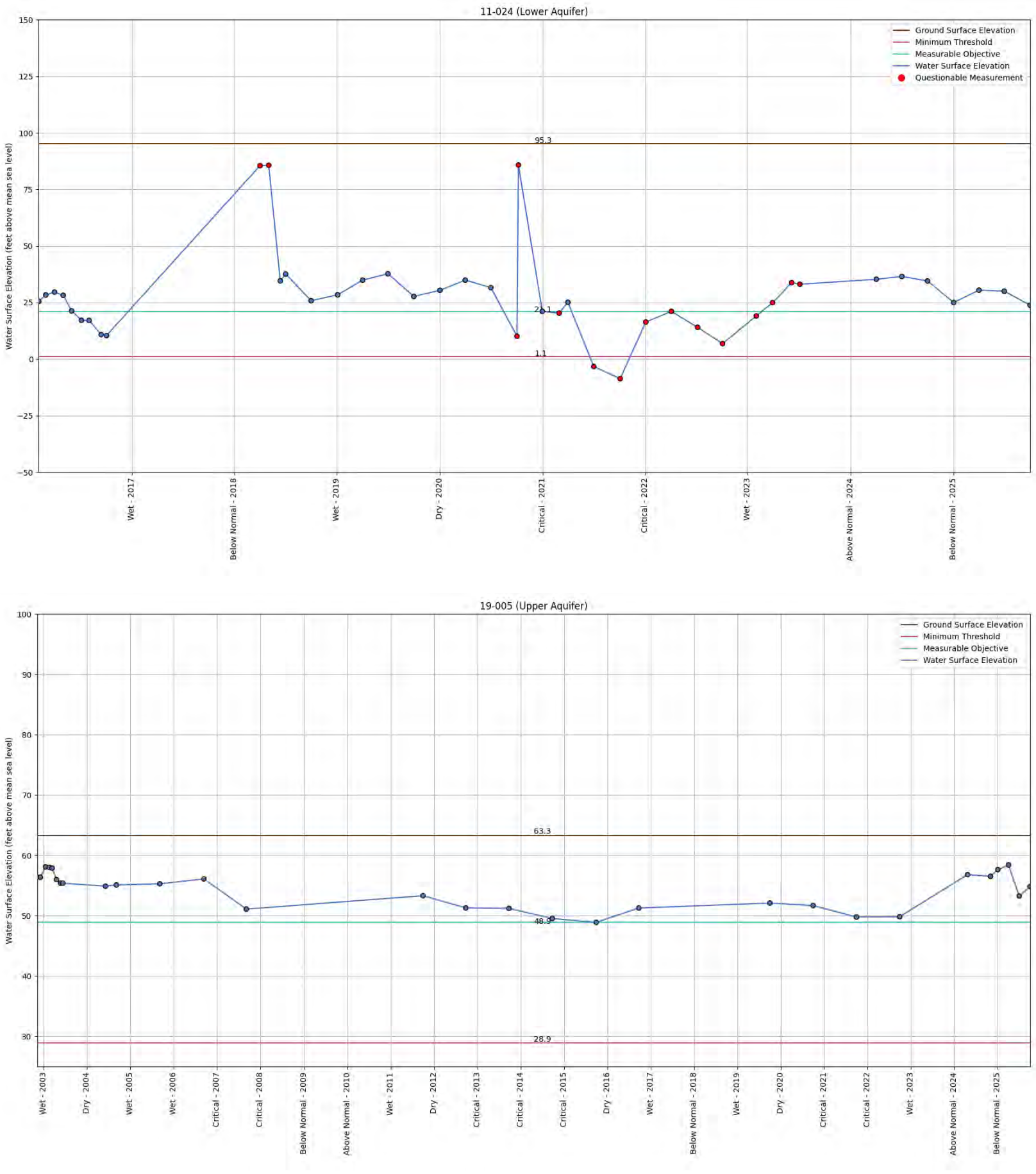

13-001 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
169.7
120.5
100.5
Water Surface Elevation (feet above mean sea level)
13-003 (Upper Aquifer)
149.6
116
57.4
13-011 (Lower Aquifer)
-53.8
-73.8
Below Normal - 5/2025
Below Normal - 9/2025

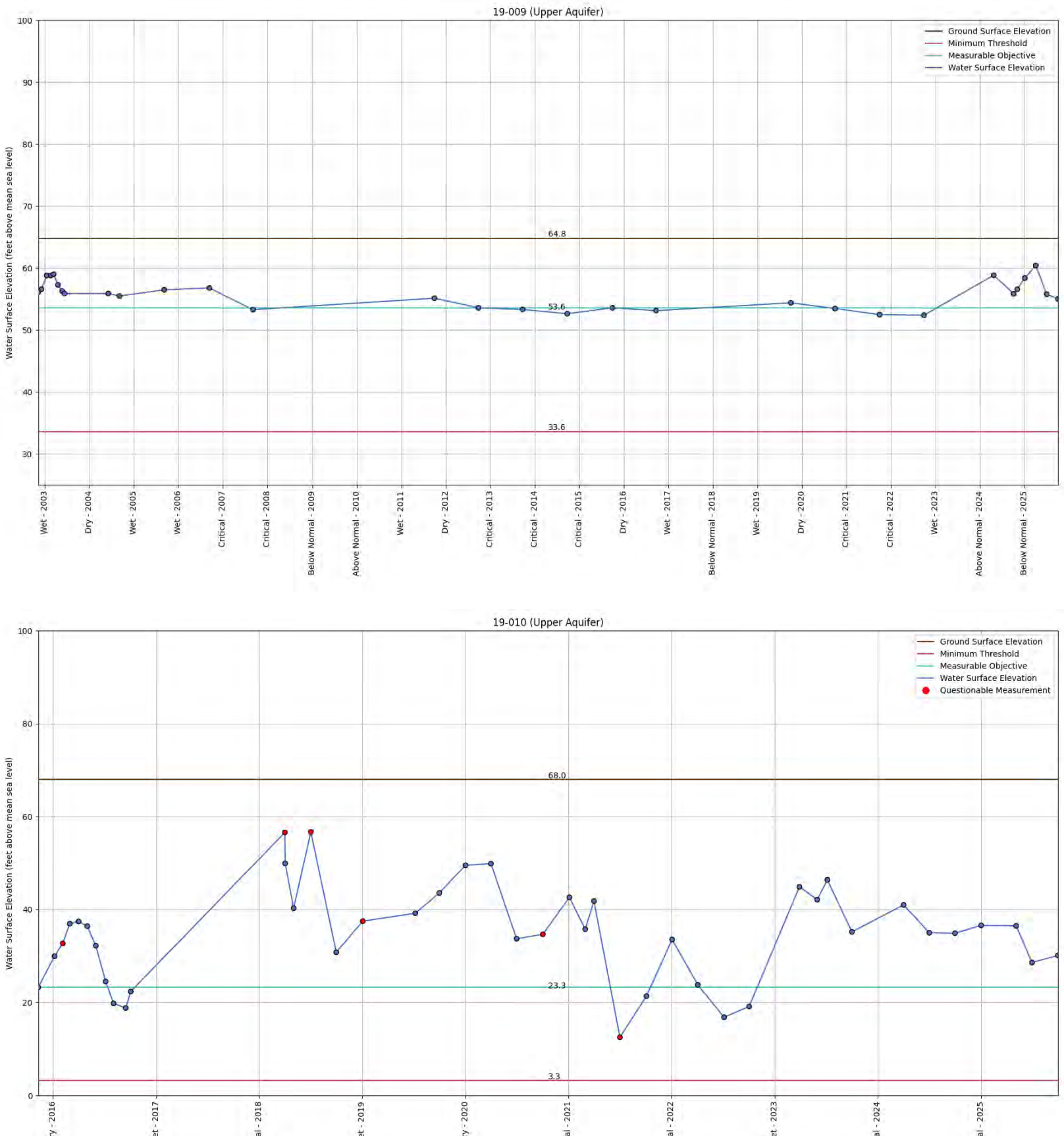

13-012 (Upper Aquifer)
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
140
120
100
80
60
109.4
89.4
Below Normal - 5/2025
Below Normal - 8/2025
11-005 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
150
125
100
75
50
25
0
−25
−50
98.0
19.4
-0.6
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
11-006 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
150
125
100
75
50
25
0
−25
−50
100.0
23.6
3.6
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

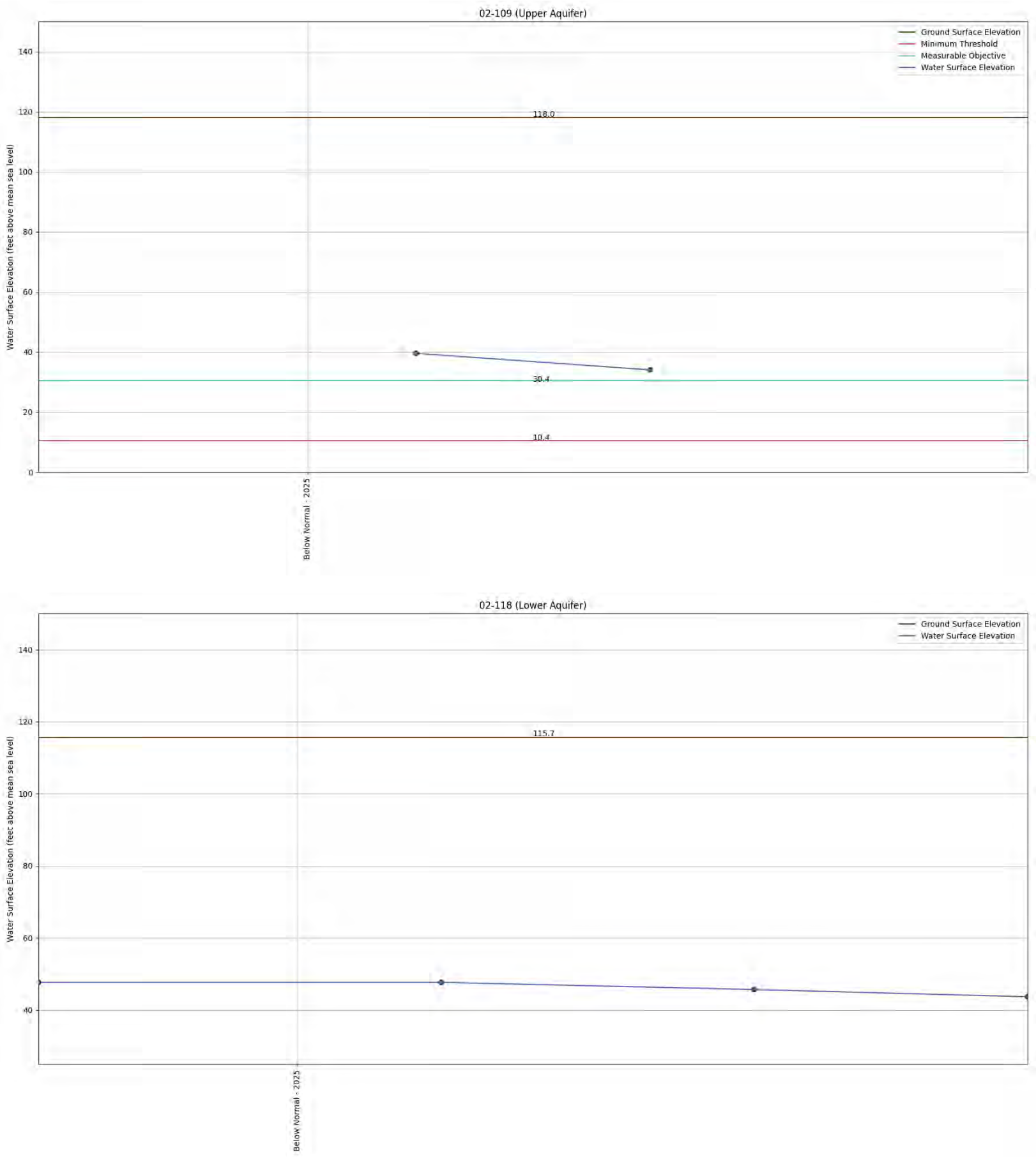

11-022 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
90.0
11.5
-8.5
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Questionable Measurement
Above Normal - 2024
Below Normal - 2025
19-002 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
48.9
28.9
Minimum Threshold
Measurable Objective
Water Surface Elevation
Questionable Measurement
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
19-011 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
67.5
Ground Surface Elevation
Water Surface Elevation
Note: Well installed in WY 2026.
Below Normal - 2025

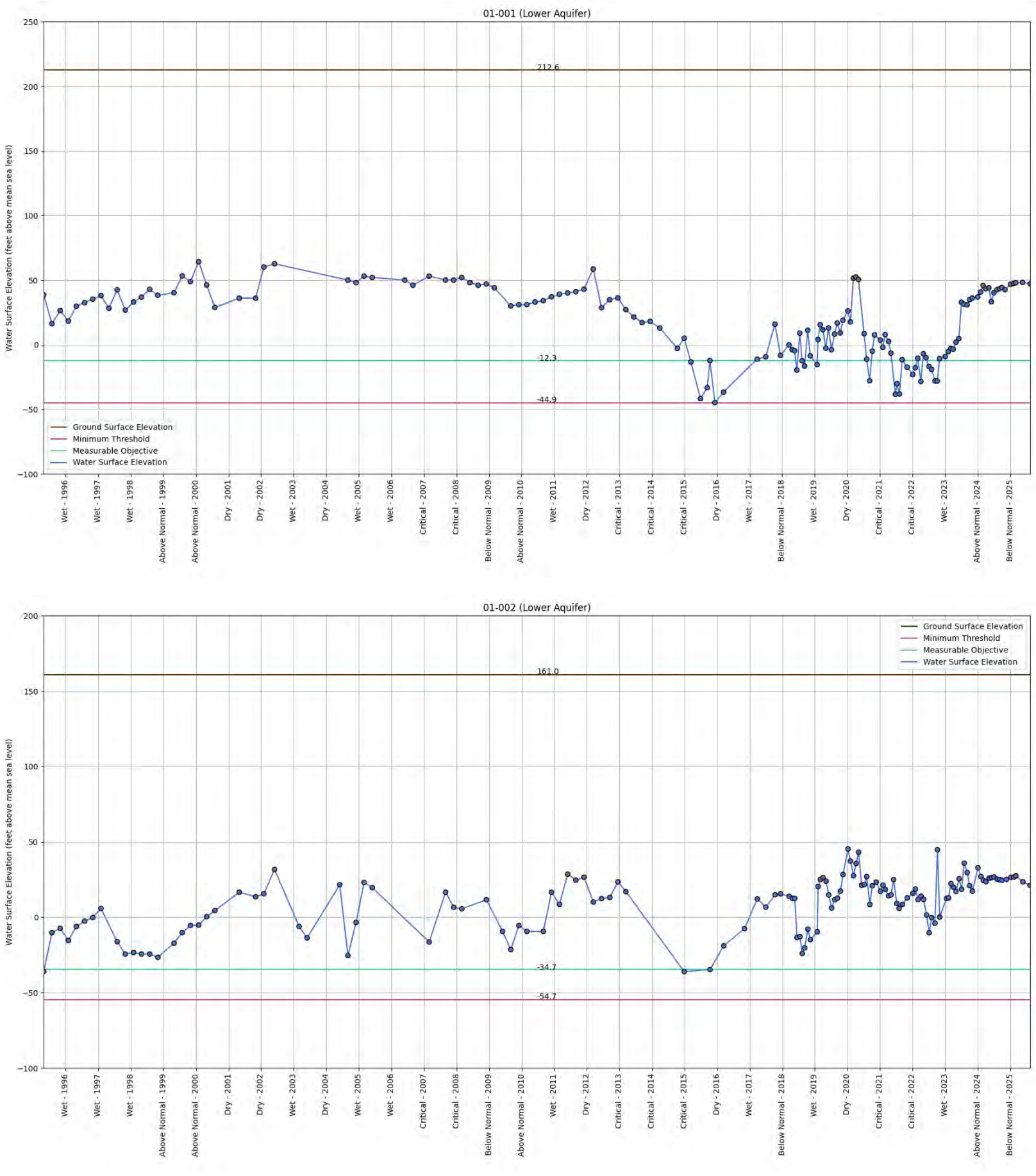

19-012 (Lower Aquifer)
Ground Surface Elevation
Water Surface Elevation
67.5
Water Surface Elevation (feet above mean sea level)
Note: Well installed in WY 2026.
Below Normal - 2025
19-013 (Upper Aquifer)
Ground Surface Elevation
Water Surface Elevation
67.5
Water Surface Elevation (feet above mean sea level)
Note: Well installed in WY 2026.
Below Normal - 2025
11-010 (Lower Aquifer)
Minimum Threshold
Measurable Objective
Water Surface Elevation
Questionable Measurement
19.0
-1.0
Water Surface Elevation (feet above mean sea level)
Above Normal - 2024
Below Normal - 2025

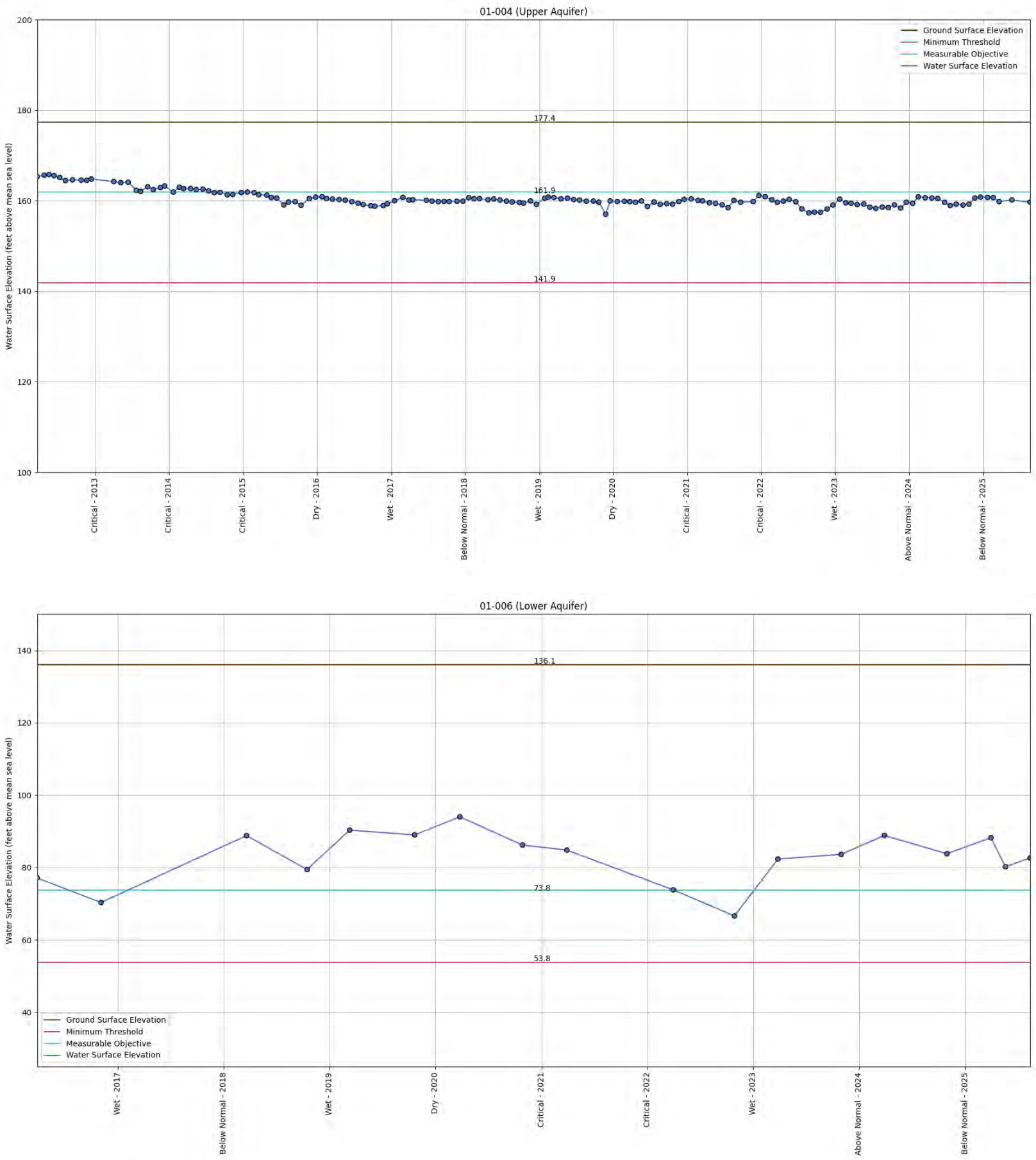

11-019 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Questionable Measurement
77.0
37.1
17.1
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
11-020 (Lower Aquifer)
87.4
10.4
-9.6
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
11-023 (Upper Aquifer)
110.7
97.5
77.5

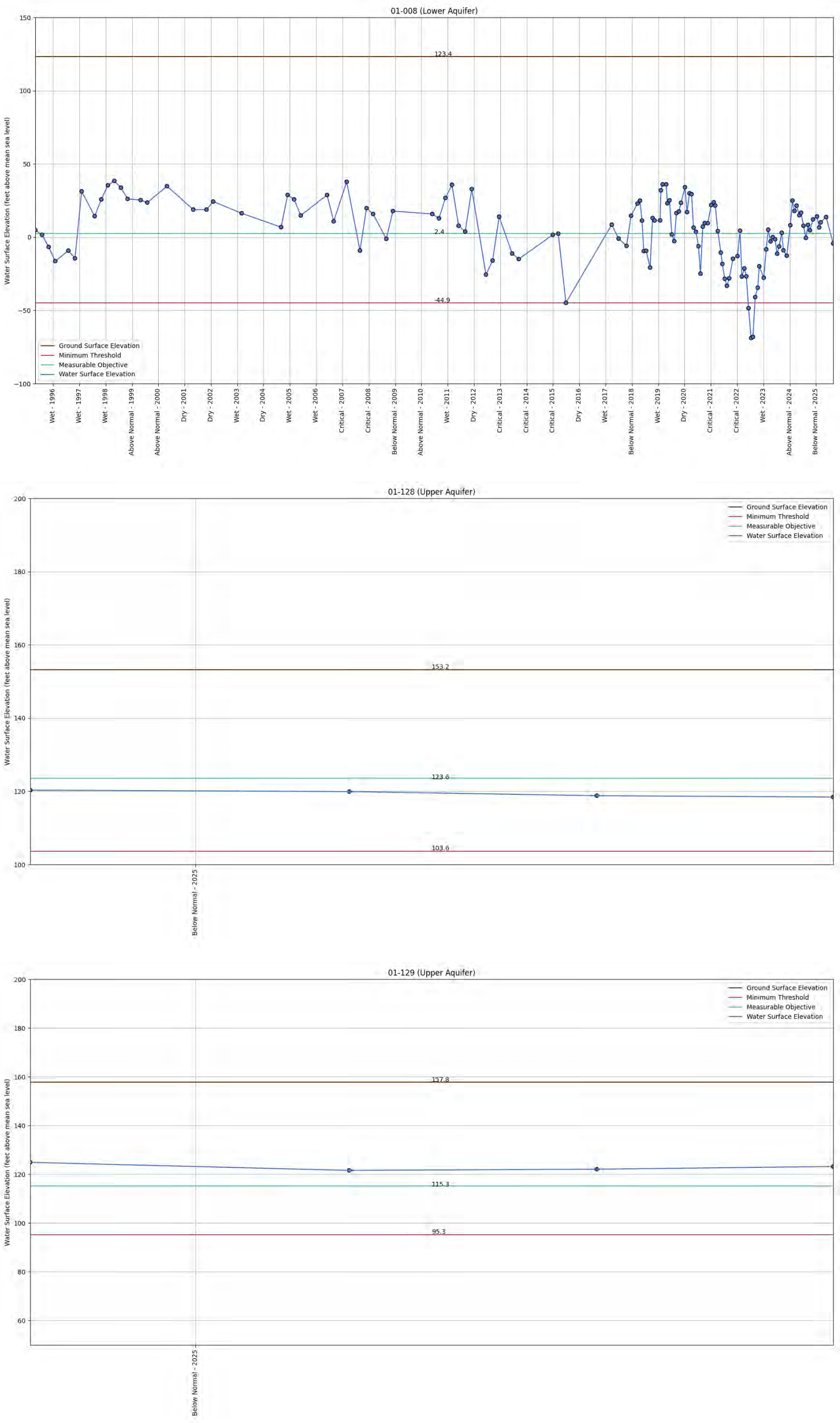

11-024 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Questionable Measurement
95.3
21.1
1.1
Water Surface Elevation (feet above mean sea level)
150
125
100
75
50
25
0
−25
−50
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
19-005 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
63.3
48.9
28.9
Water Surface Elevation (feet above mean sea level)
100
90
80
70
60
50
40
30
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
19-008 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
62.7
52.7
32.7
Water Surface Elevation (feet above mean sea level)
100
90
80
70
60
50
40
30
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

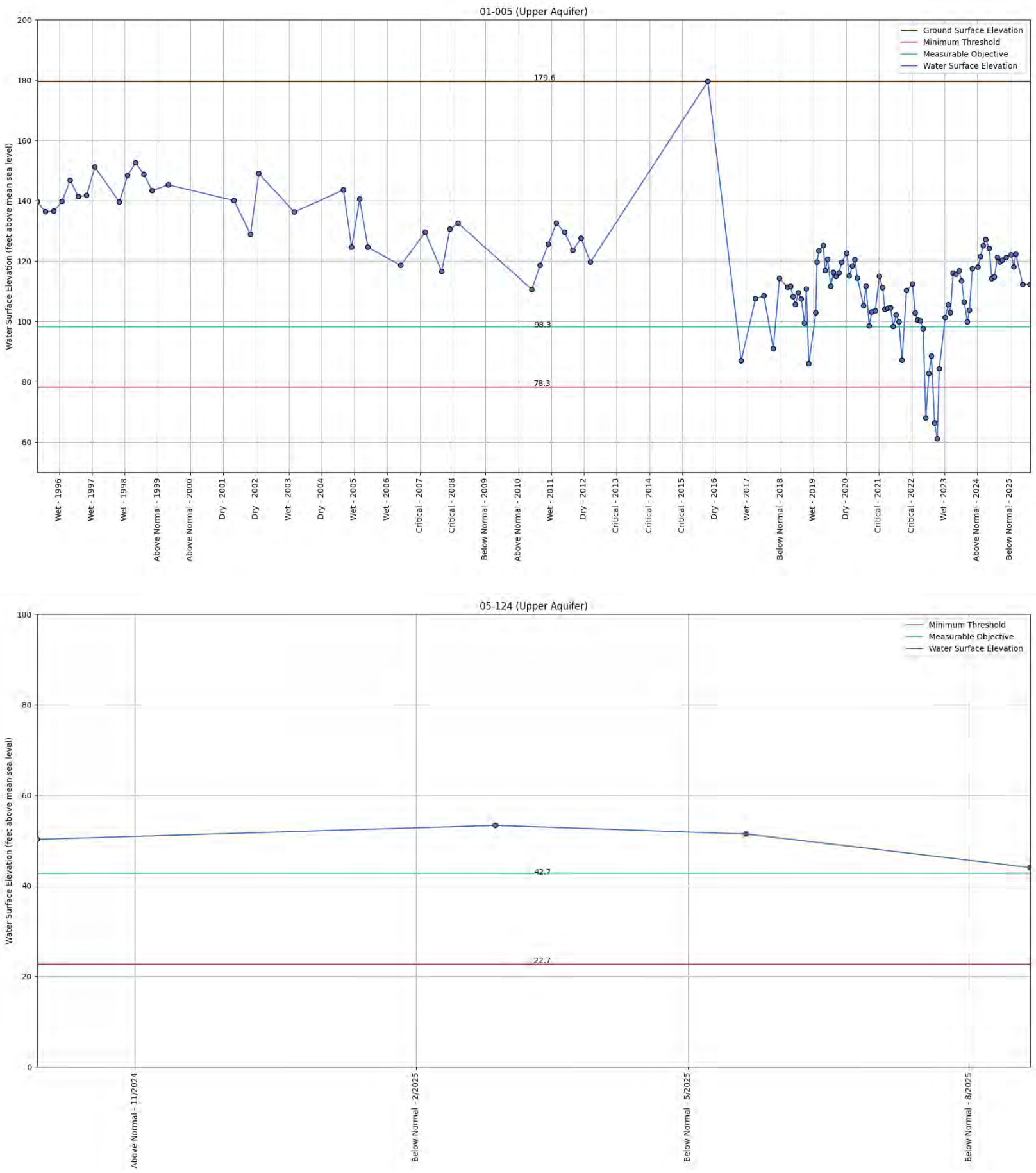

19-009 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
64.8
53.6
33.6
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Normal - 2009
Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
19-010 (Upper Aquifer)
Questionable Measurement
68.0
23.3
3.3
Below Normal - 2018
Above Normal - 2024
Below Normal - 2025
02-009 (Upper Aquifer)
138.8
30.8
-6.2

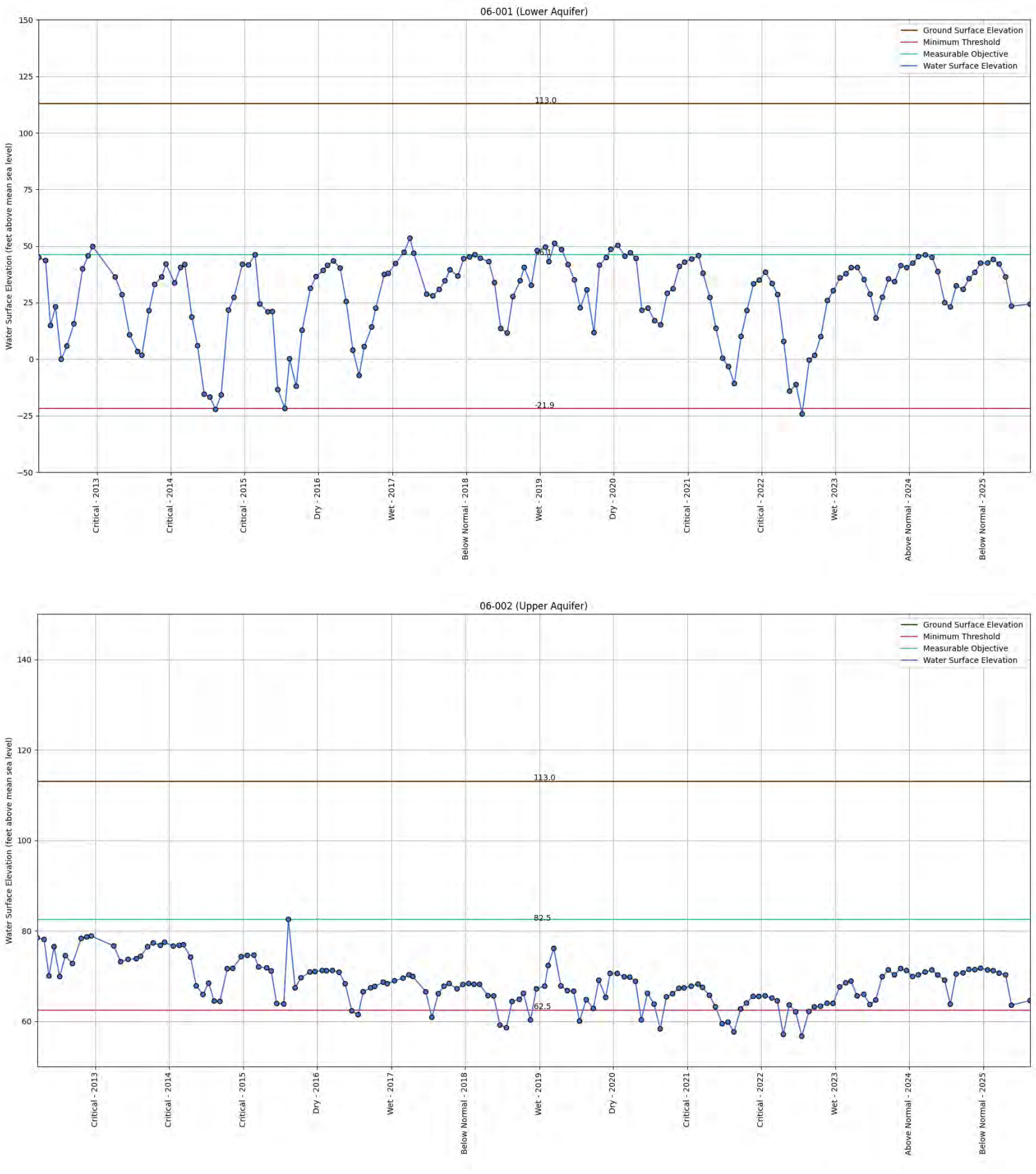

02-109 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
118.0
30.4
10.4
Water Surface Elevation (feet above mean sea level)
Below Normal - 2025
02-118 (Lower Aquifer)
Ground Surface Elevation
Water Surface Elevation
115.7
Water Surface Elevation (feet above mean sea level)
Below Normal - 2025
03-002 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
96.2
26.4
6.4
Water Surface Elevation (feet above mean sea level)
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

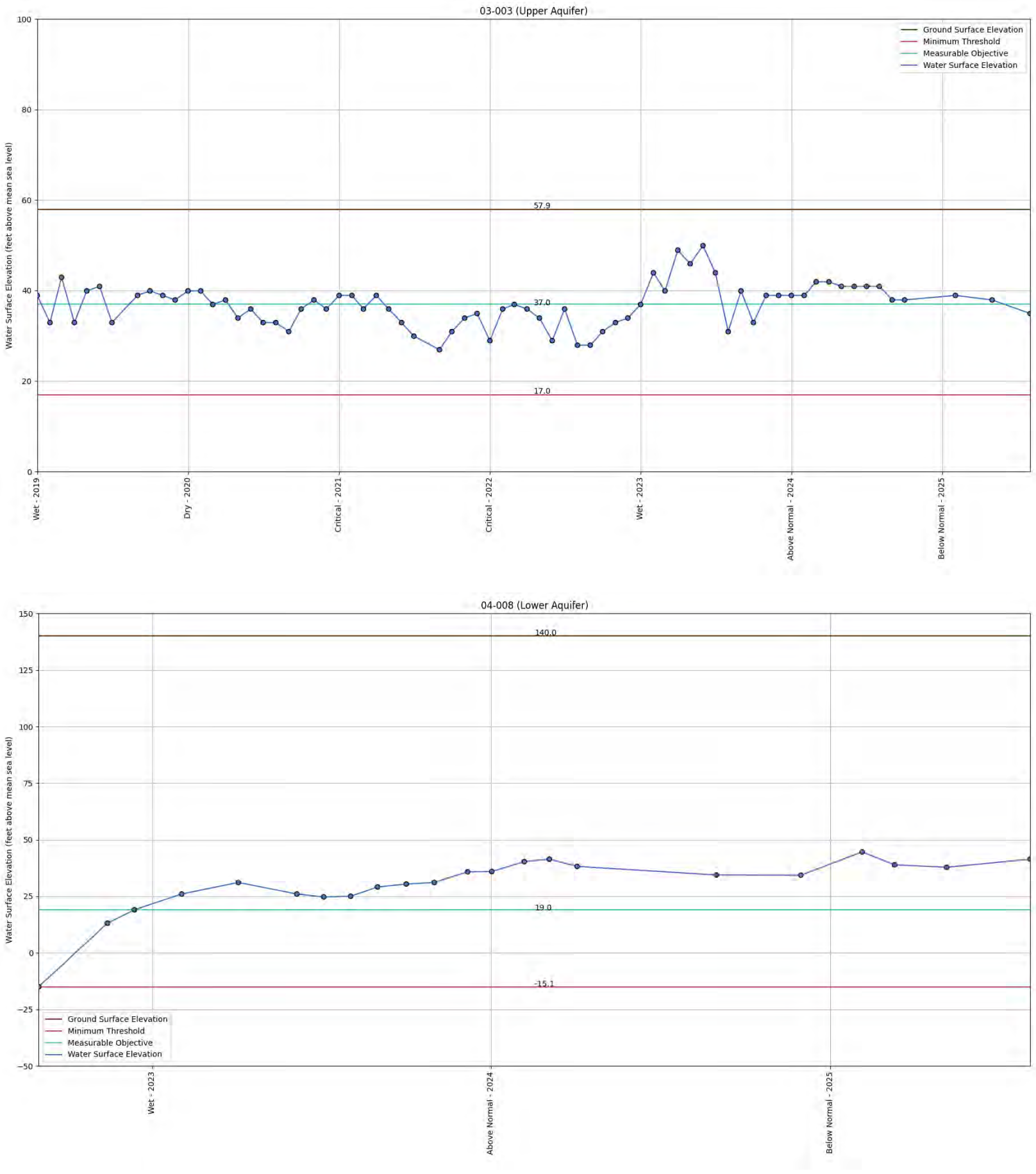

01-001 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
212.6
-12.3
-44.9
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 1996
Wet - 1997
Wet - 1998
Normal - 1999
Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Normal - 2009
Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
01-002 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
161.0
-34.7
-54.7
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
01-003 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
177.5
62.3
-21.8
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

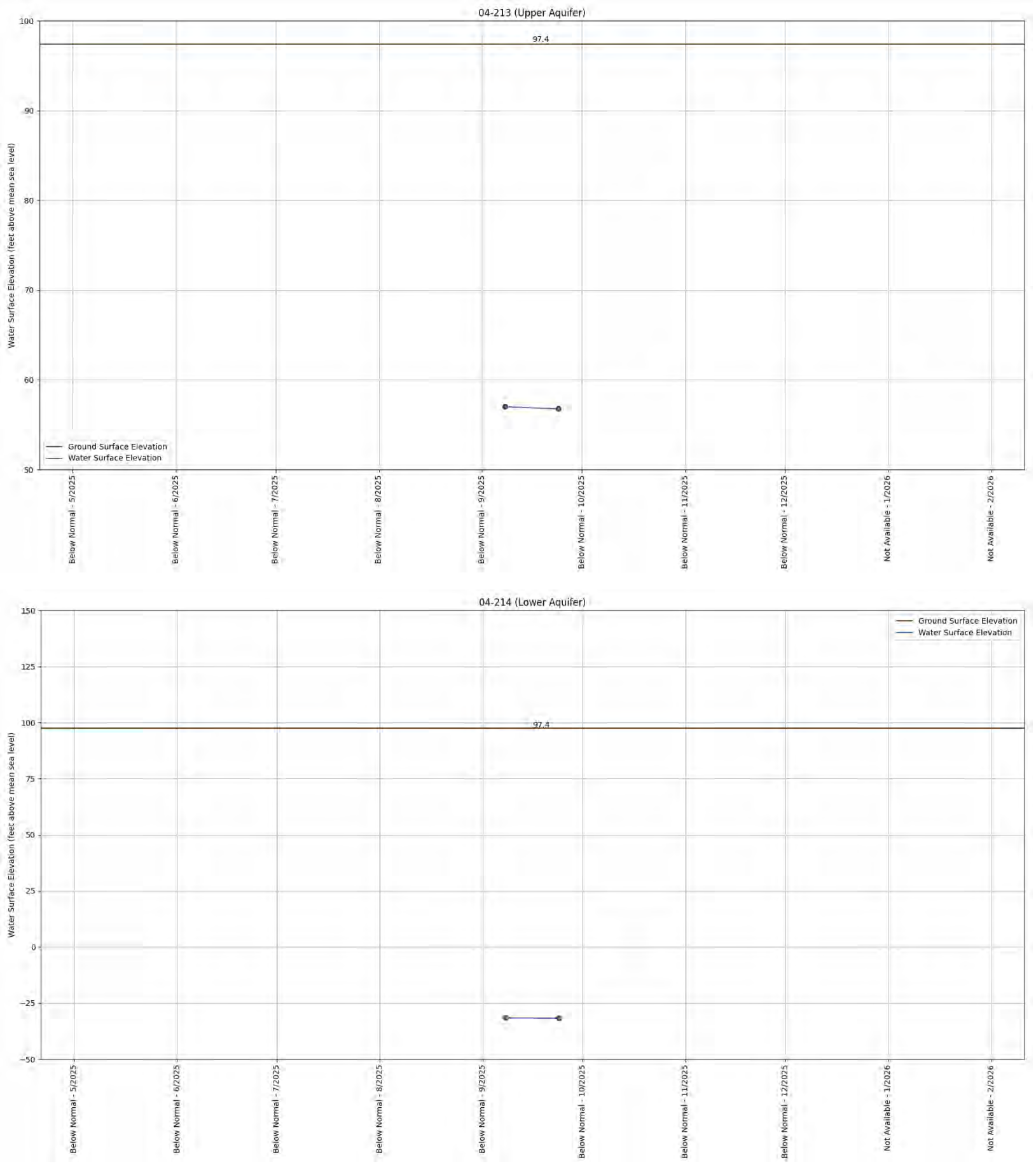

01-004 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
177.4
161.9
141.9
200
180
160
140
120
100
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
01-006 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
136.1
73.8
53.8
140
120
100
80
60
40
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
01-007 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
185.5
56.7
22.3
200
150
100
50
0
−50
−100
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

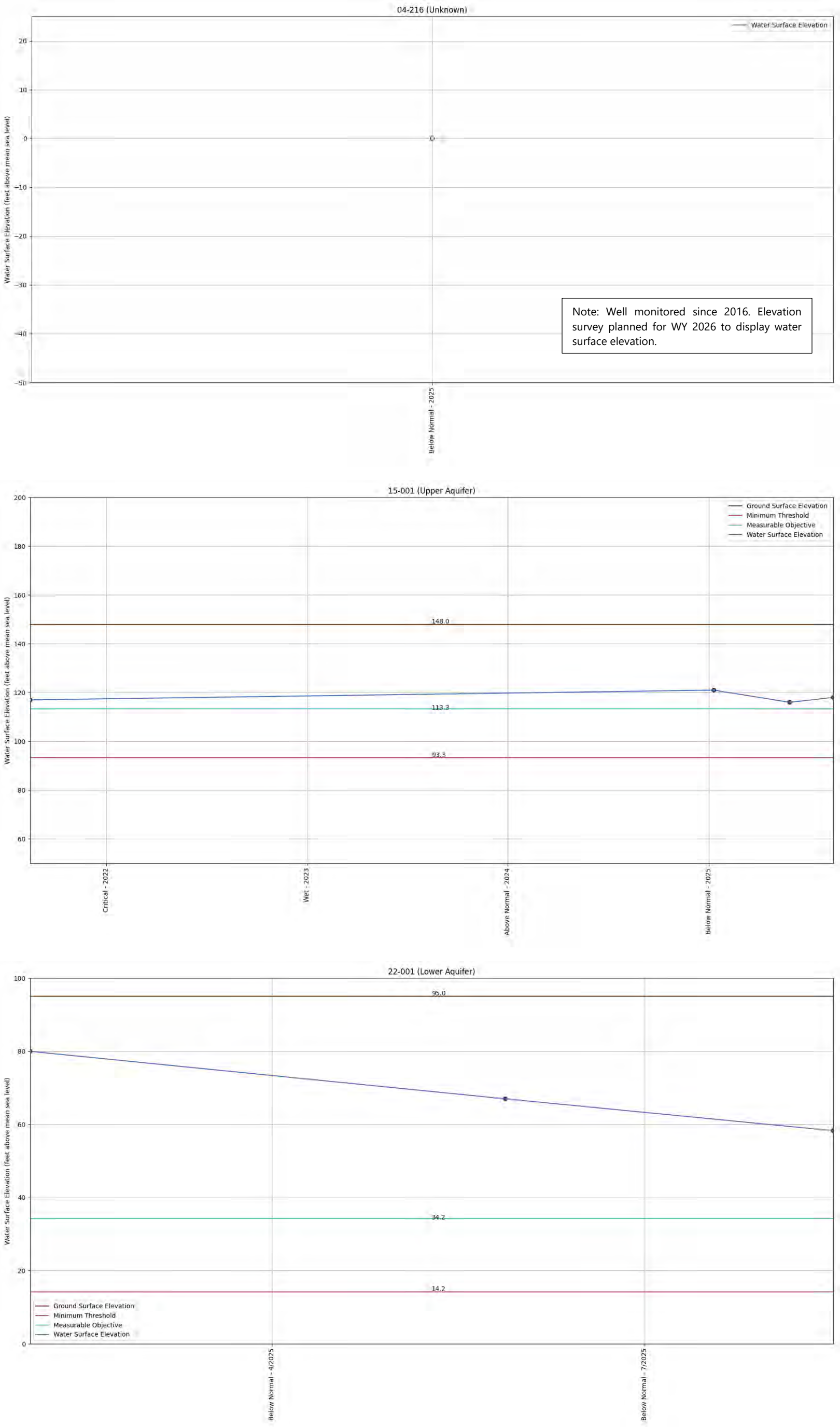

01-008 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
150
100
50
0
−50
−100
123.4
2.4
-44.9
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 1996
Wet - 1997
Wet - 1998
Normal - 1999
Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Normal - 2009
Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
Above
Above
Below
Above
Below
Above
Below
01-128 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
153.2
123.6
103.6
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Below Normal - 2025
01-129 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
80
60
157.8
115.3
95.3
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Below Normal - 2025

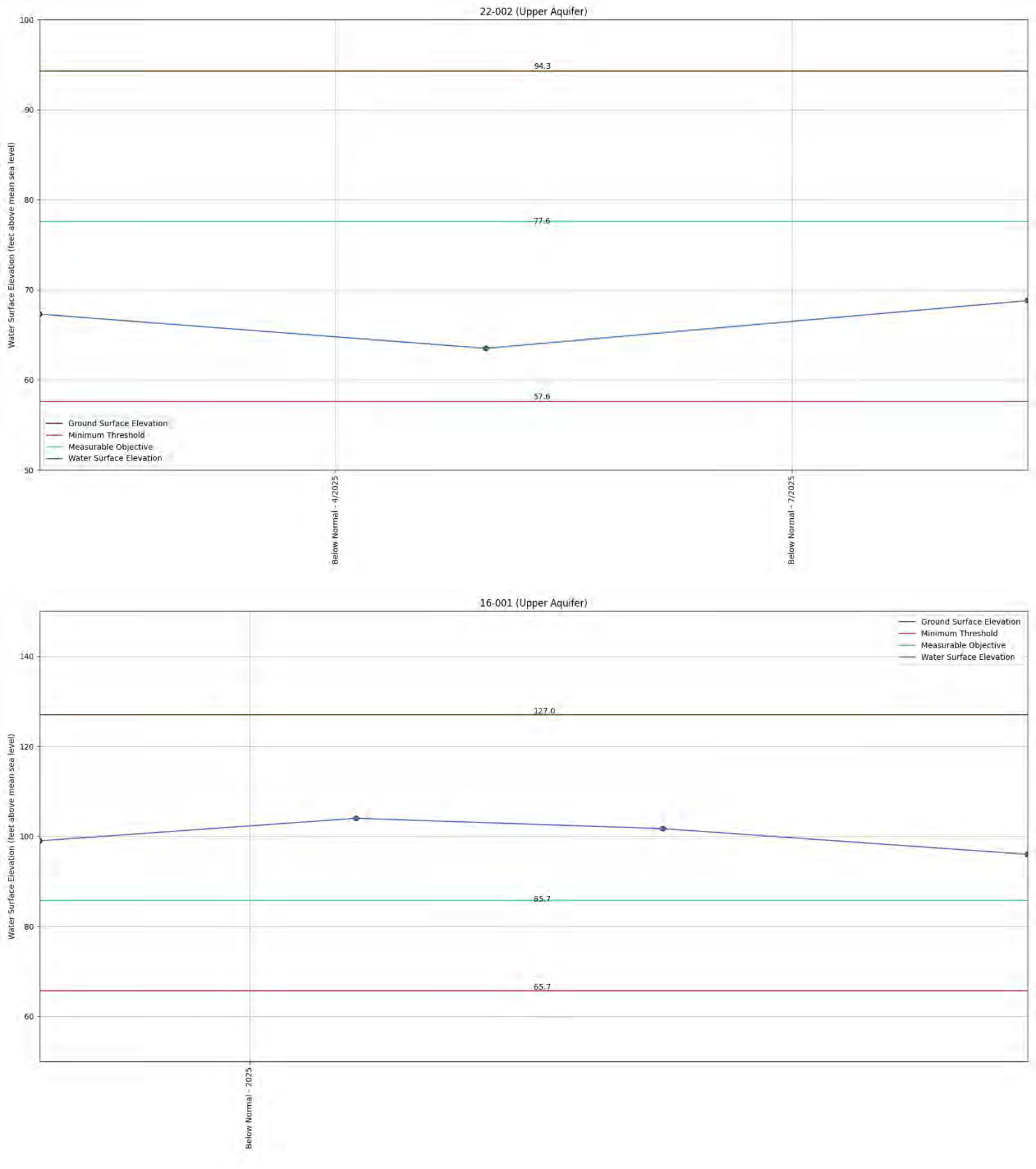

01-005 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
179.6
98.3
78.3
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
80
60
Wet - 1996
Wet - 1997
Wet - 1998
Normal - 1999
Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Normal - 2009
Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Normal - 2025
Above
Above
Below
Above
Below
Above
Below
05-124 (Upper Aquifer)
Minimum Threshold
Measurable Objective
Water Surface Elevation
42.7
22.7
Water Surface Elevation (feet above mean sea level)
100
80
60
40
20
0
Above Normal - 11/2024
Below Normal - 2/2025
Below Normal - 5/2025
Below Normal - 8/2025
05-128 (Lower Aquifer)
Minimum Threshold
Measurable Objective
Water Surface Elevation
14.7
-5.3
Water Surface Elevation (feet above mean sea level)
100
80
60
40
20
0
−20
−40
Above Normal - 11/2024
Below Normal - 2/2025
Below Normal - 5/2025
Below Normal - 8/2025

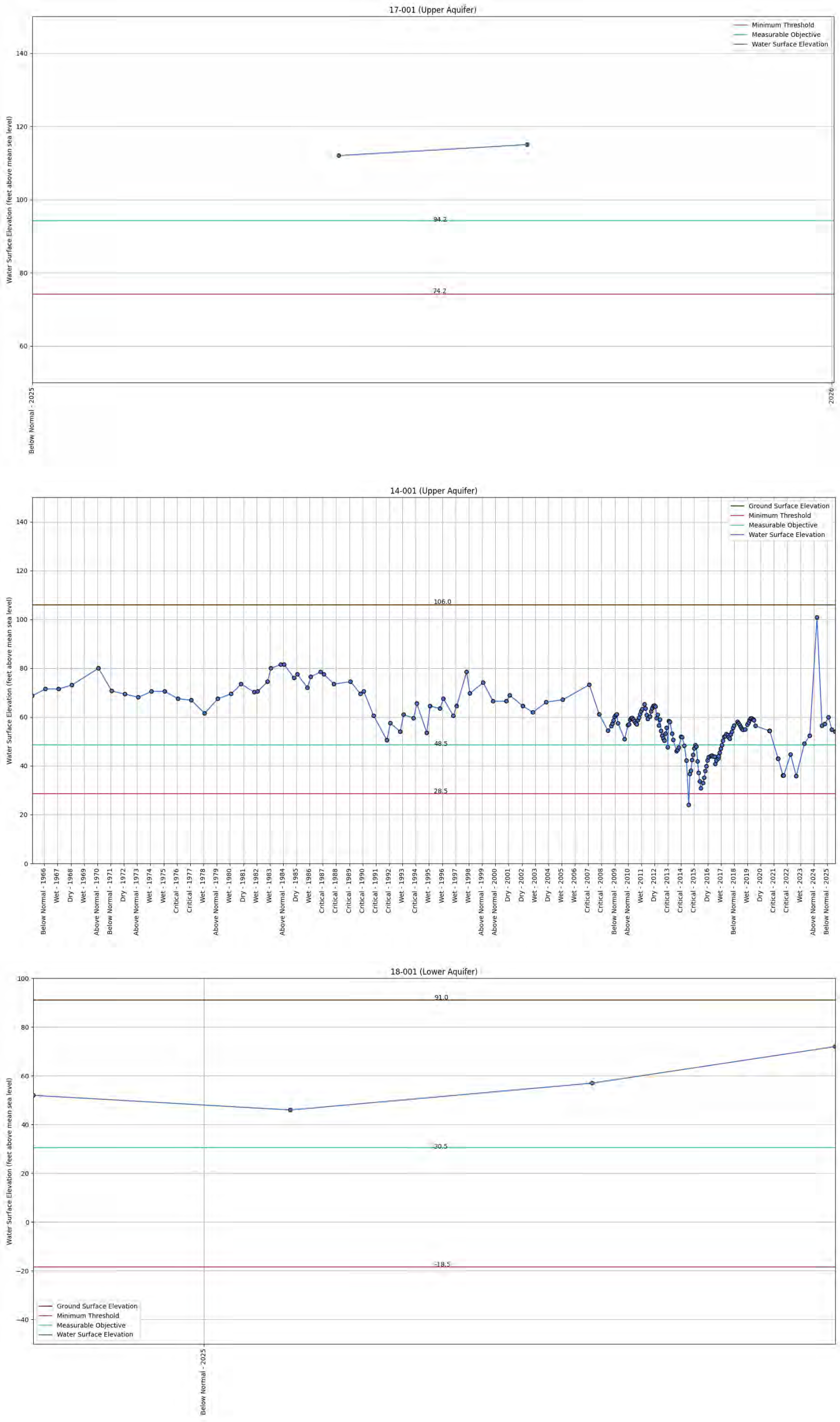

06-001 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
113.0
46.1
-21.9
Water Surface Elevation (feet above mean sea level)
150
125
100
75
50
25
0
−25
−50
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
06-002 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
113.0
82.5
62.5
Water Surface Elevation (feet above mean sea level)
140
120
100
80
60
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
03-001 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
58.7
30.7
10.7
Water Surface Elevation (feet above mean sea level)
100
80
60
40
20
0
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

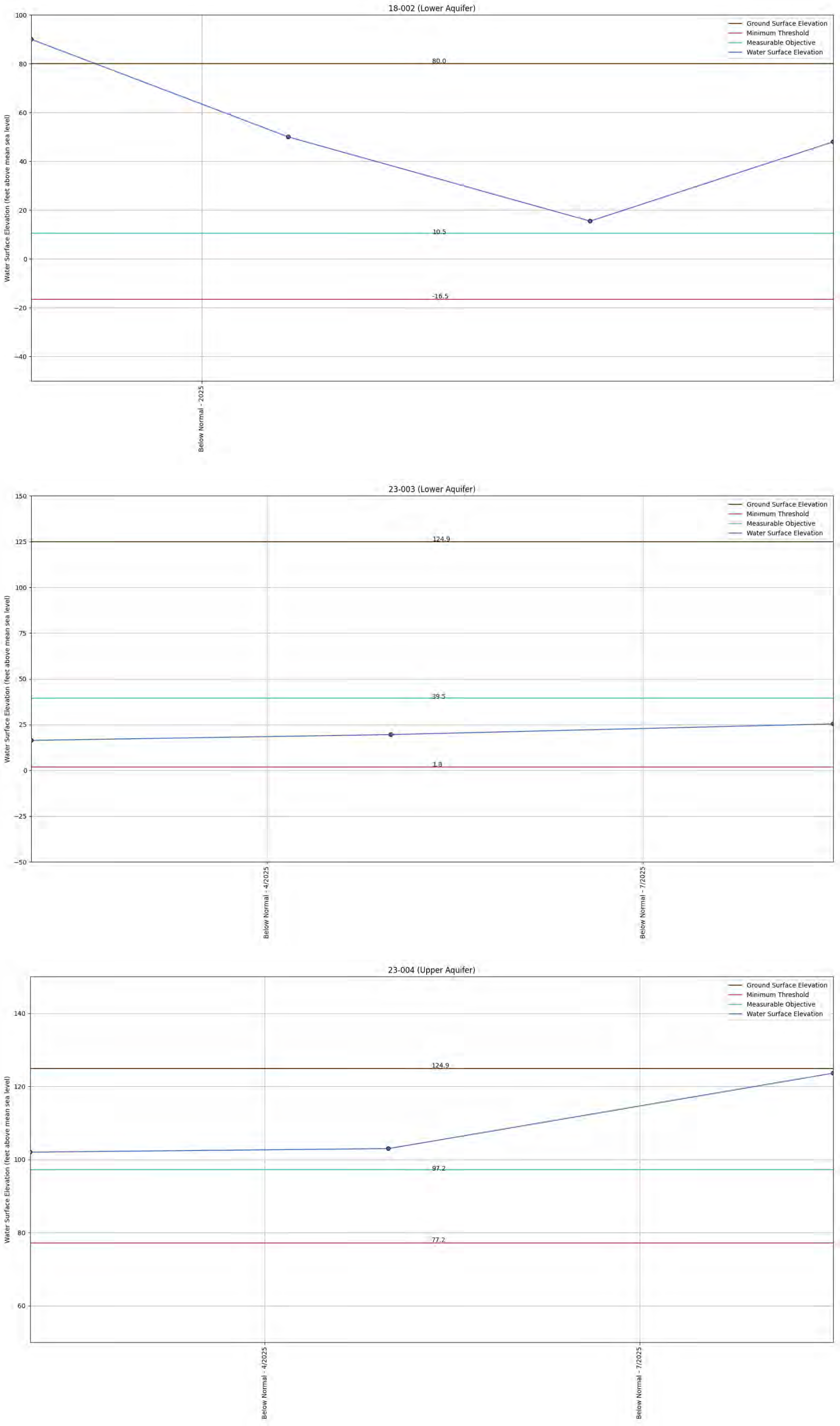

03-003 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
57.9
37.0
17.0
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
04-008 (Lower Aquifer)
140.0
19.0
-15.1
04-212 (Lower Aquifer)
144.8
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

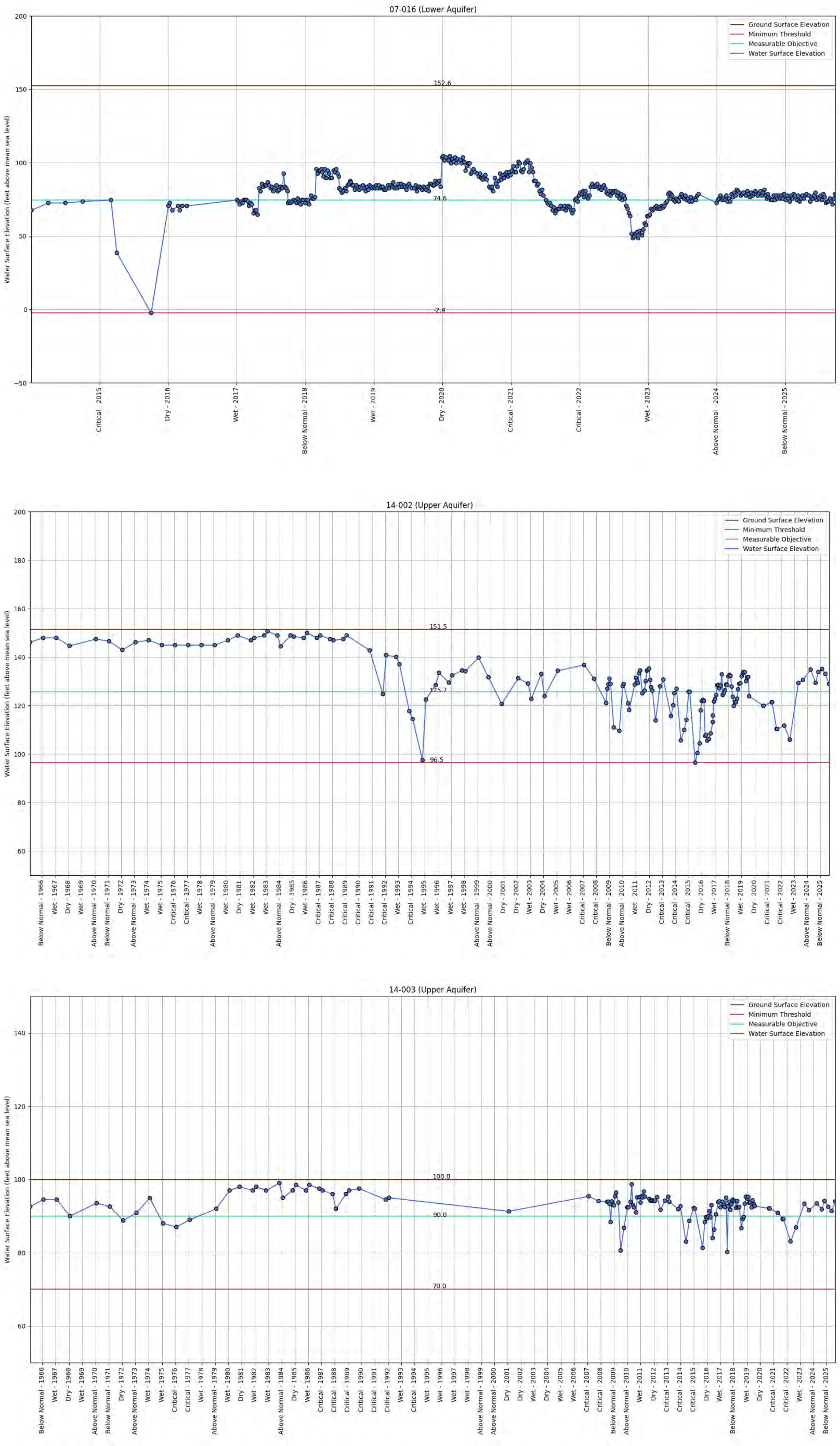

04-213 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
97.4
Ground Surface Elevation
Water Surface Elevation
Below Normal - 5/2025
Below Normal - 6/2025
Below Normal - 7/2025
Below Normal - 8/2025
Below Normal - 9/2025
Below Normal - 10/2025
Below Normal - 11/2025
Below Normal - 12/2025
Not Available - 1/2026
Not Available - 2/2026
04-214 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
97.4
Ground Surface Elevation
Water Surface Elevation
Below Normal - 5/2025
Below Normal - 6/2025
Below Normal - 7/2025
Below Normal - 8/2025
Below Normal - 9/2025
Below Normal - 10/2025
Below Normal - 11/2025
Below Normal - 12/2025
Not Available - 1/2026
Not Available - 2/2026
04-215 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
97.4
Ground Surface Elevation
Water Surface Elevation
Below Normal - 5/2025
Below Normal - 6/2025
Below Normal - 7/2025
Below Normal - 8/2025
Below Normal - 9/2025
Below Normal - 10/2025
Below Normal - 11/2025
Below Normal - 12/2025
Not Available - 1/2026
Not Available - 2/2026

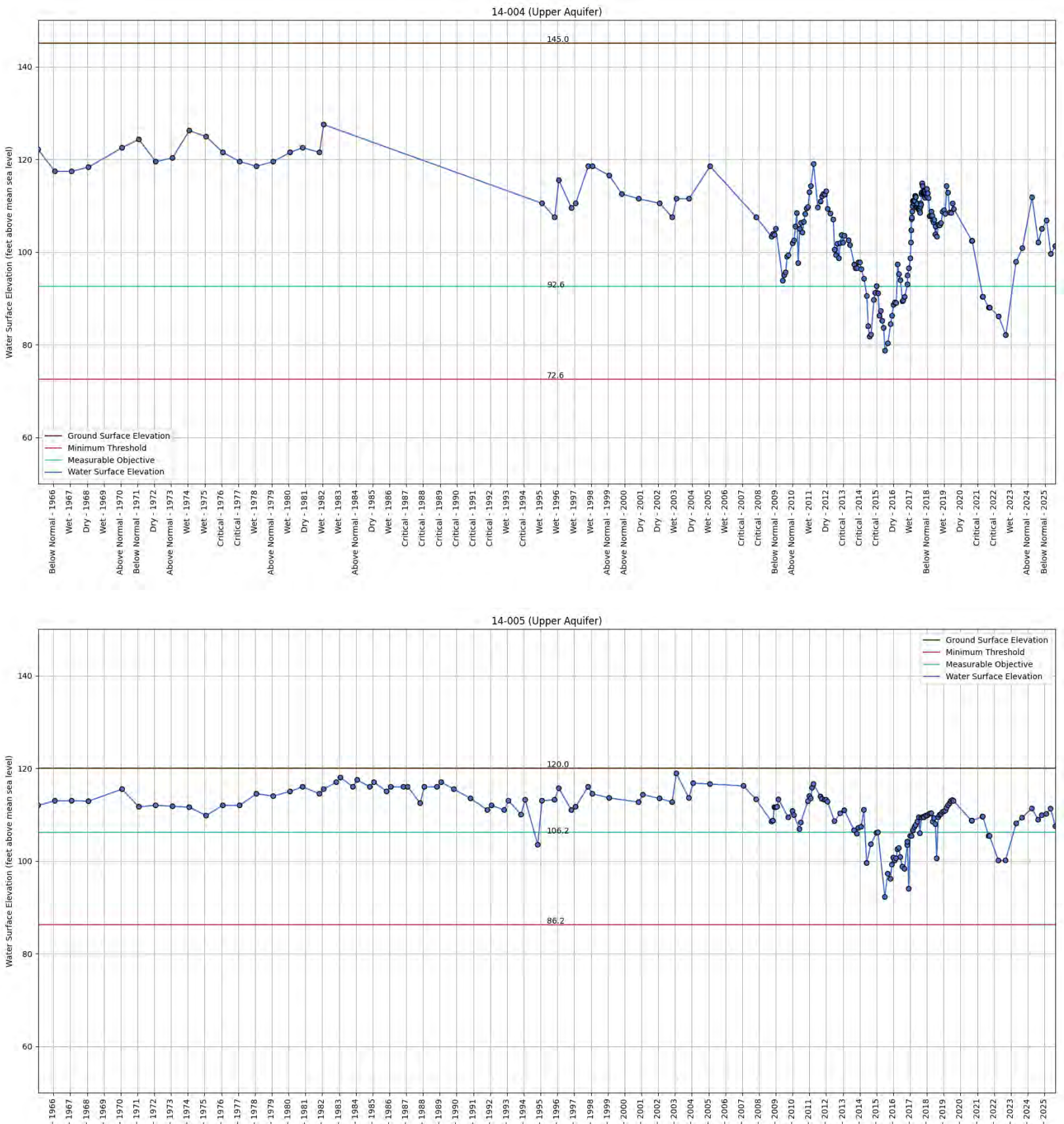

04-216 (Unknown)
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
20
10
0
−10
−20
−30
−40
−50
Note: Well monitored since 2016. Elevation survey planned for WY 2026 to display water surface elevation.
Below Normal - 2025
15-001 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
200
180
160
140
120
100
80
60
148.0
113.3
93.3
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
22-001 (Lower Aquifer)
100
80
60
40
20
0
95.0
34.2
14.2
Below Normal - 4/2025
Below Normal - 7/2025

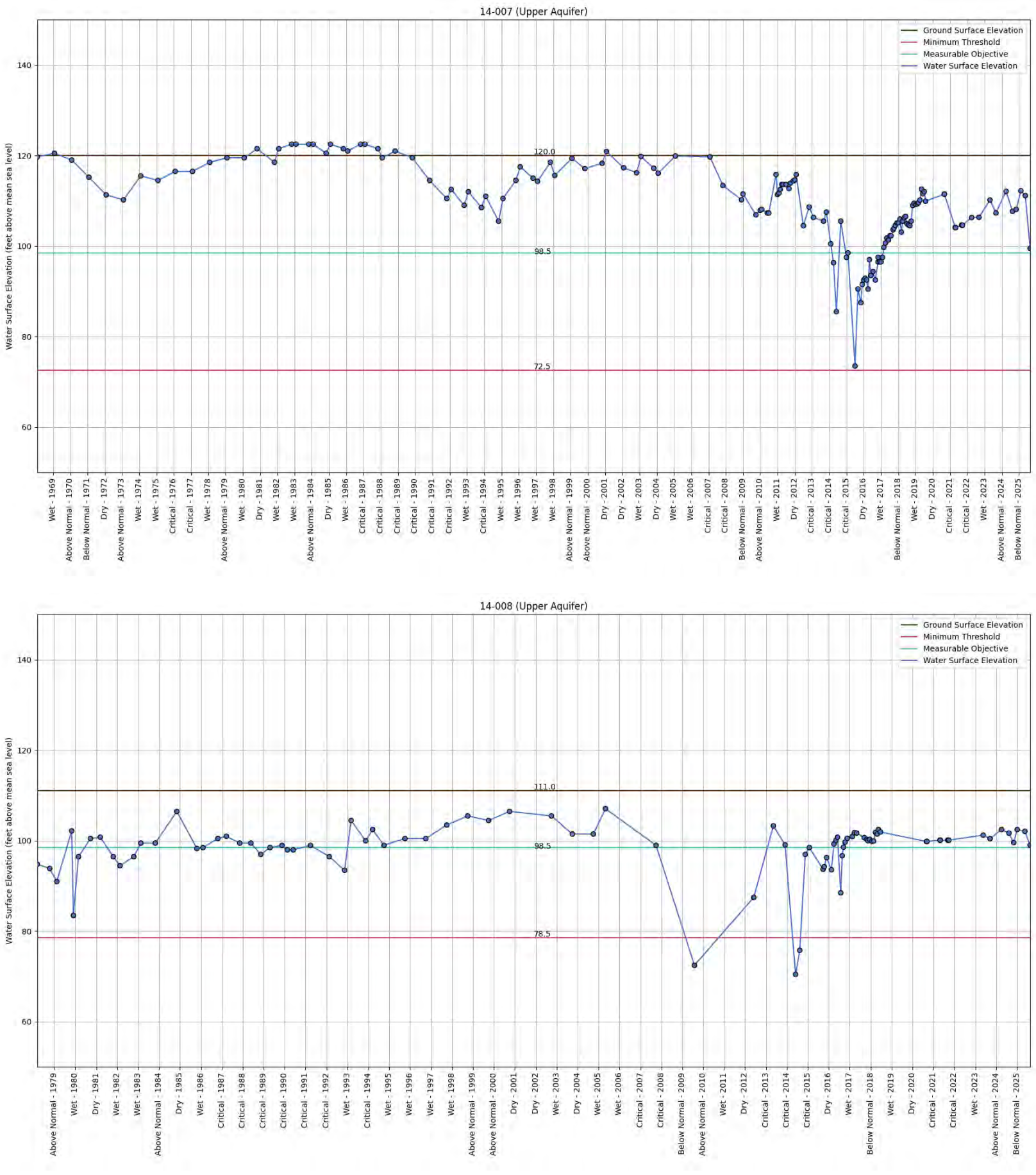

22-002 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
94.3
77.6
57.6
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Below Normal - 4/2025
Below Normal - 7/2025
16-001 (Upper Aquifer)
127.0
85.7
65.7
Below Normal - 2025
13-004 (Lower Aquifer)
154.0
-27.0
-50.6
Wet - 1986
Critical - 1987
Critical - 1988
Critical - 1989
Critical - 1990
Critical - 1991
Critical - 1992
Wet - 1993
Critical - 1994
Wet - 1995
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025

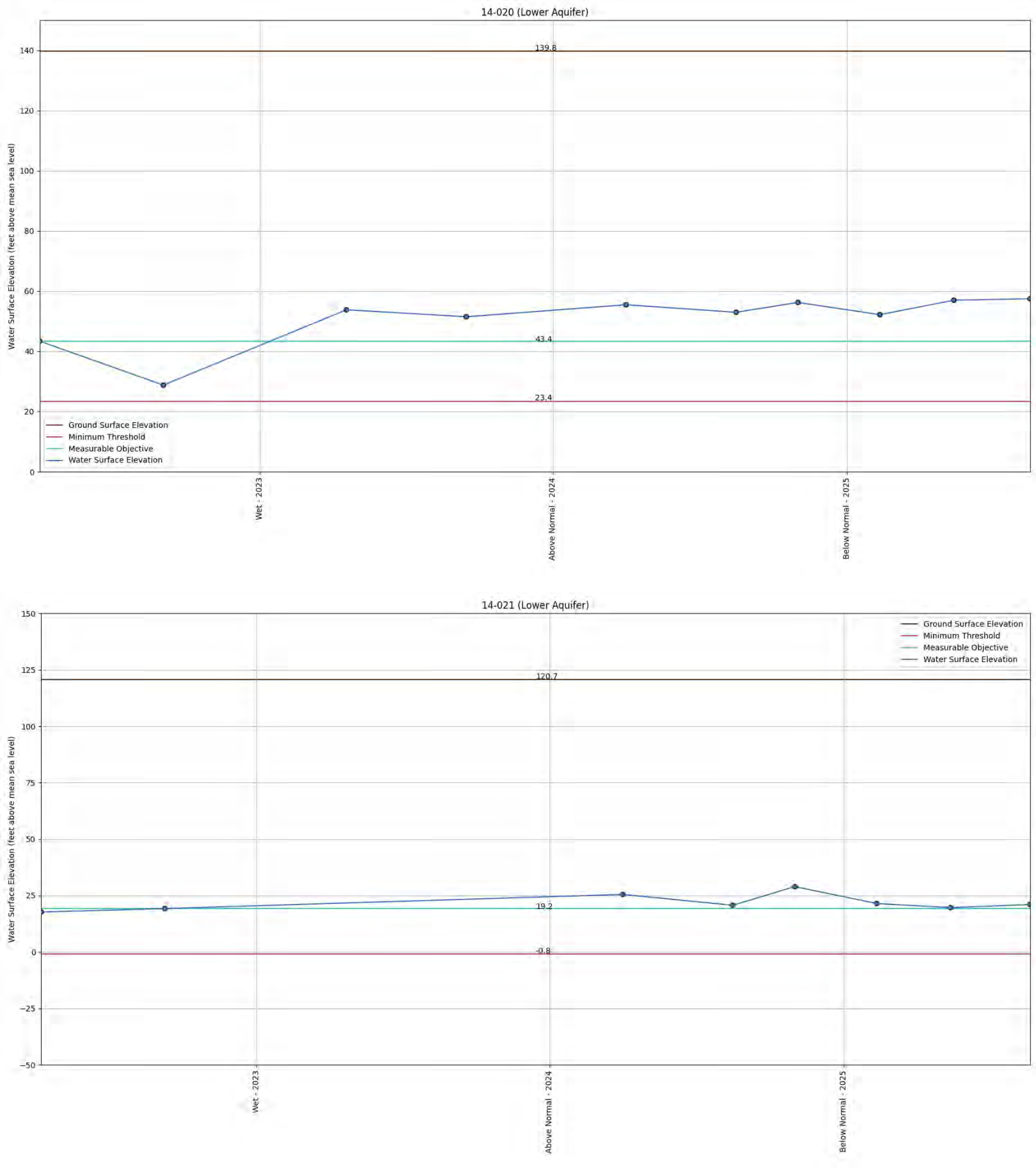

17-001 (Upper Aquifer)
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
140
120
100
80
60
94.2
74.2
rmal - 2025
2026
14-001 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
140
120
100
80
60
40
20
0
106.0
48.5
28.5
Below Normal - 1966
Wet - 1967
Dry - 1968
Wet - 1969
Above Normal - 1970
Below Normal - 1971
Dry - 1972
Above Normal - 1973
Wet - 1974
Wet - 1975
Critical - 1976
Critical - 1977
Wet - 1978
Above Normal - 1979
Wet - 1980
Dry - 1981
Wet - 1982
Wet - 1983
Above Normal - 1984
Dry - 1985
Wet - 1986
Critical - 1987
Critical - 1988
Critical - 1989
Critical - 1990
Critical - 1991
Critical - 1992
Wet - 1993
Critical - 1994
Wet - 1995
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
18-001 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
100
80
60
40
20
0
−20
−40
91.0
30.5
-18.5
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Below Normal - 2025

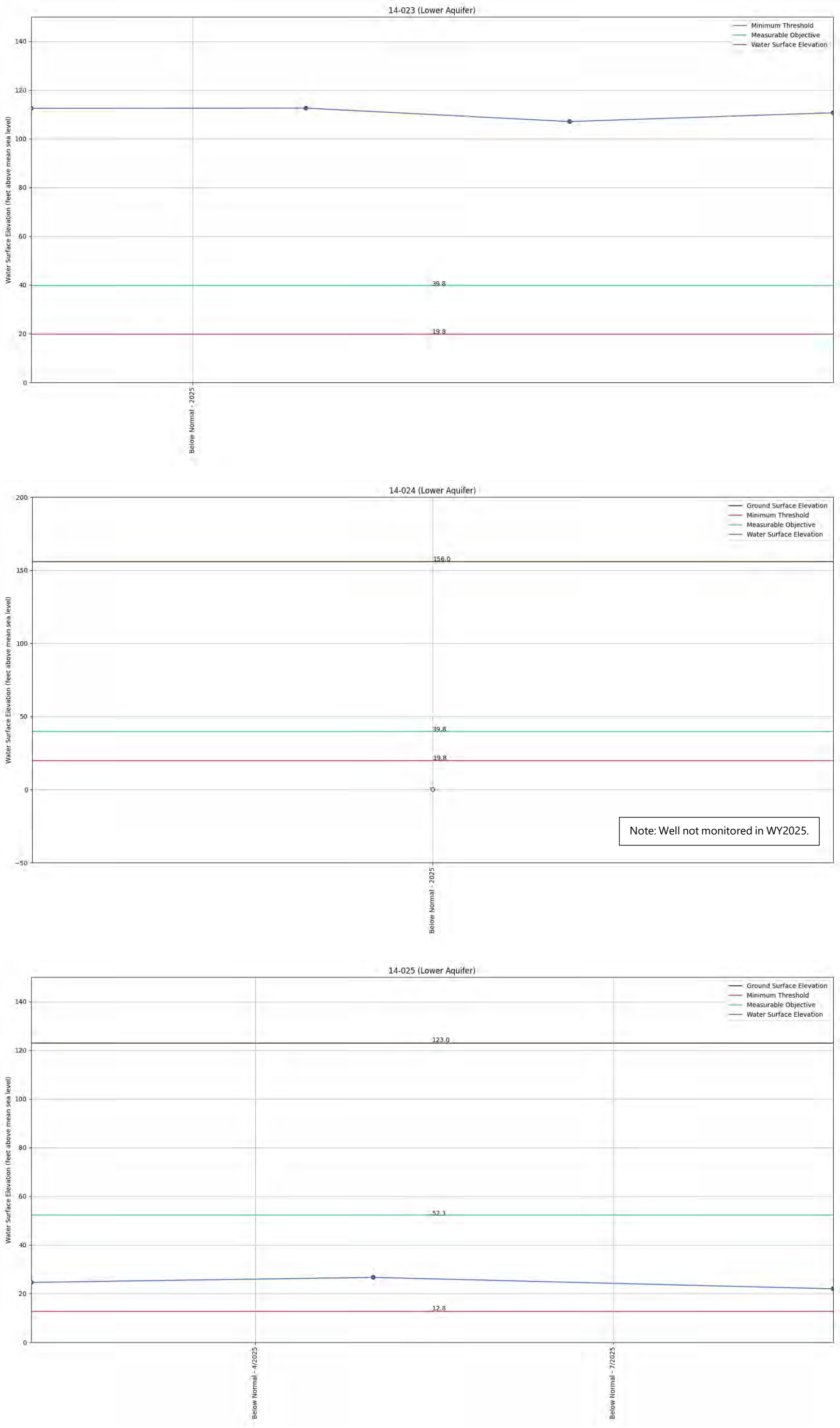

18-002 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
80.0
10.5
-16.5
Water Surface Elevation (feet above mean sea level)
100
80
60
40
20
0
−20
−40
Below Normal - 2025
23-003 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
124.9
39.5
1.8
Water Surface Elevation (feet above mean sea level)
150
125
100
75
50
25
0
−25
−50
Below Normal - 4/2025
Below Normal - 7/2025
23-004 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
124.9
97.2
77.2
Water Surface Elevation (feet above mean sea level)
140
120
100
80
60
Below Normal - 4/2025
Below Normal - 7/2025

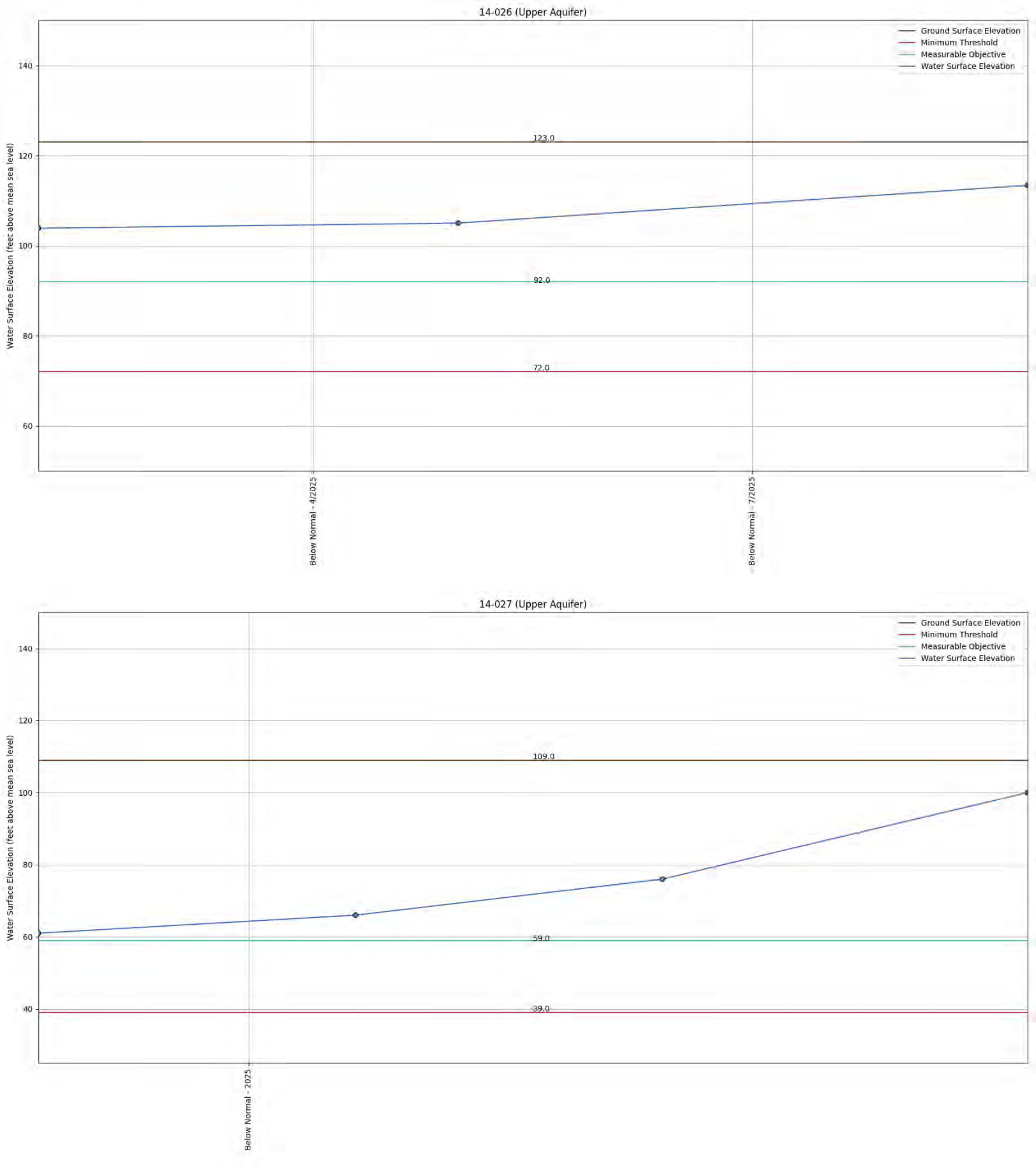

07-016 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
152.6
74.6
-2.4
Water Surface Elevation (feet above mean sea level)
200
150
100
50
0
−50
Critical - 2015
Dry - 2016
Wet - 2017
Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Normal - 2024
Below
Above
Below
14-002 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
151.5
125.7
96.5
Water Surface Elevation (feet above mean sea level)
200
180
160
140
120
100
80
60
Below Normal - 1966
Wet - 1967
Dry - 1968
Wet - 1969
Above Normal - 1970
Below Normal - 1971
Dry - 1972
Above Normal - 1973
Wet - 1974
Wet - 1975
Critical - 1976
Critical - 1977
Wet - 1978
Above Normal - 1979
Wet - 1980
Dry - 1981
Wet - 1982
Wet - 1983
Above Normal - 1984
Dry - 1985
Wet - 1986
Critical - 1987
Critical - 1988
Critical - 1989
Critical - 1990
Critical - 1991
Critical - 1992
Wet - 1993
Critical - 1994
Wet - 1995
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025
14-003 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
100.0
90.0
70.0
Water Surface Elevation (feet above mean sea level)
140
120
100
80
60
Below Normal - 1966
Wet - 1967
Dry - 1968
Wet - 1969
Above Normal - 1970
Below Normal - 1971
Dry - 1972
Above Normal - 1973
Wet - 1974
Wet - 1975
Critical - 1976
Critical - 1977
Wet - 1978
Above Normal - 1979
Wet - 1980
Dry - 1981
Wet - 1982
Wet - 1983
Above Normal - 1984
Dry - 1985
Wet - 1986
Critical - 1987
Critical - 1988
Critical - 1989
Critical - 1990
Critical - 1991
Critical - 1992
Wet - 1993
Critical - 1994
Wet - 1995
Wet - 1996
Wet - 1997
Wet - 1998
Above Normal - 1999
Above Normal - 2000
Dry - 2001
Dry - 2002
Wet - 2003
Dry - 2004
Wet - 2005
Wet - 2006
Critical - 2007
Critical - 2008
Below Normal - 2009
Above Normal - 2010
Wet - 2011
Dry - 2012
Critical - 2013
Critical - 2014
Critical - 2015
Dry - 2016
Wet - 2017
Below Normal - 2018
Wet - 2019
Dry - 2020
Critical - 2021
Critical - 2022
Wet - 2023
Above Normal - 2024
Below Normal - 2025


14-004 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
145.0
92.6
72.6
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
14-005 (Upper Aquifer)
120.0
106.2
86.2
14-006 (Upper Aquifer)
112.0
98.2
78.2


14-007 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
120.0
98.5
72.5
14-008 (Upper Aquifer)
111.0
98.5
78.5
14-019 (Lower Aquifer)
Questionable Measurement
105.6
14.9
-5.1


14-020 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
139.8
43.4
23.4
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 2023
Above Normal - 2024
Below Normal - 2025
14-021 (Lower Aquifer)
Water Surface Elevation (feet above mean sea level)
120.7
19.2
-0.8
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Wet - 2023
Above Normal - 2024
Below Normal - 2025
14-022 (Upper Aquifer)
Water Surface Elevation (feet above mean sea level)
149.0
105.7
85.7
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
Below Normal - 2025


14-023 (Lower Aquifer)
Minimum Threshold
Measurable Objective
Water Surface Elevation
Water Surface Elevation (feet above mean sea level)
39.8
19.8
Below Normal - 2025
14-024 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
156.0
39.8
19.8
Note: Well not monitored in WY2025.
Below Normal - 2025
14-025 (Lower Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
123.0
52.3
12.8
Below Normal - 4/2025
Below Normal - 7/2025


14-026 (Upper Aquifer)
Ground Surface Elevation
Minimum Threshold
Measurable Objective
Water Surface Elevation
123.0
92.0
72.0
Water Surface Elevation (feet above mean sea level)
140
120
100
80
60
Below Normal - 4/2025
Below Normal - 7/2025
14-027 (Upper Aquifer)
109.0
59.0
39.0
Below Normal - 2025
20-001 (Upper Aquifer)
88.0
12.5
-7.5
Below Normal - 4/2025
Below Normal - 7/2025

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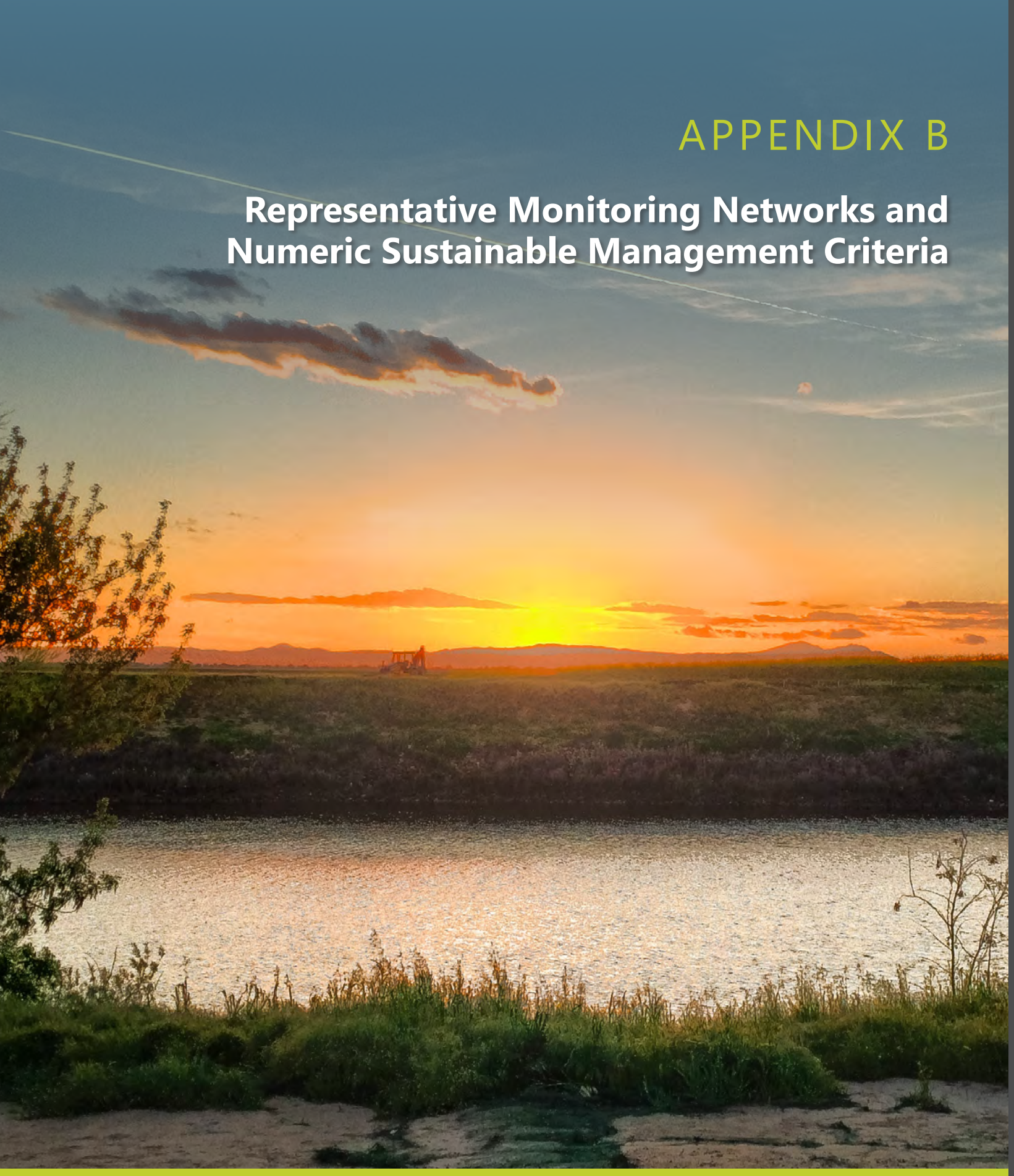

APPENDIX B

Representative Monitoring Networks and Numeric Sustainable Management Criteria

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Summary of Representative Monitoring Network Wells and Stream Gages

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
MW-09-49B	23-002		SJRRP (3)	Well				x		36.7712	-120.2702					170.9	170.9		Monitoring	Active	Part of a nested/multi-completion well	22	20-Oct		Upper
SWA	14-006-ISW		SJRRP	Stream Gage				x		37.11532	-120.587										Stream Gage				Upper
13S16E30A001M	09-004	Aliso Water District GSA Group	Aliso Water District GSA	Well	x	x			367755N1202599W001	36.77614	-120.2593	13S	16E	30		178.92	177.42		Irrigation	Active	Single Well	380	190-380	13S16E30A001M	Upper
MW-09-54	09-009	Aliso Water District GSA Group	Aliso Water District GSA	Well				x		36.7826	-120.3123					163.14							36.2-51.2		Upper
MW-09-54B	09-010	Aliso Water District GSA Group	Aliso Water District GSA	Well				x		36.7826	-120.3123					163.14							9.2-29.2		Upper
South Lower	09-233	Aliso Water District GSA Group	Aliso Water District GSA	Well	x	x	x			36.78263	-120.26268					170.2	172.8		Monitoring	Active	Single Well	500	470-500		Lower
Well 52	09-196	Aliso Water District GSA Group	Aliso Water District GSA	Well			x		367824N1202593W001	36.78281	-120.25938	13S	16E	19	SE	177			Monitoring	Unknown	Single Well			13S16E19J001M	Upper
13S15E14M001M	09-003	Aliso Water District GSA Group	Aliso Water District GSA	Well	x	x	x		367985N1203102W001	36.7986	-120.3092	13S	15E	14		166.89	166.39		Irrigation	Active	Single Well	304	180-304	13S15E14M001M	Upper
12S16E31G001M	09-002	Aliso Water District GSA Group	Aliso Water District GSA	Well	x	x	x		368438N1202621W001	36.8439	-120.2611	12S	16E	31		180.86	179.86		Irrigation	Active	Single Well	520	210-510	12S16E31G001M	Upper
2480-72	09-001	Aliso Water District GSA Group	Aliso Water District GSA	Well	x	x			368491N1203504W001	36.84797	-120.35053	12S	15E	32		158.34	157.34		Irrigation	Active	Single Well	335	160-328	12S15E32B002M	Upper
Aliso 1	09-005	Aliso Water District GSA Group	Aliso Water District GSA	Well			x			36.84822	-120.31665	12S	15E	34	NE	164			Irrigation	Inactive	Single Well	498	228-498		Upper
North Upper	09-231	Aliso Water District GSA Group	Aliso Water District GSA	Well	x	x	x		369012N1202823W001	36.9012	-120.28235					169.1	171.6		Monitoring	Active	Part of a nested/multi-completion well	270	200-270		Upper
North Lower	09-232	Aliso Water District GSA Group	Aliso Water District GSA	Well	x	x	x			36.9012	-120.28235					169.1	171.6		Monitoring	Active	Part of a nested/multi-completion well	350	320-350		Lower
MC15-1	07-002	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		370173N1208999W001	37.0173	-120.8999	10S	10E	32	SE	176.3	175.46	Black mark on top of PVC casing-north side: 0.84 below land surface. USGS Well.	Monitoring	Active	Unknown	355	335-355	10S10E32L001M	Lower
MC15-2	07-003	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		370173N1208999W002	37.0173	-120.8999	10S	10E	32	SE	176.3	175.38	Black mark on top of PVC casing-north side: 0.92 below land surface. USGS Well.	Monitoring	Active	Unknown	160	150-160	10S10E32L002M	Upper
MP091.68R	07-005	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x			369097N1207554W001	36.9097	-120.7554	12S	11E	3	SE	145.17	146.33	Paint mark	Irrigation	Inactive	Single Well	615	365-425, 426-455, 456-495, 496-615	12S11E03Q001M	Lower
MC18-1	07-007	Central Delta-Mendota GSA Group	Oro Loma Water District GSA	Well	x	x	x		368896N1206702W001	36.8896	-120.6702	12S	12E	16	NW	161.4	160.45	Black mark on top of PVC casing-north side: 0.95 below land surface. USGS Well.	Monitoring	Active	Nested Well	550	530-550	12S12E16E003M	Lower

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
KRCDTID03	07-009	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x			366000N1202300W001	36.60276	-120.23201	15S	16E	28		169.23	169.96	Sounding Tube	Irrigation	Active	Single Well	543	434-510		Upper
KRCDTID02	07-010	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x			366500N1202500W001	36.66167	-120.241	14S	16E	33		160.35	160.46	Sounding Tube	Irrigation	Active	Single Well	540	295-535		Upper
TW-4	07-014	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		366758N1202678W001	36.64294	-120.2405	14S	16E	30		157.5	157.5	GSE from DEM	Monitoring		Part of a nested/multi-completion well	690	650-690		Lower
TW-5	07-015	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		366430N1202404W001	36.67579	-120.26784	15S	16E	9		167.51	167.51	GSE from DEM	Monitoring		Unknown	670	630-670		Lower
Well 1	07-017	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		370929N1209258W001	37.09294	-120.92581	10S	9E	1		103.96	106.1	GSE from DEM	Other		Single Well		170-253		Upper
MP093.27L (Well 500)	07-028	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		369064N1207276W001	36.90641	-120.72764	12S	11E	12		133.92	135.58	None provided	Irrigation	Active	Single Well	647.5	438.9-462.2, 508.9-600.4		Lower
CDMGSA-01C	07-031	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		368176N1207307W003	36.8176	-120.73073	13S	11E	11		347.79	350.39	2.60' above ground surface	Monitoring	Active	Part of a nested/multi-completion well	608	320 - 340		Upper
CDMGSA-01D	07-032	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		368176N1207307W004	36.8176	-120.73073	13S	11E	11		347.79	350.3	2.51' above ground surface	Monitoring	Active	Part of a nested/multi-completion well	608	505 -525		Lower
TW-4 Upper	07-033	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x		366758N1202678W002	36.64294	-120.2405	14S	16E	30		157.5	157.5	GSE	Monitoring	Active	Part of a nested/multi-completion well	700	405 - 445		Upper
MP092.20R	07-034	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well			x		369057N1207470W001	36.9057	-120.747	12S	11E	10		124	124.25	None provided	Irrigation	Active	Single Well				Lower
MP098.74L	07-035	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x			368871N1206355W001	36.8871	-120.63545	12S	12E	14		125	125.33	None provided	Irrigation	Active	Single Well	400	300 - 390		Upper
PWD Well 20	07-036	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x			36.7707	-120.64828					286.68	157.5	GSE	Irrigation		Single Well				Lower
AGC100012335-GDACX00005	07-170	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x			36.84885	-120.67171					212.52			Industrial	Active	Single Well		130-190		Upper
Well 18	07-189	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x			36.80762	-120.61143					233.88			Irrigation		Single Well	1220	600-1200		Lower
Well 31	07-212	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well	x	x	x			36.82214	-120.65364					219.75			Irrigation	Active	Single Well	1030	550-1010		Lower
	07-234	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Well			x			36.85089	-120.65116								Irrigation	Active	Single Well	910	750-900		Lower

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
MC18-2	07-425	Central Delta-Mendota GSA Group	Oro Loma Water District GSA	Well	x	x	x		368896N1206702W002	36.8896	-120.6702					161.4	159		Observation	Active	Nested Well	395	375-395	12S12E16E02AM	Upper
MP102.04L	08-002	Central Delta-Mendota GSA Group	Widren Water District GSA	Well	x	x	x		368790N1205784W001	36.87901	-120.57835	12S	13E	20		164.65	164.65	GSE	Irrigation	Active	Single Well	420	183-223, 233-393		Upper
FWD-1 Planned	10-002-ISW	Farmers Water District GSA Group	Farmers Water District GSA	Stream Gage				x		36.76379	-120.2934										Stream Gage				Upper
TSS-MW-325	10-009	Farmers Water District GSA Group	Farmers Water District GSA	Well	x	x	x			36.76386	-120.32586					156.4	158.6		Monitoring		Part of a nested/multi-completion well	325	300-320		Upper
TSS-MW-485	10-010	Farmers Water District GSA Group	Farmers Water District GSA	Well	x	x	x			36.76386	-120.32606					156.4	158.2		Monitoring		Part of a nested/multi-completion well	485	460-480		Lower
MW-09-55B	10-007	Farmers Water District GSA Group	Farmers Water District GSA	Well				x		36.78149	-120.3128					163.14			Monitoring	Active	Part of a nested/multi-completion well	15	15-Oct		Shallow
MW-09-55	10-011	Farmers Water District GSA Group	Farmers Water District GSA	Well				x		36.7815	-120.3128					163.14							40-50		Upper
FWD-2 Planned	10-003-ISW	Farmers Water District GSA Group	Farmers Water District GSA	Stream Gage				x		36.78316	-120.3319										Stream Gage				Upper
SPRECK-MW-32	12-006	Fresno County GSA Group	County of Fresno GSA - Delta-Mendota Management Area A	Well			x			36.68494	-120.313					160.3				Active	Unknown			12-006-1	Upper
SPRECK-MW-7	12-001	Fresno County GSA Group	County of Fresno GSA - Delta-Mendota Management Area A	Well	x	x				36.74963	-120.31976	13S	15E	34	SE	160	160	TOC	Monitoring	Active	Single Well	150	110-150	T13S/R15E-34	Upper
1PU-2	11-023	Grassland GSA Group	Grasslands GSA	Well	x	x				37.04636	-120.811					110.7	110.95	Distance from ground to reference point: 0.25'	Irrigation		Single Well	275	195-225		Upper
1PL-4	11-022	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well	x	x				37.10565	-120.83528					90	91.5		Irrigation	Active	Single Well	702	360-420, 480-702		Lower
1PL-7	11-024	Grassland GSA Group	Grasslands GSA	Well	x	x				37.11378	-120.78279					95.3	96.53	Distance from ground to reference point: 1.23'	Irrigation		Single Well	480	310-480		Lower
2PU-4	19-004	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well			x			37.11433	-120.84398					92.63			Irrigation	Active	Single Well				Upper
3PU-1	11-018	Grassland GSA Group	Grasslands GSA	Well			x			37.12385	-120.85331					90.39			Irrigation	Active	Single Well	330	180-260		Upper

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
1PL-6	11-020	Grassland GSA Group	Grasslands GSA	Well	x	x				37.1635	-120.81814					87.4	88.92	Distance from ground to reference point: 1.52'	Irrigation		Single Well	510	310-510		Lower
1PL-1	11-010	Grassland GSA Group	Grasslands GSA	Well	x	x	x			37.18202	-120.9065					81	83		Irrigation	Active	Single Well	750	370-410, 500-740		Lower
3PL-2	11-019	Grassland GSA Group	Grasslands GSA	Well	x	x				37.21662	-120.88951					77	78.6		Other	Active	Single Well	780	300-760		Lower
2MU-4	19-008	Grassland GSA Group	Grasslands GSA	Well	x	x		x		37.29914	-120.94467					62.7	65.7	GSE and RPE from Summers Eng.	Monitoring		Single Well	32	Dec-32		Upper
ISW-3-60	19-011	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well	x	x		x		37.308725	-120.933882					67.53			Monitoring		Part of a nested/multi-completion well	60	40-50	WCR2025-009621	Upper
ISW-3-350	19-012	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well	x	x		x		37.308725	-120.933882					67.53			Monitoring		Part of a nested/multi-completion well	350	320-340	WCR2025-009621	Lower
ISW-3-180	19-013	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well	x	x		x		37.308725	-120.933882					67.53			Monitoring		Part of a nested/multi-completion well	180	150-170	WCR2025-009621	Upper
2PU-1	19-002	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well	x	x	x			37.30793	-120.98812					72.64			Irrigation	Active	Single Well	260	170-240		Upper
2MU-5	19-009	Grassland GSA Group	Grasslands GSA	Well	x	x		x		37.30833	-120.93264					64.8	66.8	GSE and RPE from Summers Eng.	Monitoring		Single Well	24			Upper
2MU-1	19-005	Grassland GSA Group	Grasslands GSA	Well	x	x		x		37.31014	-120.94883					63.3	66.3	GSE and RPE from Summers Eng.	Monitoring		Single Well	39	14-39		Upper
1PU-3	19-010	Grassland GSA Group	Grasslands GSA	Well	x	x				37.31892	-120.9841					68	68.71	Distance from ground to reference point: 0.71'	Irrigation		Single Well	525	30-180		Upper
MP030.43R	01-001	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x		375509N1212609W001	37.55086	-121.26092	4S	6E	36	NW	212.6	213.7	Paint mark	Irrigation	Inactive	Single Well	475	230-475	04S06E36C001M	Lower
MP033.71L	01-002	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x		375313N1212242W001	37.53138	-121.22431	5S	7E	5		161	162.6	Paint mark	Irrigation	Inactive	Single Well	510	235-475	05S07E05F001M	Lower
MP045.78R	01-003	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x		374061N1211212W001	37.4062	-121.12127	6S	8E	20	NW	177.5	180.9		Irrigation	Inactive	Single Well	721		06S08E20D002M	Lower
MC10-2	01-004	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x		372907N1210875W002	37.2907	-121.0875	7S	8E	28	SE	177.4	176.82	Black mark on top of PVC casing-north side: 0.58 below land surface.	Monitoring	Active	Unknown	135	115-135	07S08E28R002M	Upper
MP058.28L	01-005	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Well	x	x			372424N1210754W001	37.24066	-121.07519	08S	08E	15	NE	179.58	179.58		Irrigation	Active	Single Well	170	120-150	08S08E15G001M	Upper
91	01-006	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x		372604N1210611W001	37.26042	-121.0611	8S	8E	11		136.1	137.6	Concrete pad	Irrigation	Active	Single Well	260	120-210		Lower

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
MP021.12L	01-007	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x		376429N1213651W001	37.64286	-121.36512	3S	5E	25		185.52	185.52	GSE from DEM	Unknown	Unknown	Single Well		400-570	Unknown	Lower
MP051.66L	01-008	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x		373330N1210857W001	37.33295	-121.08571	7S	8E	16	NE	123.42	124.17		Unknown		Single Well		290-470		Lower
Merc_9	01-128	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x			37.22013	-121.0558					153.22			Irrigation		Single Well	100	50-100		Upper
Merc_11	01-129	Northern Delta-Mendota GSA Group	DM-II GSA	Well	x	x	x			37.23438	-121.04344					157.82			Irrigation		Single Well	138	36-138		Upper
Keystone well	02-009	Northern Delta-Mendota GSA Group	City of Patterson GSA	Well	x	x	x		374772N1211672W001	37.47718	-121.16722	05S	07E	26		138.84	138.84		Irrigation	Active	Single Well	286			Upper
Floragold Well	02-109	Northern Delta-Mendota GSA Group	City of Patterson GSA	Well	x	x	x			37.4698	-121.15038					118.05			Irrigation	Active	Single Well	360	300-320		Upper
Well 06	02-118	Northern Delta-Mendota GSA Group	City of Patterson GSA	Well	x	x	x			37.461222	-121.125261	5S	8E	31	NE	115.668	115.668	X on concrete well pedestal	Monitoring	Stand By	Single Well	365	225-355		Lower
MW-2	03-001	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Well	x	x	x		375015N1211011W001	37.50146	-121.10113	5S	8E	16		58.72	58.72	PID April 2019 Control Survey	Monitoring	Active	Single Well	250	220-250		Upper
MW-3	03-002	Northern Delta-Mendota GSA Group	City of Patterson GSA	Well	x	x			374816N1211350W001	37.48156	-121.13503	5S	8E	19		96.16	96.16	PID April 2019 Control Survey	Monitoring	Unknown	Single Well	260	220-250		Upper
WSJ003	03-003	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Well	x	x			374940N1210862W001	37.494	-121.0862	5S	8E	16		57.93	57.93	PID April 2019 Control Survey	Irrigation		Single Well	255	130-250		Upper
MW-1	03-007	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Well			x		374410N1210638W001	37.44102	-121.06385	06E	08E	2		63.4	63.7	None provided	Monitoring	Active	Single Well	250			Upper
ISW-2-175	03-010	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Well			x	x		37.49726	-121.08321					54.42						175	150-170	WCR2025-002911	Upper
ISW-2-355	03-011	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Well				x		37.49726	-121.08321					54.42						375	350-370	WCR2025-002911	Lower
ISW-2-55	03-012	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Well				x		37.49726	-121.08321					54.42						55	40-50	WCR2025-002911	Upper
ARRA 28	04-008	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	Well	x	x	x			37.57996	-121.2771					134.36	140	GSE	Irrigation		Single Well				Lower
ARRA 120	04-212	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	Well	x	x	x			37.515139	-121.203028	5S	7E	9		144.8	147.2	2.4 feet above GS	Irrigation	Active	Single well	620	200-400	e0124654	Lower

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
WSID-06 Upper	04-213	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	Well	x	x			376527N1213109W001	37.652806	-121.310963					97.4	100.23		Monitoring	Active	Part of a nested/multi-completion well	164	124-154	WCR2025-009448	Upper
WSID-06 Mid	04-214	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	Well	x	x			376527N1213109W002	37.652804	-121.310962					97.4	100.144		Monitoring	Active	Part of a nested/multi-completion well	454	424-444	WCR2025-009448	Lower
WSID-06 Lower	04-215	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	Well	x	x			376527N1213109W003	37.652805	-121.310964					97.4	100.027		Monitoring	Active	Part of a nested/multi-completion well	544	504-534	WCR2025-009448	Lower
ARRA 29	04-216	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	Well	x	x	x			37.548599	-121.203152	4S	7E	33					Irrigation	Active	Single Well	470	300-420		
6S8E3405124U	05-124	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Well	x	x	x			37.36257	-121.06959								Irrigation		Single Well	220			Upper
7S8E0205128L	05-128	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Well	x	x	x			37.35901	-121.05825					118.1			Irrigation		Single Well	550	334-545		Lower
P259-1	06-001	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Well	x	x	x		374316N1210994W001	37.43139	-121.0994	6S	8E	9	NW	113	112.18	Black mark on top of PVC casing-north side: 0.82 below land surface	Monitoring	Active	Unknown	430	390-410	06S08E09E001M	Lower
P259-3	06-002	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Well	x	x	x		374316N1210994W003	37.43139	-121.0994	6S	8E	9	NW	113	112.18		Monitoring	Active	Unknown	115	95-115	06S08E09E003M	Upper
NEW	06-002-ISW	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Stream Gage				x		37.35049	-120.9772										Stream Gage				Upper
SCL	06-003-ISW	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Stream Gage				x		37.43188	-121.0138										Stream Gage				Upper
SJP	06-004-ISW	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Stream Gage				x		37.494	-121.081										Stream Gage				Upper
MRB	06-005-ISW	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Stream Gage				x		37.6414	-121.2276										Stream Gage				Upper
ISW-1-165 Planned	06-008	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Well	X			x		37.64012	-121.23045					35.14						165	140-160		Upper
ISW-1-55 Planned	06-009	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Well				x		37.64012	-121.23045					35.14						55	40-50		Upper
TR-LA-565	13-011	Fresno County GSA Group	County of Fresno GSA - Delta-Mendota Management Area B	Well	x	x	x			36.713453	-120.242149					164.71			Monitoring		dual completion monitoring well	565	540-560	WCR2025-000079	Lower

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
TR-UA-315	13-012	Fresno County GSA Group	County of Fresno GSA - Delta-Mendota Management Area B	Well	x	x	x			36.713453	-120.242149					164.71			Monitoring		dual completion monitoring well	315	290-310	WCR2025-000079	Upper
HANS-7C1	13-001	Fresno County GSA Group	County of Fresno GSA - Delta-Mendota Management Area B	Well	x	x				36.734	-120.37915	14S	15E	7	NW	169.74	172	TOC	Irrigation	Active	Single Well	200	140-200	T14S/R15E-7C1	Upper
USGS-31J6	13-004	SJREC Water Authority GSA Group	City of Mendota GSA	Well	x	x			37957	36.75517	-120.3732	13S	15E	31	SE	154	154	TOC	Monitoring	Active	Single Well	495	480-490	13S15E31J006M	Lower
MW-09-47	23-005	SJREC Water Authority GSA Group	County of Madera GSA - Delta-Mendota	Well				x		36.77211	-120.25981					163.14							20-40		Upper
TL-HS-3	13-003	Fresno County GSA Group	County of Fresno GSA - Delta-Mendota Management Area B	Well	x	x				36.77304	-120.36233	13S	15E	29	NW	149.62	151.9	sounding port in well cap	Irrigation	Active	Single Well	410	120-410	T13S/R15E-29F2	Upper
Mendota City #7	17-001	SJREC Water Authority GSA Group	City of Mendota GSA	Well	x	x	x			36.78405	-120.34527					163.14			Public Supply		Single Well	420	260-395		Upper
1005	14-002	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			36.78689	-120.37704	13	15	19		151.5	153.1				Unknown	260			Upper
PZ-09-R3-7	14-013	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well				x		36.8352	-120.4076					165			Monitoring	Active	Single Well		17-20		Upper
Elrod #4 Well #21	14-022	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			36.85206	-120.3996					149	153.7		Irrigation		Single Well	316	159-252		Upper
Firebaugh Well #17	15-001	SJREC Water Authority GSA Group	City of Firebaugh GSA	Well	x	x	x			36.85422	-120.4418					148	148.5		Public Supply		Single Well	220	140-185		Upper
26B	14-023	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x				36.86067	-120.51073					166.39									Lower
CCID 2723	14-024	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			36.86125	-120.51044					156			Monitoring		Single Well	720	450-530, 530-610, 610-690, 690-700		Lower
MW-10-75	14-009	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well				x		36.9313	-120.4707					131.8	133.1		Monitoring	Active	Single Well	30.7	13.7-28.7		Upper
1043	14-007	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			36.932	-120.542	11	13	34		120	122.1			Active	Unknown	180		11S13E34E001M	Upper
1011	14-005	SJREC Water	San Joaquin River Exchange	Well	x	x	x			36.9783	-120.58	11	13	17		120	123.7				Unknown	175		11S13E17E001M	Upper

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
		Authority GSA Group	Contractors GSA																						
ISW-4-35 Planned	13-013	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well				x		36.98337	-120.50056					126.64						35	30-35		Upper
SDMW West - Lower Aquifer	14-025	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x	x		36.98352	-120.50053					123			Monitoring		Part of a nested/multi-completion well	400	330-380		Lower
SDMW West - Upper Aquifer	14-026	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x	x		36.98352	-120.50053					123			Monitoring		Part of a nested/multi-completion well	210	190-210		Upper
SDMW East - Lower Aquifer	23-003	SJREC Water Authority GSA Group	County of Madera GSA - Delta-Mendota	Well	x	x	x	x		36.98381	-120.49898					124.9			Monitoring		Part of a nested/multi-completion well	400	340-390		Lower
SDMW East - Upper Aquifer	23-004	SJREC Water Authority GSA Group	County of Madera GSA - Delta-Mendota	Well	x	x	x	x		36.98381	-120.49898					124.9			Monitoring		Part of a nested/multi-completion well	180	150-180		Upper
SDP	14-007-ISW	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Stream Gage				x		36.994	-120.5015										Stream Gage				Upper
1006	14-003	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.0157	-120.667	10	12	35		100	103.4				Unknown	190			Upper
MW-17-225	14-012	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well				x		37.02331	-120.53903					116			Monitoring	Active	Single Well		5.6-20.6		Upper
MW-10-89	14-010	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well				x		37.028	-120.5444					118.8	121.5		Monitoring	Active	Single Well	31.5	25-Oct		Upper
1056	14-021	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.03177	-120.83356	10	10	25		120.7	122.05		Irrigation	Active	Single Well	610	400-600		Lower
1008	14-004	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.0409	-120.891	10	10	26		145	146.5				Unknown	220		10S10E28A001M	Upper
CLB Well #12	16-001	SJREC Water Authority GSA Group	City of Los Banos GSA	Well	x	x	x			37.05231	-120.8684					127	129.7		Domestic		Single Well	266	140-160. 230-240, 250-256		Upper
CLB Well #10	14-027	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.05317	-120.826					109	111		Domestic		Single Well	218	125-165, 198-208		Upper
SJH	19-003-ISW	SJREC Water Authority GSA Group	County of Merced GSA - Delta-Mendota	Stream Gage				x		37.05542	-120.5483										Stream Gage				Upper
2410	14-008	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.06	-120.612	10	12	13		111	112.45				Unknown	200		10S12E13L001M	Upper
Well 01	07-016	SJREC Water	County of Merced GSA -	Well	x	x	x		371004N1210072W001	37.10043	-121.00725	10S	9E	5		152.56	152.56		Public Supply	Active	Single Well		185-225		Lower

Local Site ID	DMS ID	GSA Group	GSA	Monitoring Site Type	Sustainability Indicator(s) (1)				CASGEM Station ID	Monitoring Site Location						Reference Point			Well Type	Well Status	Well Completion Type	Well Construction Details		DWR Well Completion Report No. (2)	Principal Aquifer(s) Monitored
					Groundwater Level	Groundwater Storage	Groundwater Quality	Interconnected Surface Water		Latitude (° NAD83)	Longitude (° NAD83)	Township	Range	Section	Quarter	Ground Surface Elevation (ft amsl)	Reference Point Elevation (ft amsl)	Reference Point Description				Total Completed Depth (ft bgs)	Perforation Depths (ft bgs)		
		Authority GSA Group	Delta-Mendota																						
MW-10-92	14-011	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well				x		37.1045	-120.5916					106	107.4		Monitoring	Active	Single Well	28.5	10.2-25.2		Upper
1ML-5	11-005	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well	x	x				37.10615	-120.93611	9S	9E	24		98	100.9		Monitoring	Inactive	Part of a nested/multi-completion well	480	450-480		Lower
1ML-6	11-006	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well	x	x				37.1075	-120.93136	9S	9E	24		100	102.6		Monitoring	Inactive	Part of a nested/multi-completion well	470	440-470		Lower
1PL-2	11-011	Grassland GSA Group	County of Merced GSA - Delta-Mendota	Well			x			37.10762	-120.93136					98.62			Irrigation	Active	Single Well				Lower
TIWD #17	20-001	SJREC Water Authority GSA Group	Turner Island Water District GSA - Delta-Mendota	Well	x	x	x			37.15494	-120.75037					88			Monitoring		Single Well	140			Upper
1027	14-020	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.17346	-121.0184	9	9	6		139.8	140.4		Monitoring	Active	Single Well	280			Lower
1014	14-006	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.1736	-120.99553	9	9	5		112	114.5				Unknown	120		09S09E05R001M	Upper
Gustine City #5	22-001	SJREC Water Authority GSA Group	City of Gustine GSA	Well	x	x	x			37.25248	-120.99326					95	95.5		Public Supply		Single Well	451	370-444		Lower
Gustine City #6	22-002	SJREC Water Authority GSA Group	City of Gustine GSA	Well	x	x	x			37.25735	-120.99682					94.3	95.3		Public Supply		Single Well	231	149-169, 169-230		Upper
CCID Well #2	14-001	SJREC Water Authority GSA Group	City of Newman GSA	Well	x	x	x			37.307	-121.054	7	8	23		106	107.5				Unknown	341			Upper
Newman City #6	18-001	SJREC Water Authority GSA Group	City of Newman GSA	Well	x	x	x			37.31809	-121.03062					91	91.5		Public Supply		Single Well	510	350-500		Lower
Newman City #8	18-002	SJREC Water Authority GSA Group	City of Newman GSA	Well	x	x	x			37.32212	-121.01333					80	80.5		Public Supply		Single Well	498	180-480		Lower
1050	14-019	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	Well	x	x	x			37.37365	-121.05724	6	8	35		105.6	112.2		Monitoring	Active	Single Well	600			Lower

Abbreviations:
amsl = above mean sea level
bgs = below ground surface
CASGEM = California Statewide Groundwater Elevation Monitoring
DEM = Digital Elevation Model
DM-II = Delta-Mendota II
DMS = Data Management System
DWR = California Department of Water Resources
ft = feet
GSA = Groundwater Sustainability Agency
GSE = ground surface elevation
ID = identification
NAD83 = North American Datum of 1983
PID = Patterson Irrigation District
PVC = polyvinyl chloride
RPE = reference point elevation
SGMA = Sustainable Groundwater Management Act
SJREC = San Joaquin River Exchange Contractors
SJRRP = San Joaquin River Restoration Project
WCR = Well Completion Report
TOC = Top of Casing

Notes:
(1) Seawater intrusion is not considered to be a sustainability indicator of concern to the Delta-Mendota Subbasin and is thus not monitored for SGMA compliance.
(2) The filename of the well log is given in cases where such a log is available but does not contain a DWR Well Completion Report number.
(3) Wells MW-09-49B and SWA are located directly outside of the basin and are part of the SJRRP monitoring network with monitoring data published regularly

Groundwater Levels Sustainable Management Criteria

DMS ID	Local Site ID	State Well ID	Aquifer	Latitude	Longitude	MT (ft msl)	MO (ft msl)	Interim Milestones (ft msl)			
								2025	2030	2035	2040
01-004	MC10-2	07S08E28R002M	Upper	37.2907	-121.0875	141.9	161.9	157.5	158.9	160.4	161.9
01-005	MP058.28L	08S08E15G001M	Upper	37.240656	-121.07519	78.3	98.3	78.3	85.0	91.7	98.3
01-128 *	Merc_9		Upper	37.220131	-121.0558	103.6	123.6	103.6	110.3	116.9	123.6
01-129 *	Merc_11		Upper	37.234383	-121.04344	95.3	115.3	95.3	102.0	108.6	115.3
02-009	Keystone well		Upper	37.477183	-121.16722	-6.2	30.8	16.3	21.2	26.0	30.8
02-109 *	Floragold Well		Upper	37.469795	-121.15038	10.4	30.4	10.4	17.1	23.8	30.4
03-001	MW-2	Unknown	Upper	37.501461	-121.10113	10.7	30.7	30.7	30.7	30.7	30.7
03-002	MW-3	Unknown	Upper	37.48156	-121.13503	6.4	26.4	22.2	23.6	25.0	26.4
03-003	WSJ003	Unknown	Upper	37.494	-121.0862	17.0	37.0	32.9	34.3	35.6	37.0
04-213	WSID-06 Upper		Upper	37.652806	-121.310963	TBD	TBD	TBD	TBD	TBD	TBD
05-124 *	6S8E3405124U		Upper	37.362568	-121.06959	22.7	42.7	22.7	29.4	36.0	42.7
06-002	P259-3	06S08E09E003M	Upper	37.43139	-121.0994	62.5	82.5	63.3	69.7	76.1	82.5
07-003	MC15-2	10S10E32L002M	Upper	37.0173	-120.8999	68.6	89.9	68.6	75.7	82.8	89.9
07-009	KRCDTID03		Upper	36.60276	-120.23201	49.3	75.3	49.3	58.0	66.7	75.3
07-010	KRCDTID02		Upper	36.65	-120.25	67.3	101.2	70.8	80.9	91.0	101.2
07-017	Well 1		Upper	37.092944	-120.92581	45.8	87.2	73.4	78.0	82.6	87.2
07-031	CDMGSA-01C		Upper	36.817599	-120.73073	118.8	138.8	133.5	135.3	137.0	138.8
07-033	TW-4 Upper		Upper	36.642944	-120.2405	42.5	87.7	42.5	57.6	72.6	87.7
07-035	MP098.74L		Upper	36.887097	-120.63545	-22.9	-2.9	-2.9	-2.9	-2.9	-2.9
07-170 *	AGC100012335-GDACX00005		Upper	36.848851	-120.67171	72.3	92.3	72.3	78.9	85.6	92.3
07-425	MC18-2	12S12E16E02AM	Upper	36.8896	-120.6702	-29.8	50.7	50.7	50.7	50.7	50.7
08-002	MP102.04L		Upper	36.879012	-120.57835	50.7	83.7	76.1	78.6	81.1	83.7
09-001	2480-72	12S15E32B002M	Upper	36.847966	-120.35053	51.3	114.3	51.3	72.3	93.3	114.3
09-002	12S16E31G001M	12S16E31G001M	Upper	36.8439	-120.2611	-2.9	17.1	10.5	12.7	14.9	17.1
09-003	13S15E14M001M	13S15E14M001M	Upper	36.7986	-120.3092	32.9	52.9	46.5	48.6	50.7	52.9
09-004	13S16E30A001M	13S16E30A001M	Upper	36.776138	-120.2593	41.4	61.4	41.4	48.1	54.8	61.4
10-009	TSS-MW-325		Upper	36.76386	-120.32586	3.4	83.7	63.1	70.0	76.8	83.7
09-231	North Upper		Upper	36.9012	-120.28235	TBD	TBD	TBD	TBD	TBD	TBD
11-023	1PU-2		Upper	37.046361	-120.811	77.5	97.5	92.7	94.3	95.9	97.5
12-001	SPRECK-MW-7	T13S/R15E-34	Upper	36.74963	-120.31976	79.0	99.0	99.0	99.0	99.0	99.0
13-001	HANS-7C1	T14S/R15E-7C1	Upper	36.734	-120.37915	100.5	120.5	120.5	120.5	120.5	120.5
13-003	TL-HS-3	T13S/R15E-29F2	Upper	36.77304	-120.36233	57.4	116.1	111.8	113.3	114.7	116.1
13-012 *	MW1UA Planned		Upper	36.71124	-120.25874	89.4	109.4	89.4	96.0	102.7	109.4
14-001	CCID Well #2		Upper	37.307	-121.054	28.5	48.5	48.5	48.5	48.5	48.5
14-002	1005		Upper	36.786891	-120.37704	96.5	125.7	96.5	106.2	116.0	125.7
14-003	1006		Upper	37.0157	-120.667	70.0	90.0	90.0	90.0	90.0	90.0

DMS ID	Local Site ID	State Well ID	Aquifer	Latitude	Longitude	MT (ft msl)	MO (ft msl)	Interim Milestones (ft msl)			
								2025	2030	2035	2040
14-004	1008	10S10E28A001M	Upper	37.0409	-120.891	72.6	92.6	92.6	92.6	92.6	92.6
14-005	1011	11S13E17E001M	Upper	36.9783	-120.58	86.2	106.2	106.2	106.2	106.2	106.2
14-006	1014	09S09E05R001M	Upper	37.173597	-120.99553	78.2	98.2	96.7	97.2	97.7	98.2
14-007	1043	11S13E34E001M	Upper	36.932003	-120.542	73.5	98.5	98.5	98.5	98.5	98.5
14-008	2410	10S12E13L001M	Upper	37.06	-120.612	78.5	98.5	98.5	98.5	98.5	98.5
14-022	Elrod #4 Well #21		Upper	36.85206	-120.3996	85.7	105.7	91.7	96.4	101.0	105.7
14-026	SDMW West - Upper Aquifer		Upper	36.98352	-120.50053	72.0	92.0	92.0	92.0	92.0	92.0
14-027	CLB Well #10		Upper	37.05317	-120.826	39.0	59.0	59.0	59.0	59.0	59.0
15-001 *	Firebaugh Well #17		Upper	36.85422	-120.4418	93.3	113.3	93.3	100.0	106.6	113.3
16-001	CLB Well #12		Upper	37.05231	-120.8684	65.7	85.7	85.7	85.7	85.7	85.7
17-001 *	Mendota City #7		Upper	36.78405	-120.34527	74.2	94.2	74.2	80.9	87.5	94.2
19-002	2PU-1		Upper	37.307928	-120.98812	28.9	48.9	41.5	44.0	46.4	48.9
19-005	2MU-1		Upper	37.310139	-120.94883	28.9	48.9	48.9	48.9	48.9	48.9
19-008	2MU-4		Upper	37.299139	-120.94467	32.7	52.7	51.5	51.9	52.3	52.7
19-009	2MU-5		Upper	37.308333	-120.93264	33.6	53.6	52.4	52.8	53.2	53.6
19-010	1PU-3		Upper	37.31892	-120.9841	3.3	23.3	19.2	20.5	21.9	23.3
19-011	ISW-3-60		Upper	37.308725	-120.933882	TBD	TBD	TBD	TBD	TBD	TBD
19-013	ISW-3-180		Upper	37.308725	-120.933882	TBD	TBD	TBD	TBD	TBD	TBD
20-001	TIWD #17		Upper	37.15494	-120.75037	-7.5	12.5	-7.5	-0.8	5.8	12.5
22-002 *	Gustine City #6		Upper	37.25735	-120.99682	57.6	77.6	57.6	64.3	71.0	77.6
23-004	SDMW East - Upper Aquifer		Upper	36.98381	-120.49899	77.2	97.2	97.2	97.2	97.2	97.2
01-001	MP030.43R	04S06E36C001M	Lower	37.550862	-121.26092	-44.9	-12.3	-28.1	-22.8	-17.6	-12.3
01-002	MP033.71L	05S07E05F001M	Lower	37.53138	-121.22431	-54.7	-34.7	-34.7	-34.7	-34.7	-34.7
01-003	MP045.78R	06S08E20D002M	Lower	37.406198	-121.12127	-21.8	62.3	-21.8	6.2	34.3	62.3
01-006	91	Unknown	Lower	37.26042	-121.0611	53.8	73.8	66.6	69.0	71.4	73.8
01-007	MP021.12L	Unknown	Lower	37.642858	-121.36512	22.3	56.7	22.3	33.8	45.2	56.7
01-008	MP051.66L	Unknown	Lower	37.332953	-121.08571	-44.9	2.4	-34.5	-22.2	-9.9	2.4
02-118	Well 06		Lower	37.461222	-121.125261	TBD	TBD	TBD	TBD	TBD	TBD
04-008	ARRA 28		Lower	37.579962	-121.2771	-15.1	19.0	13.1	15.0	17.0	19.0
04-212	ARRA 120		Lower	37.515139	-121.203028	TBD	TBD	TBD	TBD	TBD	TBD
04-214	WSID-06 Mid		Lower	37.652804	-121.310962	TBD	TBD	TBD	TBD	TBD	TBD
04-215	WSID-06 Lower		Lower	37.652805	-121.310964	TBD	TBD	TBD	TBD	TBD	TBD
04-216	ARRA 29		Lower	37.548599	-121.203152	TBD	TBD	TBD	TBD	TBD	TBD
05-128 *	7S8E0205128L		Lower	37.359006	-121.05825	-5.3	14.7	-5.3	1.4	8.1	14.7
06-001	P259-1	06S08E09E001M	Lower	37.43139	-121.0994	-21.9	46.1	9.9	22.0	34.1	46.1
07-002	MC15-1	10S10E32L001M	Lower	37.0173	-120.8999	-9.2	10.8	2.0	5.0	7.9	10.8
07-005	MP091.68R	12S11E03Q001M	Lower	36.9097	-120.7554	-84.7	-41.8	-84.7	-70.4	-56.1	-41.8
07-007	MC18-1	12S12E16E003M	Lower	36.8896	-120.6702	-53.4	-21.2	-41.7	-34.8	-28.0	-21.2

DMS ID	Local Site ID	State Well ID	Aquifer	Latitude	Longitude	MT (ft msl)	MO (ft msl)	Interim Milestones (ft msl)			
								2025	2030	2035	2040
07-014	TW-4		Lower	36.642944	-120.2405	-123.5	-47.2	-123.5	-98.1	-72.6	-47.2
07-015	TW-5		Lower	36.675786	-120.26784	-142.0	-27.4	-118.2	-87.9	-57.7	-27.4
07-016	Well 01		Lower	37.100426	-121.00725	-2.4	74.6	48.6	57.2	65.9	74.6
07-028	MP093.27L (Well 500)		Lower	36.906406	-120.72764	-88.2	-64.8	-88.2	-80.4	-72.6	-64.8
07-032	CDMGSA-01D		Lower	36.817599	-120.73073	121.4	141.4	136.6	138.2	139.8	141.4
07-036	PWD Well 20		Lower	36.7707	-120.64828	-186.3	-55.3	-103.3	-87.3	-71.3	-55.3
07-189 *	Well 18		Lower	36.807618	-120.61143	-27.9	-7.9	-27.9	-21.2	-14.5	-7.9
07-212 *	Well 31		Lower	36.822135	-120.65364	-39.8	-19.8	-39.8	-33.2	-26.5	-19.8
09-233 *	South Lower		Lower	36.782626	-120.26268	-20.9	-0.9	-20.9	-14.2	-7.6	-0.9
09-232 *	North Lower		Lower	36.9012	-120.28235	-30.2	-10.2	-30.2	-23.5	-16.9	-10.2
10-010	TSS-MW-485		Lower	36.76386	-120.32606	-44.3	-12.9	-44.3	-33.8	-23.3	-12.9
11-005	1ML-5		Lower	37.106152	-120.93611	-0.6	19.4	11.9	14.4	16.9	19.4
11-006	1ML-6		Lower	37.107496	-120.93136	3.6	23.6	4.6	10.9	17.2	23.6
11-010	1PL-1		Lower	37.182023	-120.9065	-1.0	19.0	14.0	15.7	17.3	19.0
11-019 *	3PL-2		Lower	37.216619	-120.88951	17.1	37.1	17.1	23.7	30.4	37.1
11-020	1PL-6		Lower	37.1635	-120.81814	-9.6	10.4	-9.6	-2.9	3.8	10.4
11-022	1PL-4		Lower	37.105651	-120.83528	-8.5	11.5	10.5	10.8	11.2	11.5
11-024	1PL-7		Lower	37.11378	-120.78279	1.1	21.1	6.8	11.6	16.4	21.1
13-004	USGS-31J6	13S15E31J006M	Lower	36.75517	-120.3732	-50.6	-27.0	-41.5	-36.7	-31.8	-27.0
13-011 *	MW1LA Planned		Lower	36.71124	-120.25874	-73.8	-53.8	-73.8	-67.2	-60.5	-53.8
14-019	1050		Lower	37.373654	-121.05724	-5.1	14.9	14.9	14.9	14.9	14.9
14-020	1027		Lower	37.173458	-121.0184	23.4	43.4	28.8	33.7	38.5	43.4
14-021	1056		Lower	37.031767	-120.83356	-0.8	19.2	17.7	18.2	18.7	19.2
14-023 *	26B		Lower	36.860673	-120.51073	19.8	39.8	19.8	26.4	33.1	39.8
14-024 *	CCID 2723		Lower	36.86125	-120.51044	19.8	39.8	19.8	26.4	33.1	39.8
14-025	SDMW West - Lower Aquifer		Lower	36.98352	-120.50053	12.8	52.3	12.8	26.0	39.1	52.3
18-001	Newman City #6		Lower	37.31809	-121.03062	-18.5	30.5	-18.5	-2.2	14.2	30.5
18-002	Newman City #8		Lower	37.32212	-121.01333	-16.5	10.5	-16.5	-7.5	1.5	10.5
19-012	ISW-3-350		Lower	37.308725	-120.933882	TBD	TBD	TBD	TBD	TBD	TBD
22-001 *	Gustine City #5		Lower	37.25248	-120.99326	14.2	34.2	14.2	20.9	27.6	34.2
23-003	SDMW East - Lower Aquifer		Lower	36.98381	-120.49899	1.8	39.5	1.8	14.3	26.9	39.5

Abbreviations:
ft msl = Feet Above Mean Sea Level
TBD = To be determined. Insufficient historical data available.

* Numeric SMC are preliminary (insufficient historical record available during GSP development) and will be revised based on data collected during GSP implementation.

Groundwater Quality Sustainable Management Criteria

DMS ID	Local ID	Aquifer	Minimum Threshold						Measurable Objective					
			Gross Alpha (pCi/L)	Arsenic (ug/L)	Cr6 (ug/L)	Nitrate (mg/L)	1,2,3-TCP (ug/L)	TDS (mg/L)	Gross Alpha (pCi/L)	Arsenic (ug/L)	Cr6 (ug/L)	Nitrate (mg/L)	1,2,3-TCP (ug/L)	TDS (mg/L)
01-004	MC10-2	Upper	15	10	10	12.4*	0.005	1,000	15	10	10	12.4	0.005	1,000
01-128	Merc_9	Upper	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
01-129	Merc_11	Upper	15	10	10	11.8**	0.005	1,000	15	10	10	11.8	0.005	1,000
02-009	Keystone well	Upper	TBD	TBD	TBD	10	TBD	1,000	TBD	TBD	TBD	10	TBD	1,000
03-001	MW-2	Upper	24.08**	10	27.2**	11.1**	0.005	1,530**	24.08	10	27.2	11.1	0.005	1,530
03-007	MW-1	Upper	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
05-124		Upper	15	10	10.6**	12.0**	0.005	1,000	15	10	10.6	12.0	0.005	1,000
06-002	P259-3	Upper	15	10	10	14.0*	0.005	1,000	15	10	10	14.0	0.005	1,000
07-003	MC15-2	Upper	TBD	TBD	TBD	10	TBD	1,000	TBD	TBD	TBD	10	TBD	1,000
07-017	Well 1	Upper	15	10	32**	10	0.005	1,000	15	10	32	10	0.005	1,000
07-031	CDMGSA-01C	Upper	TBD	TBD	TBD	12.0**	TBD	1,500**	TBD	TBD	TBD	12.0	TBD	1,500
07-033	TW-4 Upper	Upper	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
07-170	AGC100012335-GDACX00005	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
07-425	MC18-2	Upper	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1000
08-002	MP102.04L	Upper	TBD	TBD	TBD	10	TBD	3,210**	TBD	TBD	TBD	10	TBD	3,210
09-002	12S16E31G001M	Upper	28.79**	10	10	10	TBD	1,000	28.79	10	10	10	TBD	1,000
09-003	13S15E14M001M	Upper	19.4**	10	TBD	10	TBD	1,000	19.4	10	TBD	10	TBD	1,000
09-005	Aliso 1	Upper	54.6**	10	10	10	0.27**	1,000	54.6	10	10	10	0.27	1,000
09-196	Well 52	Upper	15	10	TBD	TBD	TBD	1,000	15	10	TBD	TBD	TBD	1,000
10-009	TSS-MW-325	Upper	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
11-018	3PU-1	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
12-006	SPRECK-MW-32	Upper	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
13-012	MW1UA Planned	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14-001	CCID Well #2	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-002	1005	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-003	1006	Upper	TBD	TBD	TBD	TBD	TBD	1,400**	TBD	TBD	TBD	TBD	TBD	1,400
14-004	1008	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-005	1011	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-006	1014	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-007	1043	Upper	TBD	TBD	TBD	TBD	TBD	1,200**	TBD	TBD	TBD	TBD	TBD	1,200
14-008	2410	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14-022	Elrod #4 Well #21	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-026	SDMW West - Upper Aquifer	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14-027	CLB Well #10	Upper	TBD	TBD	TBD	10	TBD	1,000	TBD	TBD	TBD	10	TBD	1,000
15-001	Firebaugh Well #17	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
16-001	CLB Well #12	Upper	TBD	TBD	TBD	10	TBD	1,000	TBD	TBD	TBD	10	TBD	1,000
17-001	Mendota City #7	Upper	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
19-004	2PU-4	Upper	TBD	TBD	TBD	TBD	TBD	2,100**	TBD	TBD	TBD	TBD	TBD	2,100
20-001	TIWD #17	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
22-002	Gustine City #6	Upper	TBD	TBD	TBD	42.0*	TBD	1,000	TBD	TBD	TBD	42.0	TBD	1,000
23-004	SDMW East - Upper Aquifer	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
01-001	MP030.43R	Lower	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
01-002	MP033.71L	Lower	15	10	19.7**	10	0.005	1,000	15	10	19.7	10	0.005	1,000
01-003	MP045.78R	Lower	15	10	14.6**	10	0.005	1,400**	15	10	14.6	10	0.005	1,400
01-006	91	Lower	15	10	10	15.0**	0.005	1,000	15	10	10	15.0	0.005	1,000
01-007	MP021.12L	Lower	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
01-008	MP051.66L	Lower	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
02-109	Floragold Well	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
04-008	ARRA 28	Lower	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
06-001	P259-1	Lower	15	10	18.9**	12.9*	0.005	1,000	15	10	18.9	12.9	0.005	1,000
07-002	MC15-1	Lower	TBD	TBD	TBD	10	TBD	1,000	TBD	TBD	TBD	10	TBD	1,000

DMS ID	Local ID	Aquifer	Minimum Threshold						Measurable Objective					
			Gross Alpha (pCi/L)	Arsenic (ug/L)	Cr6 (ug/L)	Nitrate (mg/L)	1,2,3-TCP (ug/L)	TDS (mg/L)	Gross Alpha (pCi/L)	Arsenic (ug/L)	Cr6 (ug/L)	Nitrate (mg/L)	1,2,3-TCP (ug/L)	TDS (mg/L)
07-007	MC18-1	Lower	TBD	TBD	TBD	10	TBD	1,000	TBD	TBD	TBD	10	TBD	1,000
07-014	TW-4	Lower	15	10	10	10	0.005	1,000	15	10	10	10	0.005	1,000
07-015	TW-5	Lower	15	13**	10	10	0.005	1,000	15	13	10	10	0.005	1,000
07-016	Well 01	Lower	15	10	10	10	0.005	1,028*	15	10	10	10	0.005	1,028
07-028	MP093.27L (Well 500)	Lower	15	10	10	10	0.005	1,190**	15	10	10	10	0.005	1,190
07-032	CDMGSA-01D	Lower	TBD	TBD	TBD	10	TBD	1,900**	TBD	TBD	TBD	10	TBD	1,900
07-034	MP092.20R	Lower	TBD	TBD	TBD	10	TBD	1,300**	TBD	TBD	TBD	10	TBD	1,300
07-036	PWD Well 20	Lower	16.49**	10.7**	10	10	0.005	1,400**	16.49	10.7	10	10	0.005	1,400
07-189	Well 18	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
07-212	Well 31	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
10-010	TSS-MW-485	Lower	15	10	10	10	0.005	1,400**	15	10	10	10	0.005	1,400
11-010	1PL-1	Lower	TBD	TBD	TBD	TBD	TBD	1,550**	TBD	TBD	TBD	TBD	TBD	1,550
11-011	1PL-2	Lower	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
13-011	MW1LA Planned	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14-019	1050	Lower	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-020	1027	Lower	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-021	1056	Lower	TBD	TBD	TBD	TBD	TBD	1,000	TBD	TBD	TBD	TBD	TBD	1,000
14-024	CCID 2723	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14-025	SDMW West - Lower Aquifer	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
18-001	Newman City #6	Lower	TBD	TBD	TBD	20.0**	TBD	1,000	TBD	TBD	TBD	20.0	TBD	1,000
18-002	Newman City #8	Lower	TBD	TBD	TBD	11.0**	TBD	1,000	TBD	TBD	TBD	11.0	TBD	1,000
22-001	Gustine City #5	Lower	TBD	TBD	TBD	15.0*	TBD	1,000	TBD	TBD	TBD	15.0	TBD	1,000
05-128		Lower	15	10	17**	10	0.005	1,000	15	10	17	10	0.005	1,000
07-234		Lower	15	27**	10	10	0.005	1,800**	15	27	10	10	0.005	1800
23-003	SDMW East - Lower Aquifer	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
09-233	South Lower	Lower	54.9**	10	TBD	TBD	TBD	1,000	54.9	10	TBD	TBD	TBD	1,000
09-231	North Upper	Upper	65.8**	10	10	10	TBD	1,000	65.8	10	10	10	TBD	1,000
09-232	North Lower	Lower	15	15.4**	TBD	TBD	TBD	1,000	15	15.4	TBD	TBD	TBD	1,000
19-002	2PU-1	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
02-118	Well 06	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
03-010	ISW-2-175	Upper	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
04-212	ARRA 120	Lower	15	10	10.12**	12.2**	0.005	1,000	15	10	10.12	12.2	0.005	1,000
04-216	ARRA 29	Lower	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

DMS ID	Local ID	Interim Milestones																							
		Gross Alpha (pCi/L)				Arsenic (µg/L)				Cr6 (µg/L)				Nitrate (mg/L)				1,2,3-TCP (µg/L)				TDS (mg/L)			
		2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040
01-004	MC10-2	15	15	15	15	10	10	10	10	10	10	10	10	12.4	12.4	12.4	12.4	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
01-128	Merc_9	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
01-129	Merc_11	15	15	15	15	10	10	10	10	10	10	10	10	11.8	11.8	11.8	11.8	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
02-009	Keystone well	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	10	10	10	10	TBD	TBD	TBD	TBD	1,000	1,000	1,000	1,000
03-001	MW-2	24.08	24.08	24.08	24.08	10	10	10	10	27.2	27.2	27.2	27.2	11.1	11.1	11.1	11.1	0.005	0.005	0.005	0.005	1,530	1,530	1,530	1,530
03-007	MW-1	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
05-124		15	15	15	15	10	10	10	10	10.6	10.6	10.6	10.6	12.0	12.0	12.0	12.0	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
06-002	P259-3	15	15	15	15	10	10	10	10	10	10	10	10	14.0	14.0	14.0	14.0	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
07-003	MC15-2	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	10	10	10	10	TBD	TBD	TBD	TBD	1,000	1,000	1,000	1,000
07-017	Well 1	15	15	15	15	10	10	10	10	32	32	32	32	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
07-031	CDMGSA-01C	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	12.0	12.0	12.0	12.0	TBD	TBD	TBD	TBD	1,500	1,500	1,500	1,500
07-033	TW-4 Upper	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
07-170	AGC100012335-GDACX00005	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
07-425	MC18-2	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
08-002	MP102.04L	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	10	10	10	10	TBD				3,210	3,210	3,210	3,210
09-002	12S16E31G001M	28.79	28.79	28.79	28.79	10	10	10	10	10	10	10	10	10	10	10	10					1,000	1,000	1,000	1,000
09-003	13S15E14M001M	19.4	19.4	19.4	19.4	10	10	10	10	TBD	TBD	TBD	TBD	10	10	10	10					1,000	1,000	1,000	1,000
09-005	Aliso 1	54.6	54.6	54.6	54.6	10	10	10	10	10	10	10	10	10	10	10	10	0.27	0.27	0.27	0.27	1,000	1,000	1,000	1,000
09-196	Well 52	15	15	15	15	10	10	10	10	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	1,000	1,000	1,000	1,000
10-009	TSS-MW-325	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
11-018	3PU-1	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	1,000	1,000	1,000	1,000
12-006	SPRECK-MW-32	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
13-012	MW1UA Planned																					TBD	TBD	TBD	TBD
14-001	CCID Well #2																					1,000	1,000	1,000	1,000
14-002	1005																					1,000	1,000	1,000	1,000
14-003	1006																					1,400	1,400	1,400	1,400
14-004	1008																					1,000	1,000	1,000	1,000
14-005	1011																					1,000	1,000	1,000	1,000
14-006	1014																					1,000	1,000	1,000	1,000
14-007	1043																					1,200	1,200	1,200	1,200
14-008	2410																					TBD	TBD	TBD	TBD
14-022	Elrod #4 Well #21																					1,000	1,000	1,000	1,000
14-026	SDMW West - Upper Aquifer																					TBD	TBD	TBD	TBD
14-027	CLB Well #10													10	10	10	10					1,000	1,000	1,000	1,000
15-001	Firebaugh Well #17													TBD	TBD	TBD	TBD					1,000	1,000	1,000	1,000
16-001	CLB Well #12													10	10	10	10					1,000	1,000	1,000	1,000
17-001	Mendota City #7																					1,000	1,000	1,000	1,000
19-004	2PU-4																					2,100	2,100	2,100	2,100
20-001	TIWD #17																					TBD	TBD	TBD	TBD
22-002	Gustine City #6													42.0	42.0	42.0	42.0					1,000	1,000	1,000	1,000
23-004	SDMW East - Upper Aquifer													TBD	TBD	TBD	TBD					TBD	TBD	TBD	TBD
01-001	MP030.43R	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
01-002	MP033.71L	15	15	15	15	10	10	10	10	19.7	19.7	19.7	19.7	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
01-003	MP045.78R	15	15	15	15	10	10	10	10	14.6	14.6	14.6	14.6	10	10	10	10	0.005	0.005	0.005	0.005	1,400	1,400	1,400	1,400
01-006	91	15	15	15	15	10	10	10	10	10	10	10	10	15.0	15.0	15.0	15.0	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
01-007	MP021.12L	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
01-008	MP051.66L	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
02-109	Floragold Well	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
04-008	ARRA 28	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
06-001	P259-1	15	15	15	15	10	10	10	10	18.9	18.9	18.9	18.9	12.9	12.9	12.9	12.9	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
07-002	MC15-1													10	10	10	10					1,000	1,000	1,000	1,000
07-007	MC18-1													10	10	10	10					1,000	1,000	1,000	1,000

DMS ID	Local ID	Interim Milestones																							
		Gross Alpha (pCi/L)				Arsenic (µg/L)				Cr6 (µg/L)				Nitrate (mg/L)				1,2,3-TCP (µg/L)				TDS (mg/L)			
		2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040
07-014	TW-4	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
07-015	TW-5	15	15	15	15	13	13	13	13	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
07-016	Well 01	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,028	1,028	1,028	1,028
07-028	MP093.27L (Well 500)	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,190	1,190	1,190	1,190
07-032	CDMGSA-01D	TBD				TBD				TBD				10	10	10	10	TBD				1,900	1,900	1,900	1,900
07-034	MP092.20R													10	10	10	10					1,300	1,300	1,300	1,300
07-036	PWD Well 20	16.49	16.49	16.49	16.49	10.7	10.7	10.7	10.7	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,400	1,400	1,400	1,400
07-189	Well 18	TBD				TBD				TBD				TBD				TBD				TBD			
07-212	Well 31																								
10-010	TSS-MW-485	15	15	15	15	10	10	10	10	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1,400	1,400	1,400	1,400
11-010	1PL-1	TBD				TBD				TBD				TBD				TBD				1,550	1,550	1,550	1,550
11-011	1PL-2																					1,000	1,000	1,000	1,000
13-011	MW1LA Planned																					TBD	TBD	TBD	TBD
14-019	1050																					1,000	1,000	1,000	1,000
14-020	1027																					1,000	1,000	1,000	1,000
14-021	1056																					1,000	1,000	1,000	1,000
14-024	CCID 2723																					TBD	TBD	TBD	TBD
14-025	SDMW West - Lower Aquifer																					TBD	TBD	TBD	TBD
18-001	Newman City #6													20.0	20.0	20.0	20.0					1,000	1,000	1,000	1,000
18-002	Newman City #8													11.0	11.0	11.0	11.0					1,000	1,000	1,000	1,000
22-001	Gustine City #5													15.0	15.0	15.0	15.0					1,000	1,000	1,000	1,000
05-128		15	15	15	15	10	10	10	10	17	17	17	17	10	10	10	10	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
07-234		15	15	15	15	27	27	27	27	10	10	10	10	10	10	10	10	0.005	0.005	0.005	0.005	1800	1800	1800	1800
23-003	SDMW East - Lower Aquifer	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD				TBD				TBD				TBD	TBD	TBD	TBD
09-233	South Lower	54.9	54.9	54.9	54.9	10	10	10	10													1,000	1,000	1,000	1,000
09-231	North Upper	65.8	65.8	65.8	65.8	10	10	10	10	10	10	10	10	10	10	10	10					1,000	1,000	1,000	1,000
09-232	North Lower	15	15	15	15	15.4	15.4	15.4	15.4	TBD				TBD				TBD				1,000	1,000	1,000	1,000
19-002	2PU-1	TBD				TBD																TBD			
02-118	Well 06																								
03-010	ISW-2-175																								
04-212	ARRA 120	15	15	15	15	10	10	10	10	10.12	10.12	10.12	10.12	12.2	12.2	12.2	12.2	0.005	0.005	0.005	0.005	1,000	1,000	1,000	1,000
04-216	ARRA 29	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Notes:

1. The MT for Degraded Water Quality is set as the greater concentration of: (1) the applicable health-based screening standard , or (2) the baseline concentration at each RMW-WQ (see Notes 2, 3, and 4).
2. MTs are assumed to be set as the applicable health-based screening standard, except as otherwise noted in Notes 3 and 4. The applicable health-based standard is the SWRCB DDW's MCL for all constituents.
3. * indicates that the MT was set as the baseline condition based on the last year in the 2010-2014 period with data.
4. ** indicates that the MT was set as the baseline condition based on the first year with data after 2014.
5. RMW-WQs with MTs "TBD" do not have sufficient historical data to establish a baseline condition. MTs for these wells will be set after the first sampling event.

Abbreviations:

1,2,3-TCP = 1,2,3-trichloropropane
CASGEM = California Statewide Groundwater Elevation Monitoring
Cr6 = hexavalent chromium
DDW = Department of Drinking Water
MCL = Maximum Contaminant Level
mg/L = milligrams per liter
MT = Minimum Threshold
ND = not detected
pCi/L = picocuries per liter
RMW-WQ = Representative Monitoring Well for Degraded Water Quality
SMC = Sustainable Management Criteria
SWRCB = State Water Resources Control Board
TBD = to be determined (see Note 5)
TDS = total dissolved solids
ug/L = micrograms per liter

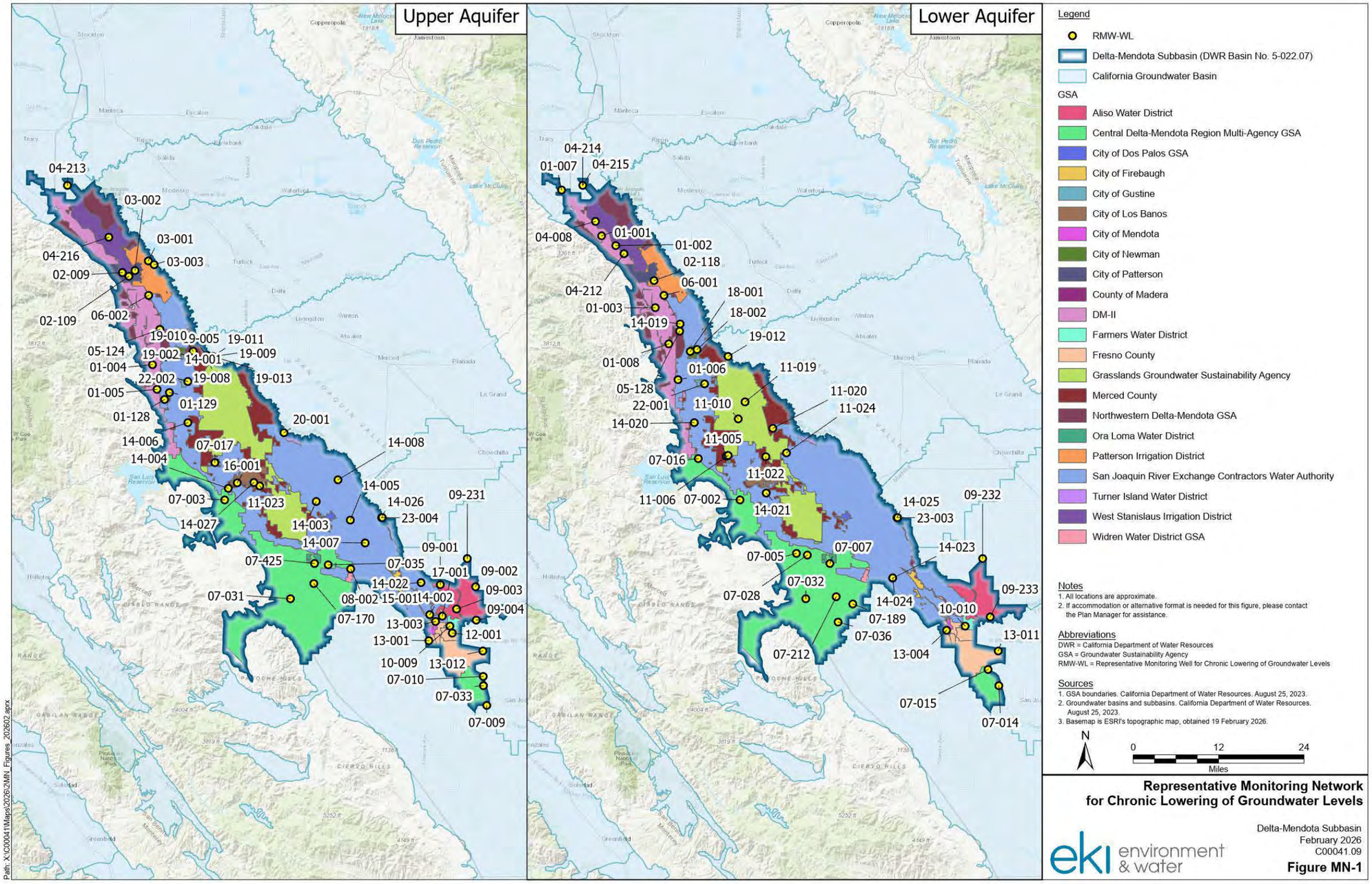
Representative Monitoring Sites for Land Subsidence

Site ID	Local ID	GSA Group	GSA	Monitored By	Monitoring Site Type	Latitude (° NAD83)	Longitude (° NAD83)	Site Description / Notes
01-009	P252	Northern Delta-Mendota GSA Group	DM-II GSA	UNAVCO	GPS - Automated	37.16960	-121.05770	
01-010	Subsidence Monitoring Point #1	Northern Delta-Mendota GSA Group	DM-II GSA	United States Bureau of Reclamation	GPS - Surveyed	37.65489	-121.39772	Benchmark at Check 8
01-011	Subsidence Monitoring Point #2	Northern Delta-Mendota GSA Group	DM-II GSA	United States Bureau of Reclamation	GPS - Surveyed	37.61797	-121.32504	Benchmark at Check 10
01-012	Subsidence Monitoring Point #3	Northern Delta-Mendota GSA Group	DM-II GSA	United States Bureau of Reclamation	GPS - Surveyed	37.56004	-121.27075	MP29.82
01-013	Subsidence Monitoring Point #4	Northern Delta-Mendota GSA Group	DM-II GSA	United States Bureau of Reclamation	GPS - Surveyed	37.55548	-121.25076	Benchmark at Check 14
01-014	Subsidence Monitoring Point #5	Northern Delta-Mendota GSA Group	DM-II GSA	United States Bureau of Reclamation	GPS - Surveyed	37.52182	-121.21845	
01-016	Subsidence Monitoring Point #9	Northern Delta-Mendota GSA Group	DM-II GSA	United States Bureau of Reclamation	GPS - Surveyed	37.29046	-121.08780	
01-017	Subsidence Monitoring Point #10	Northern Delta-Mendota GSA Group	DM-II GSA	United States Bureau of Reclamation	GPS - Surveyed	37.15180	-121.03902	
02-003	Floragold Well	Northern Delta-Mendota GSA Group	City of Patterson GSA	City of Patterson	GPS - Surveyed	37.46985	-121.15038	First benchmark in subbasin with full data set (Chrisman Road Bridge)
02-004	Subsidence Monitoring Point #6	Northern Delta-Mendota GSA Group	City of Patterson GSA	United States Bureau of Reclamation	GPS - Surveyed	37.47172	-121.17744	Benchmark at Check 4
02-005	Well 2	Northern Delta-Mendota GSA Group	City of Patterson GSA	City of Patterson	GPS - Surveyed	37.47120	-121.13283	Benchmark at Farmbridge; Starting point for West Stanislaus ID
02-006	Well 4	Northern Delta-Mendota GSA Group	City of Patterson GSA	City of Patterson	GPS - Surveyed	37.47945	-121.14055	Benchmark at Check 6
02-008	Well 11	Northern Delta-Mendota GSA Group	City of Patterson GSA	City of Patterson	GPS - Surveyed	37.47650	-121.10990	Benchmark at Check 5
03-004	Locust Avenue Well	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Patterson Irrigation District	GPS - Surveyed	37.46162	-121.11488	
03-005	Pumping Plant No. 2	Northern Delta-Mendota GSA Group	Patterson Irrigation District GSA	Patterson Irrigation District	GPS - Surveyed	37.48012	-121.09787	
03-006	River Station	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	Patterson Irrigation District	GPS - Surveyed	37.49718	-121.08259	USGS Extensometer (P-259)
04-003	WSID 11	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	West Stanislaus Irrigation District	GPS - Surveyed	37.56920	-121.21998	Benchmark at Check 16
04-004	WSID 21	Northern Delta-Mendota GSA Group	West Stanislaus Irrigation District GSA	West Stanislaus Irrigation District	GPS - Surveyed	37.55839	-121.24414	
04-005	WSID 2	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	West Stanislaus Irrigation District	GPS - Surveyed	37.58400	-121.20130	
06-006	Subsidence Monitoring Point #8	Northern Delta-Mendota GSA Group	Northwestern Delta-Mendota GSA	United States Bureau of Reclamation	GPS - Surveyed	37.42016	-121.13078	Russell Ave Bridge
07-019	AG-24	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Tranquillity Irrigation District	GPS - Surveyed	36.67046	-120.26962	
07-021	Subsidence Monitoring Point #11	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	United States Bureau of Reclamation	GPS - Surveyed	37.06673	-120.96664	
07-022	Subsidence Monitoring Point #12	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	United States Bureau of Reclamation	GPS - Surveyed	37.01873	-120.90058	
07-023	Subsidence Monitoring Point #13	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA	United States Bureau of Reclamation	GPS - Surveyed	36.96896	-120.83173	
07-024	Subsidence Monitoring Point #14	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	United States Bureau of Reclamation	GPS - Surveyed	36.88986	-120.66982	
07-025	Subsidence Monitoring Point #15	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	United States Bureau of Reclamation	GPS - Surveyed	36.89033	-120.65520	

Site ID	Local ID	GSA Group	GSA	Monitored By	Monitoring Site Type	Latitude (° NAD83)	Longitude (° NAD83)	Site Description / Notes
07-026	TID A	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Tranquillity Irrigation District	GPS - Surveyed	36.66158	-120.24111	
07-027	TID B	Central Delta-Mendota GSA Group	Central Delta-Mendota GSA	Tranquillity Irrigation District	GPS - Surveyed	36.61011	-120.24237	
09-006	Aliso WD 1	Aliso Water District GSA Group	Aliso Water District GSA	United States Bureau of Reclamation	GPS - Surveyed	36.87232	-120.31729	
09-007	DWR at Gravelly Ford Canal	Aliso Water District GSA Group	Aliso Water District GSA	Aliso Water District	GPS - Surveyed	36.80779	-120.16887	Benchmark at Rogers Road Bridge; Starting point for City of Patterson subsidence survey
09-008	LIFESON	SJREC Water Authority GSA Group	County of Madera GSA - Delta-Mendota	United States Bureau of Reclamation	GPS - Surveyed	36.77409	-120.28435	
10-008	Yearout	Farmers Water District GSA Group	Farmers Water District GSA	United States Geological Survey	Extensometer	36.76011	-120.31326	
11-018	108	Grassland GSA Group	County of Merced GSA - Delta-Mendota	United States Bureau of Reclamation	GPS-Survey	37.24766	-120.85145	
11-019	137	SJREC Water Authority GSA Group	County of Merced GSA - Delta-Mendota	United States Bureau of Reclamation	GPS-Survey	37.05472	-120.74306	
11-020	152	Grassland GSA Group	County of Merced GSA - Delta-Mendota	United States Bureau of Reclamation	GPS-Survey	37.19243	-120.83977	
12-010	P304-PBO	SJREC Water Authority GSA Group	County of Fresno GSA - Delta-Mendota Management Area B	UNAVCO	GPS - Automated	36.73796	-120.35354	
13-010	Fordel-Ext	SJREC Water Authority GSA Group	City of Mendota GSA	United States Geological Survey	Extensometer	36.75562	-120.36911	
14-014	P303	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA		GPS - Automated	37.05440	-120.70530	
14-015	PT 150	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA			37.33714	-121.02847	
14-016	PT 147	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA			36.96627	-120.56497	
14-017	PT AC5729	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA			37.05652	-120.89082	
14-018	PT 129	SJREC Water Authority GSA Group	San Joaquin River Exchange Contractors GSA			36.85731	-120.46283	

Abbreviations

amsl = above mean sea level
DM-II = Delta-Mendota II
DMC = Delta-Mendota Canal
DWR = California Department of Water Resources
ft = feet
GPS = Global Positioning System
GSA = Groundwater Sustainability Agency
NAD83 = North American Datum of 1983
SGMA = Sustainable Groundwater Management Act
SJRRP = San Joaquin River Restoration Program
UNAVCO = University NAVSTAR Consortium


Upper Aquifer
Lower Aquifer
04-213
03-002
03-001
03-003
04-216
02-009
02-109
06-002
19-010
9-005
19-011
05-124
19-002
14-001
19-009
01-004
22-002
19-008
19-013
01-005
01-129
01-128
20-001
14-006
07-017
14-008
14-004
16-001
14-005
07-003
11-023
14-026
09-231
23-004
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09-001
07-425
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14-022
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07-031
08-002
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09-004
07-170
13-003
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10-009
13-012
07-010
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07-009
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01-007
04-215
04-008
01-001
01-002
02-118
06-001
04-212
18-001
01-003
18-002
14-019
19-012
01-008
01-006
11-019
05-128
11-020
22-001
11-010
11-024
14-020
11-005
07-016
11-022
11-006
07-002
14-021
14-025
09-232
23-003
07-005
07-007
14-023
07-032
07-028
09-233
14-024
10-010
07-189
13-011
07-036
13-004
07-212
07-015
07-014
Legend
RMW-WL
Delta-Mendota Subbasin (DWR Basin No. 5-022.07)
California Groundwater Basin
GSA
Aliso Water District
Central Delta-Mendota Region Multi-Agency GSA
City of Dos Palos GSA
City of Firebaugh
City of Gustine
City of Los Banos
City of Mendota
City of Newman
City of Patterson
County of Madera
DM-II
Farmers Water District
Fresno County
Grasslands Groundwater Sustainability Agency
Merced County
Northwestern Delta-Mendota GSA
Ora Loma Water District
Patterson Irrigation District
San Joaquin River Exchange Contractors Water Authority
Turner Island Water District
West Stanislaus Irrigation District
Widren Water District GSA
Notes
1. All locations are approximate.
2. If accommodation or alternative format is needed for this figure, please contact the Plan Manager for assistance.
Abbreviations
DWR = California Department of Water Resources
GSA = Groundwater Sustainability Agency
RMW-WL = Representative Monitoring Well for Chronic Lowering of Groundwater Levels
Sources
1. GSA boundaries. California Department of Water Resources. August 25, 2023.
2. Groundwater basins and subbasins. California Department of Water Resources. August 25, 2023.
3. Basemap is ESRI's topographic map, obtained 19 February 2026.
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0
12
24
Miles
Representative Monitoring Network for Chronic Lowering of Groundwater Levels
Delta-Mendota Subbasin
February 2026
C00041.09
Figure MN-1
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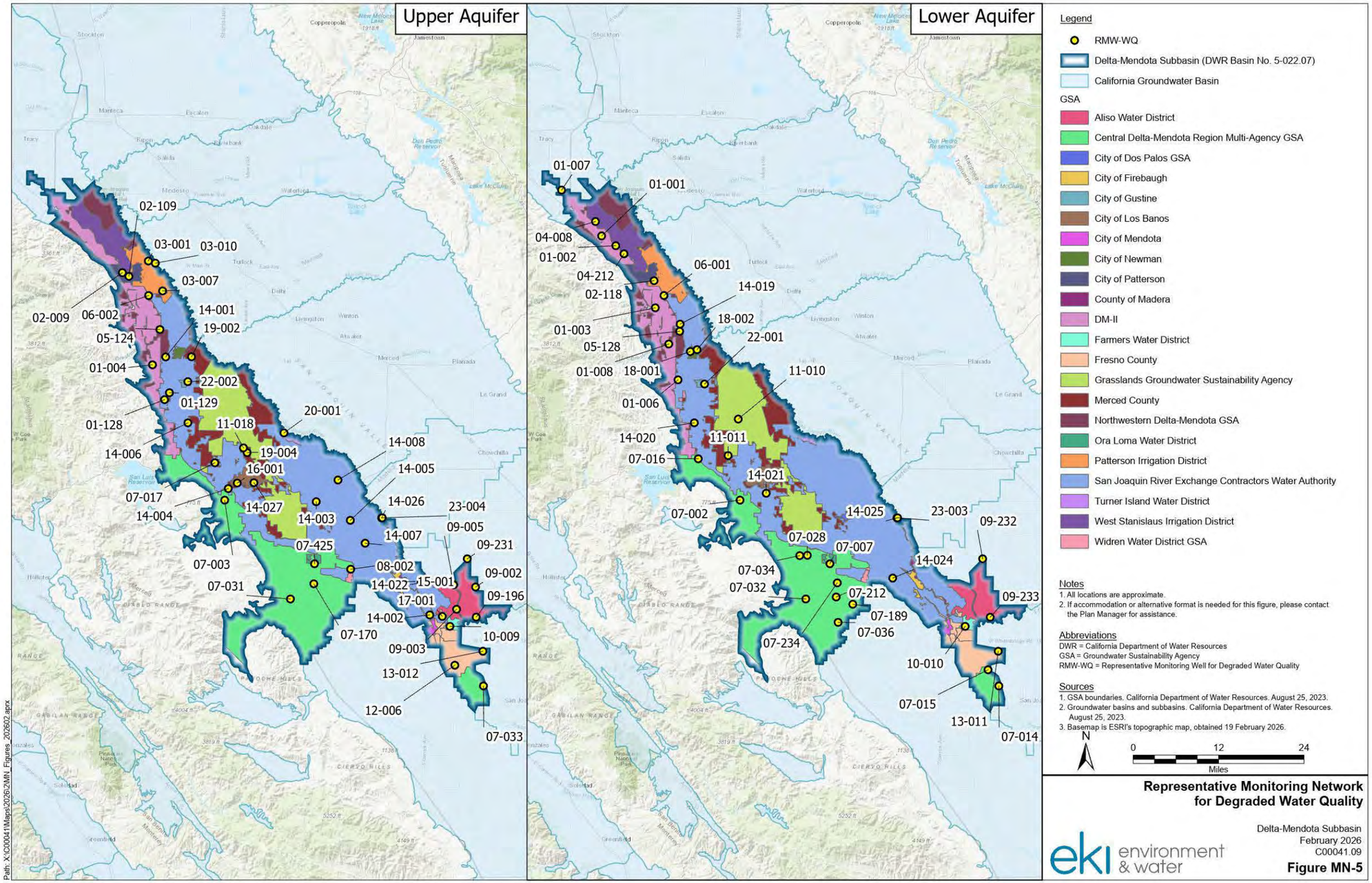
Upper Aquifer
Lower Aquifer
02-109
03-001
03-010
03-007
02-009
06-002
14-001
19-002
05-124
01-004
22-002
01-129
01-128
11-018
20-001
14-006
19-004
16-001
14-008
14-005
07-017
14-004
14-027
14-003
14-026
23-004
09-005
14-007
09-231
07-425
07-003
08-002
09-002
07-031
14-022
15-001
09-196
17-001
14-002
07-170
10-009
09-003
13-012
12-006
07-033
01-007
01-001
04-008
01-002
04-212
06-001
02-118
14-019
18-002
01-003
05-128
22-001
01-008
18-001
11-010
01-006
14-020
11-011
07-016
14-021
07-002
14-025
23-003
09-232
07-028
07-007
14-024
07-034
07-032
07-212
09-233
07-189
07-036
07-234
10-010
07-015
13-011
07-014
Legend
RMW-WQ
Delta-Mendota Subbasin (DWR Basin No. 5-022.07)
California Groundwater Basin
GSA
Aliso Water District
Central Delta-Mendota Region Multi-Agency GSA
City of Dos Palos GSA
City of Firebaugh
City of Gustine
City of Los Banos
City of Mendota
City of Newman
City of Patterson
County of Madera
DM-II
Farmers Water District
Fresno County
Grasslands Groundwater Sustainability Agency
Merced County
Northwestern Delta-Mendota GSA
Ora Loma Water District
Patterson Irrigation District
San Joaquin River Exchange Contractors Water Authority
Turner Island Water District
West Stanislaus Irrigation District
Widren Water District GSA
Notes
1. All locations are approximate.
2. If accommodation or alternative format is needed for this figure, please contact the Plan Manager for assistance.
Abbreviations
DWR = California Department of Water Resources
GSA = Groundwater Sustainability Agency
RMW-WQ = Representative Monitoring Well for Degraded Water Quality
Sources
1. GSA boundaries. California Department of Water Resources. August 25, 2023.
2. Groundwater basins and subbasins. California Department of Water Resources. August 25, 2023.
3. Basemap is ESRI's topographic map, obtained 19 February 2026.
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24
Miles
Representative Monitoring Network for Degraded Water Quality
Delta-Mendota Subbasin
February 2026
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Figure MN-5
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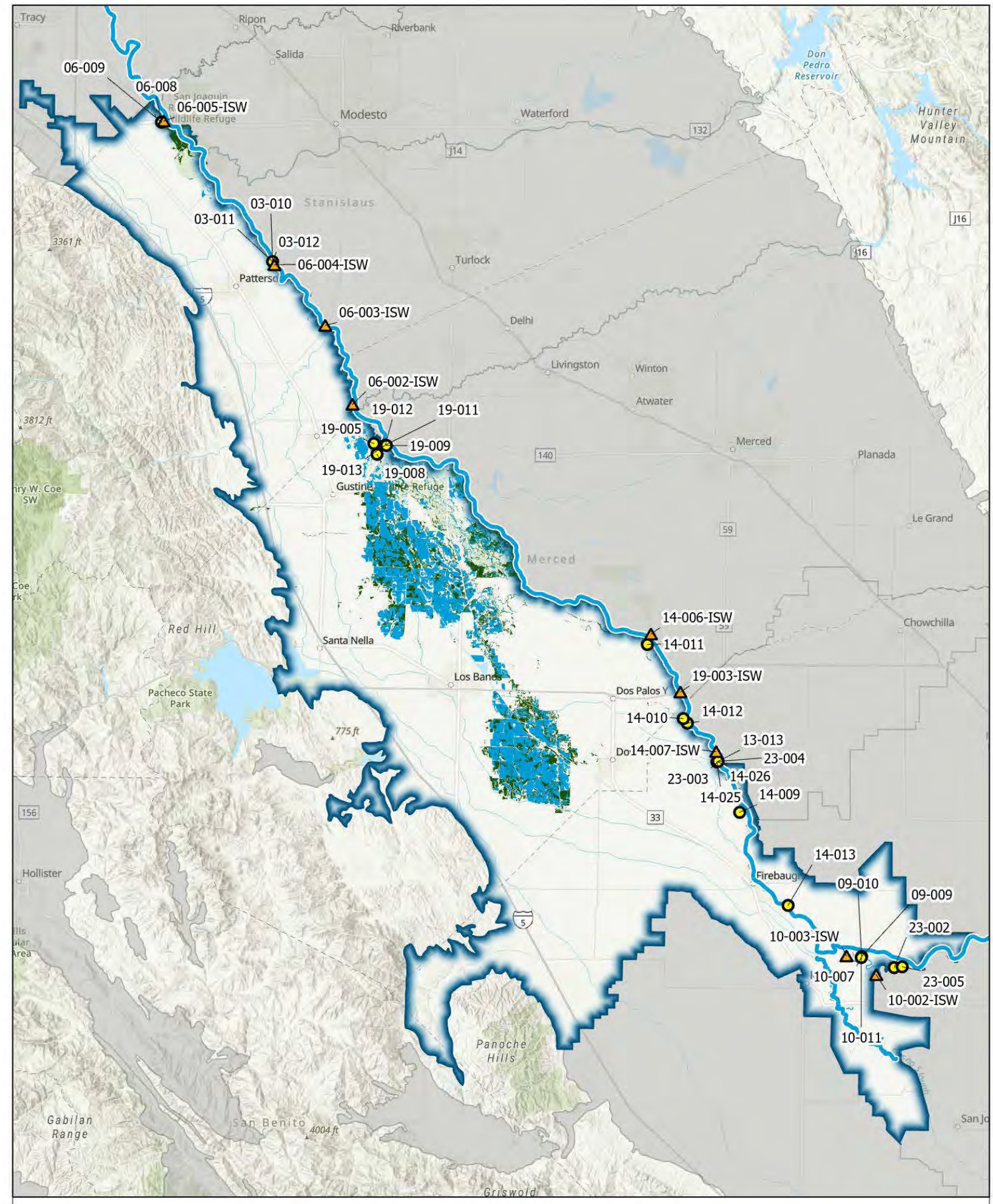
Tracy
Ripon
Riverbank
Salida
Don Pedro Reservoir
Hunter Valley Mountain
Modesto
Waterford
Stanislaus
Turlock
Delhi
Livingston
Winton
Atwater
Merced
Planada
Le Grand
Chowchilla
Red Hill
Santa Nella
Los Banos
Dos Palos Y
Pacheco State Park
Hollister
Gustine
Firebaugh
Panoche Hills
Gabilan Range
San Benito
Griswold
3361 ft
3812 ft
775 ft
4004 ft
06-009
06-008
06-005-ISW
03-010
03-011
03-012
06-004-ISW
06-003-ISW
06-002-ISW
19-012
19-011
19-005
19-009
19-013
19-008
14-006-ISW
14-011
19-003-ISW
14-010
14-012
13-013
14-007-ISW
23-004
23-003
14-026
14-025
14-009
14-013
09-010
09-009
23-002
10-003-ISW
10-007
23-005
10-002-ISW
10-011
Legend
Interconnected Surface Water
Potential Groundwater Dependent Ecosystems
Vegetation
Wetlands
California Groundwater Basin
Delta-Mendota Subbasin (DWR Basin No. 5-022.07)
RMS-ISW
; Well
Stream Gage
Notes
1. All locations are approximate.
2. If accommodation or alternative format is needed for this figure, please contact the Plan Manager for assistance.
Abbreviations
GDE = Groundwater Dependent Ecosystem
RMS-ISW = Representative Monitoring Site for Depletion of Interconnected Surface Water
TNC = The Nature Conservancy
NCCAG = Natural Communities Commonly Associated with Groundwater
Sources
1. Groundwater basins and subbasins. California Department of Water Resources. August 25, 2023.
2. Basemap is ESRI's topographic map, obtained 11 February 2026.
3. GDE locations determined from the Ducks Unlimited and TNC's NCCAG datasets and processed as described in Section 8.8.
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0
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16
Miles
Representative Monitoring Network for Depletion of Interconnected Surface Water
Delta-Mendota Subbasin
February 2026
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Figure MN-10
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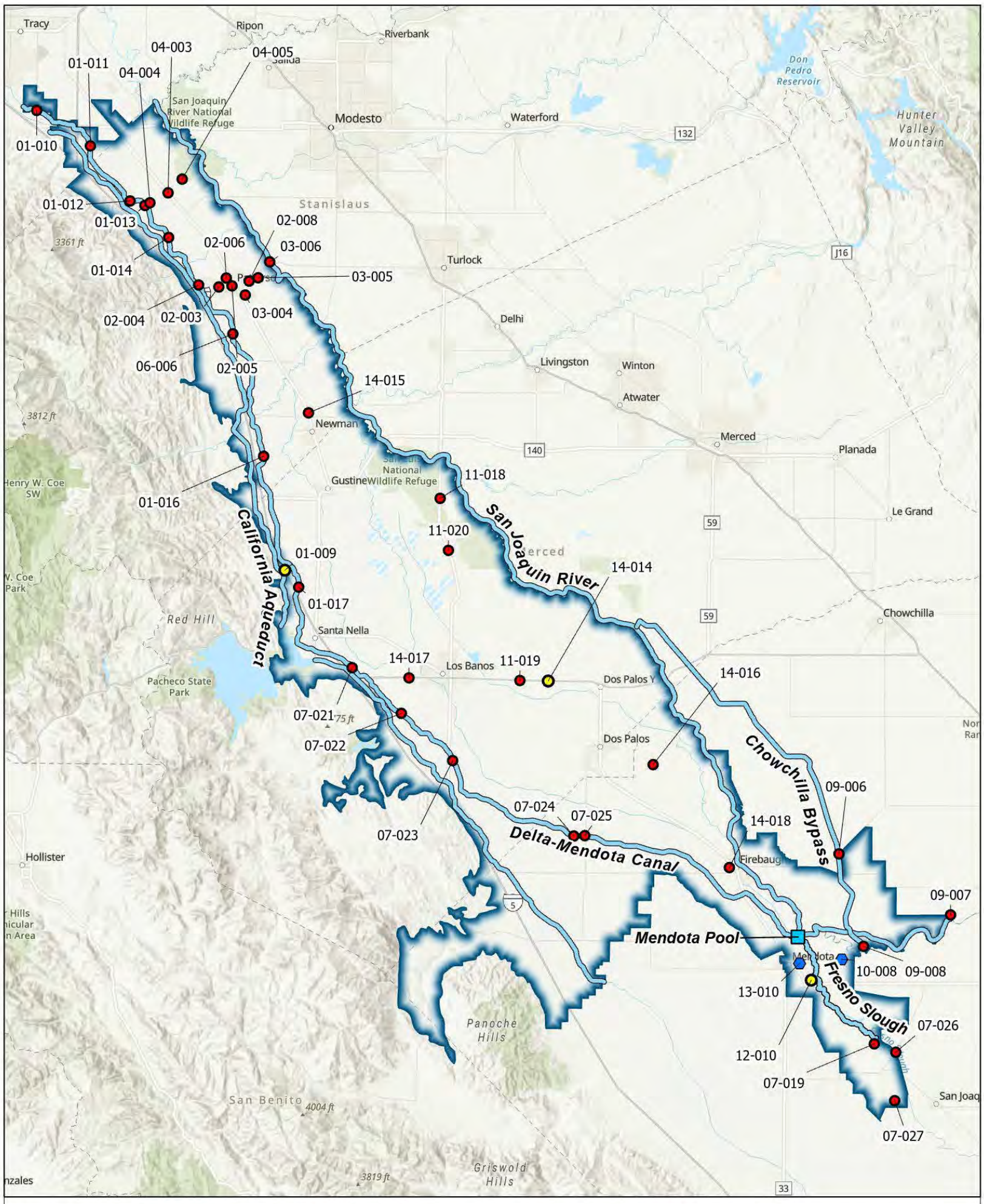

Legend

RMS-LS
- Survey Point
- Extensometer
- Continuous GPS

Mendota Pool

Other Critical Infrastructure

Delta-Mendota Subbasin (DWR Basin No. 5-022.07)

Notes
1. All locations are approximate.
2. Subsidence data will also be collected at all locations from InSAR data published by DWR and from locations shown in Figure GWC-42.
3. If accommodation or alternative format is needed for this figure, please contact the Plan Manager for assistance.

Sources
1. Basemap is ESRI's ArcGIS Online world topographic map, obtained 19 February 2026.
2. DWR Groundwater basins are based on the boundaries defined in California's Groundwater Bulletin 118 - Final Prioritization, dated February 2019.
3. DWR. (2023). TRE ALTAMIRA InSAR Dataset [Raster]. (https://sgma.water.ca.gov/webgis/config/custom/html/SGMADataViewer/doc/#tre-altamira-insar-dataset)
4. Delta-Mendota Canal and California Aqueduct from the National Hydrologic Dataset.
5. Chowchilla Bypass from Madera County.

Abbreviations
DWR = California Department of Water Resources
ft. = Feet
GSA = Groundwater Sustainability Agency
GPS = Global Positioning System
InSAR = Interferometric Synthetic Aperture Radar
RMS-LS = Representative Monitoring Site for Land Subsidence

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Representative Monitoring Network for Land Subsidence

Delta-Mendota Subbasin
February 2026
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Figure MN-9

eki environment & water

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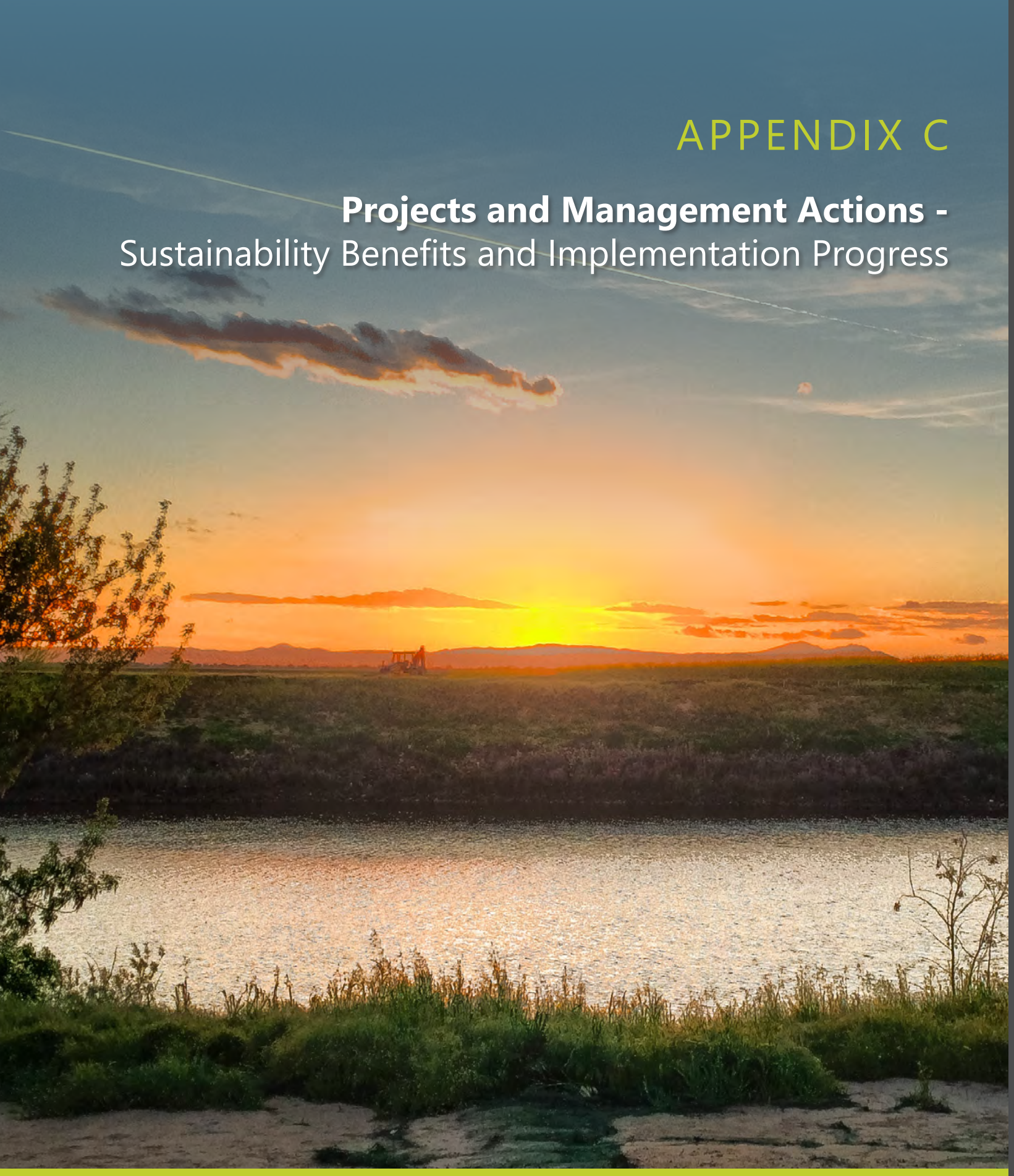

APPENDIX C

Projects and Management Actions - Sustainability Benefits and Implementation Progress

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P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
Tier 1 - Management Actions (Implemented by 2025)											
ALL-1	GSA Well Permitting and Metering	All Counties/ All GSAs	This project involves an agreement between counties and their respective GSA(s) to review any new well drilling permits within the county, including white areas. All counties in the Basin have developed and/or revised internal well-permitting policies to include consultation with GSAs on the location of proposed wells. These policies now also involve GSA oversight on aspects such as well depth, perforated intervals, extractions from the upper and lower aquifers, and the appropriate installation of appurtenances like flowmeters to determine if the pumping associated with a new well will cause Undesirable Results in the GSA's jurisdictional area and ensure that groundwater extractions are metered or measured in some fashion. These policies allow GSAs to incorporate any new wells into management programs developed in this GSP. The agreement also benefits the counties by alleviating the counties' management workloads as GSAs step into the additional responsibilities designated by SGMA. While the counties are ultimately responsible for approving well permits, GSA review of the permits helps ensure that new wells are compliant with current and future sustainable practices. Additionally, installing flow meters on all irrigation wells (current and future) allows for better management of groundwater extractions by allowing the GSA to quantify pumping and its effects on groundwater storage, quality, and other sustainability indicators. Collection of volumetric groundwater extraction data are necessary to implement the Basin's Pumping Reduction Plan.	X	X	X	X	Implementation underway; GSA access to and input on well permits ongoing	County well permitting program websites	County adoption of ordinance/resolution to update well permitting process; Adoption of GSA or District-level well metering policy	All Counties have updated their well permitting process and requirements to include a step for GSA review Several GSAs and/or districts have adopted well metering policies. See Section 16.1.1.1 for implementation schedule outlined in the Pumping Reduction Plan.
ALL-2	Well Cataloging	All Counties/ All GSAs	Several GSAs have required that all wells be cataloged and registered. Individual GSAs are or will keep a GSA- wide well database that include information about well construction, pump sizes, extraction amounts, water quality, etc. In some cases, landowners may be asked for any information available on their wells (well logs, pump tests, water quality reports, etc.). If well construction information was not available, or wells are not metered, landowners may be required to provide or acquire other information in order to calculate pumping, such as video logging wells	X	X	X		Implementation Underway; supported by ALL-1 (Well Permitting Review)	N/A	N/A	Several GSAs have field- verified and logged the locations of several wells, as discussed in Section 5.5.1 of this GSP
AWD-1 / NDM-1	Groundwater Extraction Fees / Incentives for Surface Water Use	AWD / DPWD	Since January 1, 2020, AWD has levied a groundwater extraction fee of $13.44/AF. Groundwater use is estimated based on a cropping-data estimate, or the grower may opt to provide flow meter data. AWD may adjust this fee following a Proposition 218 hearing. Landowners importing surface water receive up to a 4:1 credit against groundwater extraction fees. Specifically, for each AF of surface water imported, landowners receive credit to offset the extraction fees for up to 4 AF of groundwater. In the future, AWD may consider other incentives for surface water use as needed to reduce groundwater pumping. Since 2020, some growers have temporarily fallowed fields on an annual basis, which has reduced their groundwater extraction fees. Similarly, Del Puerto Water District has enacted a policy that requires growers to pre-purchase allocated CVP supplies up to 50% allocation. This policy therefore incentivizes growers to use available surface before pumping groundwater.	X	X	X		Implementation Underway	Public notice and hearing	Prop. 218	AWD and DPWD policies have been adopted
CDM-1	Revision to Tranquillity Irrigation District Lower Aquifer Pumping	Tranquillity Irrigation District	Tranquillity Irrigation District maintains and operates 26 wells that extract water from the Lower Aquifer and four wells from the Upper Aquifer (agricultural and municipal supply). At times, depending on the water year, the 30 wells have pumped from the two aquifers continuously. Based on historic records, the most groundwater pumped in a single year was 24,000 AF. Beginning in 2017, TRID revised the pumping regime from the Lower Aquifer within district boundaries, allowing roughly only 10 wells to be operational at a time and shutting the wells off at night to allow for drawdown to recover. Under this revised pumping regime, the most water to be pumped within a year will be around 8,000 AF. During Average and Wet WYs, an estimated 1,000 AF could be pumped from the Lower Aquifer. During Dry WYs, up to 8,000 AF could be pumped from the Lower Aquifer. Tranquillity Irrigation District began implementing this revised pumping regime in 2017, with actual Lower Aquifer groundwater extractions totaling 200 AFY each in 2017 and 2018.	X		X		Implementation Underway	N/A	N/A	Well Water Operations Plan established in 2017 and implemented on an annual basis

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
NDM-2	Drought Contingency Planning in Urban Areas	City of Patterson	The City of Patterson has implemented drought contingency planning in urban areas in order to prepare for and respond to water shortages during times of drought. Urban water suppliers are already required to address water shortage contingency planning in their Urban Water Management Plans prepared every five years. These planning strategies can be expanded upon, if necessary, and applied in order to minimize impacts to groundwater storage and water levels when supplies become limited.	X		X		Adoption of UWMP; planning strategies can be expanded upon as-needed to comply with SMCs	City of Patterson Water Conservation website; direct mail	N/A	Included in the City of Patterson's adopted 2020 Urban Water Management Plan
SJREC-1	Groundwater Allocations - Madera County GSA	Madera County GSA - Delta-Mendota	Allocations for sustainable yield and transitional water have been established for irrigated acres within the Madera County GSA- Delta Mendota Subbasin. The allocations decrease over time per set schedule until the sustainable yield is met. From 2021 to 2025, allocations were designed to reduce transitional water by 2% annually. Transitional water will be reduced by 6% annually from 2025 to 2040 pending the GSP Periodic Evaluation.	X		X	X	Implementation underway	Allocation reports, acreages, and measurement options are sent yearly	N/A	Ongoing; From 2021 to 2025, allocations are designed to reduce transitional water by 2% annually
SJREC-2	Private Well Pumping for Credits	SJREC	The member entities of the SJREC allow landowners to pump private well water into the district facilities for credit. However, the SJREC entities have implemented a policy to regulate pumping and minimize impacts to at-risk areas. In the 1990's, the entities were divided up into management areas, now termed monitoring zones. The SJREC Board adopted a policy to establish trigger water levels to restrict the mining of groundwater in impacted areas and prohibit the export of groundwater out of an impacted area if the water level is below the trigger level. Additionally, all water pumped for credit must meet water quality standards, and there is a maximum allowable total volume that can be pumped for credit, which is further limited by the amount of groundwater which can be pumped without damaging other landowners or depleting groundwater storage. A groundwater consultant may be required to determine the potential impacts of pumping the well for credit. Pumping for credit must be terminated if the pumping has a detrimental impact on neighboring wells or on the groundwater table. Since 2000, about 70% of the total pumping was subject to the curtailment of these policies.	X	X			Implementation underway	Direct outreach to well operator and adjacent landowners	N/A	Ongoing; implemented in the 1990s
SJREC-3	Mitigation for Migration of Shallow Saline Groundwater	FCWD / CCID	The SJREC, particularly FCWD and a portion of CCID (Camp 13), have been engaged in litigation over the migration of poor-quality groundwater (high electrical conductivity and high selenium) from upslope drainage areas to the south and west. While this issue remains unresolved, FCWD and CCID have developed several management actions to help control the further migration of this poor-quality groundwater. FCWD and Camp 13 have a perched water table, that if not controlled, would cause the overlying land to be unfarmable. Landowners in CCID and FCWD have installed buried tile lines (subsurface drainage) to control the perched groundwater table in the area and are participating in the San Joaquin River Improvement Project to manage subsurface drain water produced within the region. One successful management action for the region has been the implementation of the various components of the Westside Regional Drainage Plan. Four effective strategies have been implemented to reduce drainage discharge including 1) source control, 2) groundwater management, 3) drainage reuse and 4) treatment and disposal. Source control reduces the volume of water contributing to subsurface drainage by reducing deep percolation of applied water and reducing seepage from canals and ditches. In 2002, through a joint study between the SJREC and the USBR, it was determined that the pumping of strategically placed wells could lower the perched water table and reduce discharge of subsurface drainage systems. As a result, 18 wells have been installed and have successfully reduced the discharge from subsurface drainage systems.		X			Implementation underway	N/A	N/A	Ongoing
SJREC-4	Annual Groundwater Assessment Report	SJREC	Each year the SJREC prepare an annual report (Report) of the current and historical conditions of groundwater. The report includes: pumping volumes, pump tests, water quality, and water levels. This report is reviewed by our Hydrogeologist, who prepares a supplemental assessment report. The hydrogeologist makes a recommendation on how each monitoring zone (or sub-area) within the SJREC area should be managed for the current year. The primary management tool is to review water levels in impacted areas. Historically, the hydrogeologist has recommended limiting the export of groundwater in those impacted areas if the groundwater elevation is below an established trigger level.	X				Annual	N/A	N/A	Completed annually

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
Tier 1 Projects (Implemented by 2025)											
AWD-2	San Joaquin River and Chowchilla Bypass Flood Water	AWD	AWD has acquired temporary rights to divert up to 10,000 AFY of unappropriated high-flow waters from the Chowchilla Bypass via existing flap gates, non-permanent pump stations, and future turnouts into AWD. During extreme wet years, non-contracted water sourced from high-flow events is released into the SJR. When the lower reaches of the SJR are at capacity, water is diverted from those lower reaches into the Chowchilla Bypass, a man-made flood control structure that bisects AWD. The Chowchilla Bypass only runs during high-flow years when the combined flows from both the SJR and the Kings River exceed the capacity of the lower SJR. Temporary water rights are applied for on an annual basis until permanent water rights can be acquired by the GSA (application under review by SWRCB). The temporary water rights allow AWD to capture surface water during high-flow events from the Chowchilla Bypass and implement groundwater recharge, in-lieu recharge, and flood relief projects. Water diverted from the Chowchilla Bypass can be applied directly to crops or used for direct recharge in the Chowchilla Bypass Recharge Facility (see AWD-3).	X	X	X		Implementation underway	Noticing in progress	SWRCB Application to Appropriate Water; CDFW streambed alteration permit	Temporary permit granted in WY 2023; Standard water right application accepted in 2021, under review by SWRCB. In WY 2023, AWD diverted approximately 7,500 AF of flood flows for recharge by application to crops and direct recharge on about 80 acres of previous tree crop land. In WY 2024, the District increased engagement in consultation efforts with the SWRCB on the pending standard water right application.

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
AWD-3	Chowchilla Bypass Recharge Facility	AWD	This project includes a turnout to divert water from the Chowchilla Bypass, a pipeline, and an 80-acre recharge basin constructed on land previously used for irrigated agriculture. The primary purpose of this facility is to divert unappropriated high-flow waters from the Chowchilla Bypass via a new turnout to be owned and operated by AWD. Until the permanent turnout is constructed, a temporary turnout will be utilized beginning in 2023. Water will be delivered from the Bypass to the proposed Facility via a pipeline. The main objective of the project is to divert an average of approximately 10,000 AF of water per year during wet years. Once other conveyance projects are developed (Bypass Crossing Pipeline or Aliso Lateral), this project would also be able to utilize non-flood water.	X	X	X		Implementation underway	Public noticing as part of CEQA	CEQA; CDFW Streambed Alteration Permit; SWRCB Application to Appropriate Water; Central Valley RWQCB Clean Water Act Section 401 Permit, and USACE Clean Water Act Section 404 Permit; CVFPB Encroachment Permit; Madera County Building Permit; San Joaquin Valley Air Pollution Control District permit; SWRCB SWPPP	Funding Received in April 2022 from DWR's SGM Program SGMA Implementation - Round 1; In WY 2023, AWD used a temporary turnout to apply water for direct recharge. In 2024, the District submitted the necessary permits and continued to make progress on project design. In 2025, AWD completed the project design, held a bid opening on September 19, 2025, and issued a Notice to Proceed on October 27, 2025. Construction is anticipated to be completed by January 25, 2026.
CDM-2 / GWD-1 / SJREC-5	Los Banos Creek Diversion Facility	SJREC / SLWD / GWD	The Los Banos Creek Diversion Facility is located just upstream of where the DMC siphon crosses the Los Banos Creek. The project consists of a gated check structure spanning Los Banos Creek, a turnout structure on the creek, an outlet structure on the DMC, and a box culvert connecting the turnout and outlet. The operation of this facility keeps the first 50 cfs of flood flows released from the Los Banos Creek Detention Reservoir in the creek to maintain historical recharge and can divert up to 250 cfs of flood releases into the DMC. The source water for this project is from runoff in the Los Banos Creek watershed and is put to beneficial use during times of reservoir releases. The project is designed to also deliver water from the DMC into the Los Banos Creek. This project provides additional flood protection to the City of Los Banos, a Disadvantaged Community, and also provides wetland benefits through relieved pressure from flood flows on wetland habitat and an additional useable water supply.	X				Implementation underway	Public noticing as part of CEQA and NEPA	CEQA; NEPA; CDFW Section 1600 Streambed Alteration Permit, Central Valley RWQCB Clean Water Act Section 401 Permit, and USACE Clean Water Act Section 404 Permit	Operational

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
CDM-3 / GWD-2 / SJREC-6	Los Banos Creek Detention Reservoir Regulation and Storage Project (previously known as Los Banos Creek Storage Project)	SJREC / SLWD / GWD	The Los Banos Creek Detention Dam (LBCDD) and Los Banos Creek Detention Reservoir (LBCDR) are CVP facilities constructed to provide flood control protection to the San Luis Canal. Because of its proximity, LBCDR also provides flood protection to the City of Los Banos. Currently the dam is strictly operated as a flood control facility during the late fall and winter months. A group of local agencies have proposed to operate the LBCDD in the spring to route natural Los Banos Creek flows to riparian lands downstream of the facility making space available for storage and thereby increasing the overall benefit of the Los Banos Creek Diversion Facility. The purpose of the Project is to more effectively manage the LBCDR in order to maximize flood control and downstream benefits while maintaining recreational use of the reservoir. The water pumped into the reservoir for storage by the Project Participants would be either conserved water or groundwater. During the flood control season, and potentially year-round, water in the reservoir would be allowed to accumulate and be released from the reservoir to meet Project Participant riparian demand. Starting in the spring, the Project Participants would pump their conserved water or groundwater into available LBCDD space for temporary storage and return to one or all participant to meet peak irrigation or wildlife water management demands.	X				Implementation underway	Public noticing as part of CEQA and NEPA	CEQA; NEPA; SWRCB Point of Rediversion and Restorage, CDFW Section 1600 Streambed Alteration Permit, Central Valley RWQCB Clean Water Act Section 401 Permit, USACE Clean Water Act Section 404 Permit	Completed pilot project in Fall 2020; CEQA/NEPA anticipated for public comment Dec 2023; Funding received as part of the SGM Program SGMA Implementation – Round 1 Grant awarded in April 2022; Construction began in October 2025 and will continue through spring of 2026.
GWD-3	North Grassland Water Conservation and Water Quality Control Project	GWD	The North Grassland Water Conservation and Water Quality Control Project (NGWCWQCP or Project) provides additional surface water to assist GWD in meeting its water demand within the GGSA. High-quality water from the District's water conveyance system and maintenance flows from managed wetlands in the northern portion of the District are captured prior to leaving GWD during fall and early winter. Recovered water is recirculated and returned to GWD's conveyance system to meet a portion of fall and winter demand. The amount of surface water available for recirculation through the NGWCWQCP facilities varies based on Level 2 CVP refuge water supply allocations, with an estimated 11,700 to 16,000 acre-feet per year available in years with 100% allocation (125,000 AF) and an estimated minimum of 5,200 acre-feet per year available in years with reduced Level 2 allocations (75% allocation: 93,750 AF). Based on the historical reliability of Level 2 water supplies, it is estimated that the average annual yield of the project is approximately 16,000 acre-feet per year. An enhancement adding new points of diversion and an intertie pipeline is scheduled for construction in 2024 and 2025 which is estimated to yield an additional 14,000 acre-feet/year by 2026.	X	X			Implementation Underway	N/A	No additional permitting required	Operational; An enhancement adding new points of diversion and an intertie pipeline is scheduled for construction in 2025 (estimated yield 14,000 AF/year by 2026)
GWD-4 / NDM-3	North Valley Regional Recycled Water Program - Modesto and Early Turlock Years	DPWD / GWD	The North Valley Regional Recycled Water Program conveys tertiary-treated recycled water from the cities of Modesto and Turlock to the DMC for conveyance to growers in the DPWD service area, as well as south-of- the-Delta wildlife refuges within the Grassland GSA Group area. With the development of conveyance capability, at buildout, up to 59,000 AFY of tertiary treated recycled water produced from municipal wastewater and stormwater collected from the cities of Ceres, Turlock, and Modesto will be delivered DPWD growers and wildlife refuges. Recycled water is conveyed to DPWD lands to supplement CVP supplies and offset groundwater pumping that has been occurring to make up for delivery shortages. Recycled water delivered by this project is also conveyed by USBR to supplement water supplies to wildlife refuges.	X	X	X	X	Implementation underway	Public noticing as part of CEQA and NEPA	CEQA; NEPA; NPDES	Wastewater from the Cities of Modesto and Turlock is currently being collected and treated; Funding received to increase the quantity of water delivered to the Project by the City of Ceres

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
NDM-4 / SJREC-7	Orestimba Creek Recharge and Recovery Project	DPWD / CCID	The Orestimba Creek Recharge and Recovery Expansion Project is a joint project between DPWD and CCID. The Project is designed to capture flood flows, excess winter flows, and Section 215 contract water (non- storable flows authorized by the USBR) from Orestimba Creek and the DMC for groundwater recharge and later use during dry periods. This project consists of a 20-acre recharge facility and a 60-acre recharge facility that were constructed in 2018 and 2024, respectively. Flood flows and surface water from DPWD and/or the SJREC entities are delivered to the site through an existing pipeline from the DMC. Another source of water for the recharge facility is excess flood flows from Orestimba Creek are routed through a pipeline to the project site. Diverting excess flood flows from Orestimba Creek provides additional flood protection to the City of Newman. The total 80-acre facility is estimated to recharge up to 15,000 acre-feet in a given year. During a Critical Year, the Project Partners can extract up to 7,500 AF of stored groundwater. The Project is estimated to generate 1,485 AF/year on average for the Project partners. Additionally, up to 35 cfs of flood flows can be diverted from Orestimba Creek reducing downstream pressure on the City of Newman, CCID's main canal, and the San Joaquin River.	X	X	X	X	Implementation underway	Public noticing as part of CEQA and NEPA	CEQA; NEPA; Stanislaus County Well Construction Permit; CDFW Section 1600 Streambed Alteration Permit; Central Valley RWQCB Clean Water Act Section 401 Permit; USACE Clean Water Act Section 404 Permit	Construction completed in February 2026; A Temporary Water Right Permit has been issued and an application for an appropriative water right has been filed
SJREC-8	Red Top Area Subsidence Mitigation	SJREC / Triangle T Water District	The Red Top Subsidence Mitigation project is located east of the San Joaquin River in the Red Top Area. This project is in an area significantly impacted by subsidence due to extracting groundwater from the aquifer below the Corcoran Clay. The Triangle T Water District, historically solely relying on groundwater, has purchased and delivered surface water through the pipeline under the San Joaquin River. Water delivered to Triangle T Water District is either used directly in lieu of pumping groundwater or delivered to recharge ponds. As a direct result of delivering surface water and developing a shallow groundwater recharge and recovery facility, the area uses the stored shallow groundwater and pumps less water from the aquifer below the Corcoran Clay. An expert panel has reviewed the area and determined a the sustainable yield from the aquifer below the Corcoran Clay that does not cause significant or unreasonable subsidence. There is also a mandatory step-down reduction each year from 2017-2021 for groundwater extractions from below the Corcoran Clay. The annual allowable extraction from below the Corcoran Clay per acre in the Triangle T Water District is respectively; 0.90, 0.75, 0.65, 0.60 and 0.50.The overall extraction is limited by the lesser of the mandatory step-down reduction or recommendation from the expert panel.	X		X		Implementation underway	Public noticing as part of CEQA and NEPA	CEQA; NEPA; California State Lands Commission Lease, CVFPB Permit, CDFW Streambed Alteration Permit, Central Valley RWQCB Clean Water Act Section 401 Permit, and USACE Clean Water Act Section 404 Permit	Operational
Tier 2 - Management Actions (Implemented by 2030)											
ALL-3	Basin-wide Pumping Reduction Plan	All GSAs	The GSAs have adopted a policy committing to collectively reduce the total groundwater pumping in the Basin by at least 42,000 AFY by 2030. Starting in January 2025 and for each year over the subsequent five years, each GSA Group will accomplish at least 20% of its total apportioned pumping reduction, accomplishing the total minimum reduction by the end of 2030. The Pumping Reduction Plan also includes a Monitoring and Data Collection Plan, Groundwater Level Minimum Threshold Avoidance Plan, Water Quality Minimum Threshold Exceedance Plan, and Subsidence Mitigation Plan, as detailed in Section 16.1.1 of this GSP.	X		X		Implementation underway	Adoption of individual policies at GSA Board Meetings	N/A	Complete. Refer to Appendix D of the WY2024 Annual Report.
AWD-4	Fallowing and Crop Conversion	AWD	Voluntary land fallowing is contingent on the willingness of farmers to either temporarily or permanently fallow their land. Farmers could be offered incentives to voluntarily to fallow their fields through subsidies, land purchases, and water credits for other fields. All farmers could pay into a GSA fund established by AWD, which could then be used as a subsidy to farmers who choose to fallow their land on a seasonal/annual basis. Farmers could take a portion of the water normally to be used on the fallowed acreage and apply it to different fields for a reduction in the fallow subsidy. For example, once an almond orchard has reached the end of its useful life, instead of the owner replanting, they would receive an incentive from the GSA not to replant. Another option could be incentives for crop conversion to lower-demand crops. Replacing existing crops with lower-demand crops could increase basin sustainability and reduce groundwater overdraft through a reduction in extractions for irrigation	X	X	X		As-needed to meet SMCs and address groundwater deficit	Outreach and education	N/A	A fallowing and crop conversion program is currently being discussed with an Ad Hoc Committee of growers within the AWDGSA. Included as part of AWD's pumping reduction in ALL-3.

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
Tier 2 - Projects (Implemented by 2030)											
CDM-4 / SJREC-9	Los Banos Creek Recharge and Recovery Project	SLWD / SJREC	The Los Banos Creek Recharge and Recovery Project is located in and adjacent to Los Banos Creek, which is south of the City of Los Banos between the San Luis Canal and CCID's Outside Canal. The Project will develop a recharge basin, convert three rock quarry pits/basins to temporary storage/recharge basins, construct three storage recovery sump pumps, six shallow groundwater recovery wells, a bridge crossing of Los Banos Creek, and a weir located just downstream of the Outside Canal. Project flood waters and surplus irrigation supply will be temporarily stored in the pits/basin for beneficial use and flood mitigation purposes with surplus waters percolated into the Upper Aquifer.	X	X		X	Implementation underway	Public noticing as part of CEQA	CEQA; NEPA; SWRCB Waste Discharge Requirement permit; Merced County Well drilling permit	Preliminary design completed in 2018; Funding Received in April 2022 from DWR's SGM Program SGMA Implementation - Round 1; Environmental review scheduled for summer 2025; Construction scheduled for 2026
CDM-5	Ortigalita Creek Groundwater Recharge and Recovery Project	SLWD	The Ortigalita Creek Groundwater Recharge and Recovery Project would use surplus surface water available to SLWD to recharge the Upper Aquifer near Ortigalita Creek.	X	X	X	X	Available Funding; Triggered by implementation of PRP	Public noticing as part of CEQA; Landowner outreach conducted	CEQA	Preliminary design complete; Funding requested under DWR's SGM Program SGMA Implementation - Round 2, but not received
CDM-6	Kaljian Drainwater Reuse Project	SLWD	The Kaljian Drainwater Reuse Project is located within SLWD's service area, approximately nine miles from the City of Los Banos. Project improvements include re-grading and/or installing lift pumps within the drainage ditches; construction of a turnout pipeline; modification of the Kaljian pump structure; and restoration of the Fitted and Kaljian pump stations, Kaljian pipeline, and 1st Lift Canal. The project will reclaim tile drain water from Charleston Drainage District for blending and permit conveyance of other supplies for beneficial use. Of the 1,200 AFY average yield, it is estimated that up to 500 AFY can be available for recharge, where a portion of this water may be directly recharged in the Los Banos Creek Recharge Project. This project will reduce dependence on imported water coming from the Delta by increasing local supply in utilizing the local tile drain water to augment irrigation supplies (including offset groundwater pumping to meet crop demand not met by surface water supplies).	X	X	X	X	Implementation underway	Public noticing as part of CEQA	CEQA; NEPA	FS complete; Design and CEQA/permitting in progress; Design planned between 2020 and 2025; Construction planned beginning in 2025.
GWD-5	Basins and Storm Water Capture Project	GWD	The City of Los Banos, Grassland Water District, and associated GSAs are exploring options to expand and improve storm water capture from local rivers and streams, as well as flood protection, groundwater recharge, wildlife refuge supply flexibility, groundwater quality and quantity improvements. Initially, a 150-acre+/- City of Los Banos owned/farmed site has been identified. Site investigations, CEQA and preliminary plans for turnouts and basin cells are being prepared for this City "Recharge Basins and Stormwater Capture Project."	X	X		X	Implementation underway	Public noticing as part of CEQA; Public noticing and notice to Board for consideration. Additional public noticing/workshops may occur.	CEQA; Approval for diversion of flood flows, permitting under AB 658	The construction plans and specification were completed and the project went out to bid. The City of Los Banos awarded a contract for construction in October 2025 and construction of the basins commenced in December. As designed, the site can hold 593 AF when full.

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
NDM-5	WSID Lateral 4- North Recapture and Recirculation Reservoir	WSID	The WSID Lateral 4-North Recapture and Recirculation Reservoir project will be implemented by WSID. This project consists of a reservoir on a 7-acre parcel currently not in production. The reservoir, once complete, will collect operational spill from two distribution laterals and irrigation tailwater on the north side of WSID's service area and store those waters for reliable use downstream. This project will also provide two additional benefits: First, the project will allow flexible water delivery service to users during times of drought or capture constraints; and second, the project will improve water quality to downstream users by mixing water from the DMC with surface water of lesser quality from the San Joaquin River. This project is estimated to result in roughly 1,800 AFY of recapture, of which approximately 270 AFY will percolate through the reservoir bottom and recharge the underlying Upper Aquifer helping to offset groundwater extractions in other locations of the Subbasin.	X	X	X	X	Implementation underway and should be functional by end of 2026	CEQA is Complete	CEQA	Construction began in October of 2025 and the project would be operational by December 2026.
NDM-6	WSID Lateral 4- South Recapture and Recirculation Reservoir	WSID	The WSID Lateral 4-South Recapture and Recirculation Reservoir project would be similar to the WSID 4- North Recapture and Recirculation Reservoir project, but on the south side of the District's service area. WSID would identify a parcel to construct a new reservoir to collect operational spill from distribution laterals and irrigation tailwater on the south side of the District and store those waters for reliable use downstream. For planning purposes, it is assumed 1,800 AFY could be recaptured and reused. Like the recapture and recirculation reservoir project on the northern end of the District, this project would also improve water supply reliability during droughts or in times of capture constraints. It is assumed 270 AFY of water would percolate through the reservoir bottom and recharge the underlying Upper Aquifer, helping to offset groundwater extractions in other locations of the Subbasin.	X	X	X	X	Implementation underway	Public noticing as part of CEQA	CEQA	Preliminary design anticipated to start in September 2024
NDM-7	PID Groundwater Bank and/or Flood-Managed Aquifer Recharge (MAR) type Project	PID	Within PID's service area, there are currently approximately 800 to 900 acres fallow each year. The University of California at Davis' SAGBI index was used to assess the range of potential groundwater recharge volumes that could be achieved given those fallow acres. Based on the analysis conducted, the PID service area has the potential to recharge between 3,000 AFY and 9,700 AFY on the fallowed land. As a pre-1914 water rights holder, PID has access to surplus surface water from the San Joaquin River that can be used for Upper Aquifer recharge. It is assumed 3,000 AFY could be percolated in Average WYs with a larger volume during Wet WYs. Recharge would occur over a 120-day period from January through March.	X	X		X	Implementation underway	Public noticing as part of CEQA	CEQA	Feasibility study complete; Purchased potential property for small project; pilot study anticipated for 2024
NDM-8	East-West Conveyance Project	PID	The East-West Conveyance Project is a series of improvements along the Patterson Irrigation District (PID) Main Canal all the way to the Delta-Mendota Canal (DMC). The goal of the improvements are to increase PID's conveyance capacity from the beginning to the end of the facilities to match PID's diversion off of the San Joaquin River to 200 cubic-feet per second (cfs). Currently, PID can divert 200 cfs under its current water right; however, the discharge into the DMC is only 35 cfs. The increase to 200 cfs (i.e., increase of up to 120,000 AFY) will provide PID the ability to move water for others to aid in facilitating water transfers, recapturing San Joaquin River Restoration Flows, and recapturing spills from other agencies to recirculate into the DMC to help with water supply shortages.	X				Implementation Underway	Public noticing as part of CEQA / NEPA	CEQA, NEPA, Cal Trans encroachment, Northern Pacific Railroad encroachment, Stanislaus County Pipe Maintenance Agreement & Encroachment Permits, and Local Landowners for Right-of-Way	Under Construction
SJREC-10	City of Los Banos Wastewater Treatment Facility Tertiary Upgrade	City of Los Banos	This project will upgrade the City of Los Banos' existing wastewater treatment facility to provide tertiary treatment for recycled water. It is estimated that the City will be able to reuse and reclaim 7,000 AFY.	X	X	X		Implementation underway	Public noticing as part of CEQA	CEQA, RWQCB, DWR	Planning phase; conducting feasibility study

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
Tier 3 Projects (Implemented by 2040)											
NDM-9	Little Salado Creek Groundwater Recharge and Flood Control Basin	Stanislaus County	The Little Salado Creek Groundwater Recharge and Flood Control Basin project, proposed by Stanislaus County, consists of constructing a stormwater detention basin to partially divert, retain, and percolate up to 270 cfs of flow from Little Salado Creek. Little Salado Creek has a drainage of 874 AFY. It was assumed the detention basin would recharge 489 AFY in Wet WYs (San Joaquin River WY Index). The basin would be located in the future Crows Landing Industrial Business Park (CLIBP) and would have a capacity of 380 AF. The project will provide flood relief to the downstream City of Patterson and the Upper Aquifer recharge will offset groundwater pumping required to supply the new development, thereby limiting impacts on Upper Aquifer groundwater elevations and storage due to CLIBP development.	X	X		X	Available Funding; Triggered by implementation of PRP	Public noticing as part of CEQA	CEQA	Will proceed with design once funding is secured; Drainage study completed in November 2016; EIR completed in 2018; Project will be constructed as part of the mitigation activities related to the construction and operation of the Crows Landing Industrial Business Park
NDM-10	City of Patterson Percolation Ponds for Stormwater Capture and Recharge	City of Patterson	The City of Patterson Percolation Ponds for Stormwater Capture and Recharge project consists of constructing percolation ponds to capture and infiltrate stormwater from Del Puerto Creek. The ponds will cover roughly 14 acres. Sizing of the percolation ponds is based on existing infiltration rate data and will be updated when field investigations are completed. Implementation of this project may be phased such that the ponds are constructed over a number of years. The project is anticipated to result in 1,700 AFY of direct groundwater recharge using stormwater runoff captured within the City and conveyed to recharge locations.	X	X	X	X	Available Funding; Triggered by implementation of PRP	Public noticing as part of CEQA	CEQA	Included in Water Master Plan; Project still in conceptual/planning phase; project design activities commenced in WY2022 City is looking to expand project with multiple benefits and project partners.
NDM-11	Del Puerto Canyon Reservoir Project	DPWD	The Del Puerto Canyon Reservoir Project will construct a 270-foot tall earthen dam at the mouth of Del Puerto Canyon providing 82,000 AF of storage for DPWD and the member agencies of the San Joaquin River Exchange Contractors Water Authority (SJRECWA). Water would be pumped into the reservoir from the DMC when excess water is available and discharged back to the DMC when necessary. Minimal seasonal storm flows through Del Puerto Canyon would be captured by the reservoir and discharged perennially to Del Puerto Creek for downstream use. The Districts would be storing CVP supplies from their annual entitlements when excess to their immediate needs. This project would benefit the region by allowing the Districts to store water south of the Delta when excess water is available to them and utilize that water during dry periods when supplies may be limited. Project partners anticipate that they will utilize up to 20,000 AFY of their portion of the reservoir during dry years.	X	X	X	X	Implementation underway	Public noticing as part of CEQA and NEPA	CEQA; NEPA	PRDEIR expected to be recirculated in December 2025; EIS circulated in December 2025; 30% design completed in 2025; Permitting and final design are anticipated to be complete in 2027; Construction is estimated to be complete in 2037
SJREC-11	BB Limited Groundwater Recharge and Recovery	SJREC	The BB Limited Recharge and Recovery project is located in an existing 13-acre site north of the existing Meyers Water Bank (recently renamed to Mendota Water Bank) east of the City of Mendota. Surface water from the SJREC will be delivered to the site. Additionally, excess flood water from the Kings River and/or San Joaquin Rivers will be diverted to the site. The total 13-acre facility is expected to recharge upwards of 1,500 acre-feet in a given year. During a Critical Year, the member agencies of the SJREC can extract up to 4,000 acre-feet of stored groundwater. It is anticipated that the SJREC will recharge over 4,000 AF over three consecutive years and ultimately extract 4,000	X	X			Implementation underway	Public noticing as part of CEQA	CEQA; NEPA; Fresno County Well Construction Permit	Environmental review in progress; implementation on hold

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
			AF in a subsequent Critical Year. This facility will be managed to recharge and store more water than will be extracted. The excess recharged water will help offset regional groundwater usage near the Mendota Pool.								
SJREC-12	City of Los Banos Stormwater Management Master Plan	City of Los Banos	This project involves the development of a stormwater detention basin as part of the implementation of the Los Banos regional storm management plan. Captured stormwater will be used for the City's water supply and groundwater recharge. The project is expected to provide an additional 10,000 AFY of supply.	X				Implementation underway	Public noticing as part of CEQA	Merced County permitting; CEQA	Planning phase; conducting feasibility study
Tier 4 Management Actions (Implemented After 2040 or As-Needed)											
AWD-5	Incentivize On-Farm irrigation Efficiency Improvements	AWD	AWD has an area of approximately 26,000 acres comprised mostly of farmland irrigated primarily by private wells. Typical irrigation methods include sprinklers, drip/micro irrigation, and surface/flood irrigation. The average on-farm irrigation system was estimated to be approximately 70% efficient over the 10-year historic water budget period (2003-2012; Aliso Water District, 2022). However, actual irrecoverable losses due to irrigation efficiency may be underestimated. Offering incentives to farmers for implementing projects that will increase on-farm efficiencies can promote aquifer sustainability by reducing or eliminating water that leaves the District via irrigation runoff, wind and spray loss, and leaks. Growers may also see decreased operational and pumping costs and possible increases in yield per acre-foot of water applied as a result of raising irrigation efficiency. Possible projects to incentivize may include installation of soil moisture sensors, utilization of high-efficiency irrigation methods, installation of meters, and updated delivery systems.	X	X	X		Will be implemented if more incentive is needed beyond groundwater extraction fees (AWD- 1)	45-day notice and public hearing for Fees	Prop. 218	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-6	Internal Groundwater Marketing Program	AWD	This project would establish a groundwater marketing program within the GSA. The GSA should acknowledge and discuss any other groundwater credit systems before creating a new one. The establishment of groundwater marketing programs require significant pre-planning, including establishing extraction policies and developing water quality standards. If implemented, this project would provide groundwater users with the flexibility to fairly and responsibly store groundwater allocations in order to reserve their allocation for later use or transfer their allocation to other parties.	X	X	X		Will be implemented if more incentive is needed beyond groundwater extraction fees (AWD- 1)	Outreach and education	N/A	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
CDM-7 / NDM-12	Maximizing Use of Other Water Supplies	GSAs in the Northern and Central Delta-Mendota GSA Groups	Maximizing the use of water supplies other than groundwater can improve the quality and volume of groundwater in storage in each principal aquifer. Where possible, surface water, recycled water, stormwater, and tile drain water will be used to offset groundwater deficits. In order to implement this management action, the GSAs will develop a program to incentivize the use of alternative supplies over groundwater when possible. This program may also include, but is not limited to, taking advantage of available surplus surface water for groundwater recharge in order to increase groundwater levels in the Upper Aquifer. Surplus surface water is typically available during Wet and Above Normal WYs when surface water supplies exceed demand. If a GSA or GSA member agency has rights to surface water and all demands have been met, the surplus water can be used for recharge through an existing groundwater recharge project or fallowed lands and/or sold to entities without surface water rights to offset groundwater pumping. As less groundwater is pumped, groundwater levels and storage could remain the same or increase, overall groundwater quality could improve, and subsidence could be reduced or eliminated in certain areas.	X	X	X	X	To be implemented upon adoption of this GSP	N/A	N/A	Not yet initiated
CDM-8 / NDM-13	Rotational Fallowing of Crop Lands	GSAs in the Northern and Central Delta-Mendota GSA Groups	Agricultural water use can be temporarily reduced by fallowing crop lands. While this can have economic impacts to a region, the benefits can include improved water supply reliability, improved groundwater quality, increased groundwater levels, reduced subsidence, and operational flexibility. Rotational fallowing of crop lands reduces the economic impacts to any one area by rotating the areas of fallowing. This management action could be combined with a recharge project through the application of surplus water supplies to the fallowed lands resulting in in-lieu groundwater recharge.	X	X	X		As-needed to meet SMCs after implementation of other P/MAs	Public noticing as part of CEQA	CEQA	Not yet initiated

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
CDM-9 / NDM-14	Groundwater Extraction Fee with Land Use Modifications	GSAs in the Northern and Central Delta-Mendota GSA Groups	A groundwater extraction fee or groundwater production charge could be collected from entities that own or operate a water-producing well. Revenue from these fees could then be used to pay for a variety of activities such as the construction of water infrastructure, protection of groundwater, proper construction and destruction of wells to prevent contamination, groundwater recharge and recovery projects, purchase of imported water or other supplies to replenish the groundwater basin, and/or purchasing and permanent fallowing of marginally-productive agricultural lands dependent on groundwater. Several agencies in California have already implemented such a program and have seen success in utilizing revenue to benefit the local groundwater basin. A similar methodology could be applied by various agencies within the Northern and Central Delta-Mendota Regions.	X	X	X	X	As-needed to meet SMCs after implementation of other P/MAs	TBD	Proposition 218 or through local rate setting	Not yet initiated
GWD-6	Increasing Access to Excess Non-CVP Surface Water	Grasslands GSA and MCDMGSA	The GSAs may adopt a policy to define a method by which excess non-CVP surface water can be conveyed to groundwater users within the Plan Area. The GSAs may consider a variety of structures that adhere to the limitations of available water supplies and allowable water uses.	X				As-needed to meet SMCs after implementation of other P/MAs	Public noticing and Board for consideration. Additional public noticing and workshops may occur	Adoption of GSA resolution	Not yet initiated
GWD-7	Canal Improvements	Grasslands GSA and MCDMGSA	The GSA will continue to modernize its water control facilities, restore conveyance capacities, and increase monitoring for decision support and remote control and may develop further policies to assist in these endeavors.	X				As-needed to meet SMCs after implementation of other P/MAs	Public noticing and Board for consideration. Additional public noticing and workshops may occur	N/A	Not yet initiated
GWD-8	Require Developments to Prove Sustainable Water Supplies	Grasslands GSA and MCDMGSA	The GSAs may adopt a policy to require new developments (non-de minimis extractors) to prove their usage of sustainable water supplies based upon current SMC. The GSAs may review and comment on environmental review documents for proposed development projects to ensure a sustainable water balance and the adoption of corresponding mitigation measures. Requires County support.	X				As-needed to meet SMCs after implementation of other P/MAs	Public noticing and Board for consideration. Additional public noticing and workshops may occur	GSA adoption of resolution	Not yet initiated
GWD-9	Recharge Estimation Methods	Grasslands GSA and MCDMGSA	The GSAs may adopt a policy to better estimate recharge occurring from managed wetland uses within the Plan Area. The GSAs may consider a variety of methods, likely based on field measurements of inflows, outflows, pond levels, and groundwater elevations. The GSAs may conduct soil and percolation studies to better understand site-specific recharge.	X			X	As-needed to meet SMCs after implementation of other P/MAs	N/A	N/A	Not yet initiated
NDM-15	City of Patterson Reduced Groundwater Use Portfolio	City of Patterson	The City of Patterson's 2018 Water Master Plan evaluated various water supply portfolios to meet anticipated future supply gaps (i.e., the City's existing supply subtracted from future demands). The two most relevant portfolios include the Patterson Control Portfolio and Low Reliance on Groundwater (2) Portfolio. The preferred portfolio, Patterson Control Portfolio, provides the City independent control of its water supply and easier implementation of water supply projects. The Low Reliance on Groundwater (2) Portfolio would diversify the City's water supply portfolio to reduce the City's groundwater use with the addition of a long- term surface water transfer in which the City negotiates a long-term contract to purchase water from another entity. The City could explore a long-term water transfer and move forward towards the Low Reliance on Groundwater (2) Portfolio to further reduce groundwater extractions from the Lower Aquifer, if needed.	X		X		As-needed to meet SMCs after implementation of other P/MAs	N/A	N/A	Not yet initiated

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
Tier 4 Projects (Implemented After 2040 or As-Needed)											
AWD-7	USBR 215 Flood Water	AWD	Section 215 of the Reclamation Reform Act of 1982 (Public Law 97-293) defines temporary non-storable water supplies that can be released by the USBR from their facilities. The release of Section 215 water occurs during years of above-average precipitation when water levels encroach on flood-control levels. Section 215 flows are defined as unusually large temporary water supplies that cannot be stored for project purposes. Acquiring a Section 215 contract allows these flows to be applied to lands that would otherwise not receive Federal water. This water would be accessed by the District from the San Joaquin River through existing turnouts if made available from the CVP Friant system.	X	X	X		Initiation upon acquiring water contract	N/A	Section 215 water contract with USBR	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-8	Banking Out-of- District Water	AWD	There is potential for AWD to bank water on behalf of other entities. AWD's proximity to the Mendota Pool gives them a connection to various sources of water. This water could be banked within AWD via direct or in- lieu methods. Additionally, AWD's vast number of wells would have the capacity to return the banked water. AWD would bank the water through an unbalanced exchange. For example, they could take 3 AF of wet year water from an agency and return 1 AF in a dry year (3:1 exchange). This nets 2 AF of import available to AWD's sustainable yield. It is recognized that any banking projects within Madera County will need to be in compliance with groundwater exporting and banking regulations per Madera County.	X	X	X		Agreements with surrounding entities	N/A	N/A	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-9	Latent Water Rights	AWD	Cursory investigations indicate that prior to the formation of the AWD, water rights have historically existed in the area. This land was originally partially Miller and Lux land holdings. The lands were subsequently and progressively subdivided to their current state. An appropriative water right license (License 1986) originally served the Aliso Canal from a turnout on the San Joaquin River. With the development of the CVP Friant System, this appropriation was sold to the USBR. Later court cases (Haines Decree, Rank Vs. Krug) awarded riparian water rights and groundwater to lands adjacent to the SJR. The District will consider investigating whether latent rights to water exist and to what extent.	X	X	X		Initiation upon water right investigation findings	N/A	N/A	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-10	Water Contracts	AWD	AWD's proximity to the SJR and the Mendota Pool makes it possible to receive CVP water from either the Friant or Westside systems. Purchasing an assignment of CVP contract water could provide a secure supply of water to the District on a long-term basis. It also streamlines access to Section 215 water and transfers with other contractors.	X	X	X		Initiation upon water right investigation findings	N/A	CVP contract with USBR	This is currently being investigated.
AWD-11	Water Exchange/Transfers/Purchases	AWD	The AWD GSA could exchange, transfer, or purchase water from other public or private agencies as opportunities arise. This water is likely to be expensive and would probably be negotiated on an annual basis. Water could be used within AWD for direct or indirect recharge to help alleviate overdraft conditions and establish aquifer sustainability. If a lack of infrastructure prevents purchased water from being used within the GSA, agreements could be made with neighboring agencies to bank or recharge the water on behalf of AWD.	X	X	X		Pending agreements and opportunities to exchange/transfer/purchase water from other agencies	N/A	CEQA	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-12	Improving Aliso Canal Turnout on San Joaquin River	AWD	The current condition of the Aliso Canal turnout does not allow for adequate flow through it except during extremely high flows. Presently, the District cannot physically divert water at this turnout until the flow in the San Joaquin River at the Gravelly Ford gaging station is 3,000 cfs. There are two reasons for this: 1) the turnout sits too high above the San Joaquin River invert to allow water to enter, and 2) lack of maintenance in the river has created an impediment prohibiting the water from reaching the turnout. Improving the existing turnout on the San Joaquin River would allow AWD to access water at lower flow rates which could facilitate access to non-flood water (e.g., transfers) as well as excess flood waters at lower flow rates without relying on the Chowchilla Bypass. Access to water from this location would also encourage the development of other projects such as restoration of the Aliso Canal and usage of the Aliso Lateral as a recharge facility.	X	X	X		Pending turnout improvements	N/A	CDFW streambed alteration permit	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.

P/MA Number	P/MA Name	Project Proponent	Summary Description	Relevant Sustainability Indicators Affected				Circumstances / Timetable for Implementation	Public Noticing Process	Permitting and Regulatory Process Requirements	Status
				Groundwater Levels and Storage	Groundwater Quality	Land Subsidence	Interconnected Surface Water				
AWD-13	Restoration of the Aliso Canal for Conveyance from SJR to Cottonwood Creek	AWD	This project would reestablish use of the Aliso Canal from the San Joaquin River at the Aliso Turnout (southerly border) to Cottonwood Creek in order to provide landowners with access to surface water. The Aliso Canal once started at the San Joaquin River and terminated just south of the Fresno River. As the farmland in the area was subdivided, the channel was filled in and farmed on by individual landowners. With the reestablishment of the Aliso Canal, properties on the easternmost side of the District would have opportunities to utilize surface water diverted from the Chowchilla Bypass or the San Joaquin River for irrigation or recharge. This project has the potential to double the amount of acreage that can currently utilize surface water, essentially doubling the amount of surface water diverted into the district. This project will be feasible once the Aliso Canal turnout is improved and a turnout is established on the Chowchilla Bypass at Cottonwood Creek.	X	X	X		Pending turnout improvements	N/A	CEQA	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-14	Bypass Pipeline Crossing	AWD	This project consists of construction of a buried pipeline across the Chowchilla Bypass in order to deliver non- flood water purchased from the Mendota pool to be wheeled through the Columbia Canal Company and New Columbia Ranch to the east side of the District. Water could be placed in recharge cells or used directly for irrigation. The benefit would depend on available supplies and capital costs would be higher than the other projects.	X	X	X		Pending water agreements	Public noticing as part of CEQA	CVFPB, CDFW streambed alteration permit	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-15	Restoration of the Aliso Canal for Conveyance from Cottonwood Creek to Northerly Boundary	AWD	This project would reestablish use of the Aliso Canal from Cottonwood Creek to the northerly border of the District in order to provide landowners with access to surface water. The Aliso Canal once started at the San Joaquin River and terminated just south of the Fresno River. As the farmland in the area was subdivided, the channel was filled in and farmed on by individual landowners. With the reestablishment of the Aliso Canal, properties on the easternmost side of the District would have opportunities to utilize surface water diverted from the Chowchilla Bypass or the San Joaquin River for irrigation or recharge. This project has the potential to double the amount of acreage that can currently utilize surface water, essentially doubling the amount of surface water diverted into the district. This project will be feasible once the Aliso Canal turnout is improved and a turnout is established on the Chowchilla Bypass at Cottonwood Creek.	X	X	X		Pending water rights from Chowchilla Bypass	Public noticing as part of CEQA	CEQA	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-16	Aliso Lateral as Linear Recharge Ponds	AWD	Under this project, the existing Aliso Lateral would be utilized as a linear recharge pond. The Aliso Lateral is impacted during flood periods with relocated seepage water, meaning that usage of the Lateral as a recharge pond would only be feasible with non-flood water. There are no earthwork modifications or additional check structures necessary for the Lateral to operate as a linear recharge pond.	X	X	X		Initiation upon securing non-flood water supplies	N/A	N/A	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-17	Recharge in Bypass	AWD	This project would recharge water in the Chowchilla Bypass when it is not in use conveying flood water. This would require coordination with the Lower San Joaquin Levee District for access and operations agreements. It would also require a non-flood source of water.	X	X	X		Initiation upon coordination with the Lower San Joaquin Levee District	N/A	N/A	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.
AWD-18	Groundwater Injection Wells	AWD	Groundwater injection wells recharge groundwater by pumping surface water into the aquifer through a well or set of wells. This type of recharge can be beneficial for recharging the lower aquifer as well as the upper. Injection wells have the same benefits as recharge basins, but they pose a vastly different set of challenges. Injection wells are not as limited by available land due to their small footprint and are not affected by evaporation losses. They are dependent on soil types for recharge rates, but not in the same way as recharge basins. Challenges unique to injection wells are the need to treat surface water prior to injection to protect aquifer water quality, variations in recharge rates due to differing water quality, the dangers of air content between injected water and groundwater, and the time and budget challenges associated with additional permitting. Existing water wells may be useable for retrofitting to injections wells.	X	X	X		As-needed to meet SMCs and address groundwater deficit; likely after 2035	Public noticing as part of CEQA	CEQA	At the time of this report, there is no need for the implementation of this Tier 4 P/MA.

P/MA Number	P/MA Name	Timetable for Completion	Timetable for Accrual of Expected Benefits	Expected Benefits						Source(s) of Water, if applicable	Legal Authority Required	Estimated Costs		
				Primary		Secondary								
				Water Supply Augmentation	Water Demand Reduction	Water Quality Improvement	Flood Control	Water Management Flexibility	Data Gap Filling/ Monitoring			Capital Costs	On-going Costs	Potential Funding Source(s)
Tier 1 - Management Actions (Implemented Prior to 2025)														
ALL-1	GSA Well Permitting and Metering	Ongoing	2021					X	X	N/A	Authority as a GSA under Governor Newsom's Executive Order N-7-22	$5,000 / well (Metering)	TBD	Well permit application fees (permitting); GSAs/Districts (metering)
ALL-2	Well Cataloging	Ongoing	2021					X	X	N/A	N/A	$50,000	$5,000	GSAs/Districts
AWD-1 / NDM-1	Groundwater Extraction Fees / Incentives for Surface Water Use	Ongoing	2020		TBD					N/A	Authority of GSA under SGMA to develop and implement the GSP	$0	TBD	AWD/DPWD
CDM-1	Revision to Tranquillity Irrigation District Lower Aquifer Pumping	Ongoing; Operations established on an annual basis	2017		5,000 - 7,000 AFY					N/A	Existing authority	$0	$0	N/A
NDM-2	Drought Contingency Planning in Urban Areas	Ongoing	2020		TBD			X		N/A	Authority of Urban Water supplies to implement the UWMP	TBD	TBD	City of Patterson
SJREC-1	Groundwater Allocations - Madera County GSA	Ongoing	2021		Included in the Basin-wide Pumping Reduction Plan (ALL-2)				X	N/A	Authority of GSA under SGMA to develop and implement the GSP	$0	$0	N/A
SJREC-2	Private Well Pumping for Credits	Ongoing	Ongoing					X		N/A	Existing authority	$0	$0	N/A
SJREC-3	Mitigation for Migration of Shallow Saline Groundwater	Ongoing	Ongoing			X				N/A	Existing authority	N/A	N/A	FCWD / CCID
SJREC-4	Annual Groundwater Assessment Report	Ongoing	Ongoing						X	N/A	N/A	$0	$10,000	SJREC
Tier 1 - Projects (Implemented Prior to 2025)														
AWD-2	San Joaquin River and Chowchilla Bypass Flood Water	Temporary permit granted in 2023	2023	up to 10,000 AFY during wet years		X	X	X		San Joaquin River flood flows (via the Chowchilla Bypass)	SWRCB Approval of Right to Appropriate Water	Temporary Water Rights Application: $6,000 Permanent Water Rights Application: $150,850	Temporary Water Rights Renewal: $3,500 / year Permanent Water Rights fees: $225 / year	AWD
AWD-3	Chowchilla Bypass Recharge Facility	2020	2023	up to 10,000 AFY recharge in wet years (same supply as AWD-2)	250 AFY from retirement of agricultural land		X	X		San Joaquin River flood waters (via the Chowchilla Bypass)	Land acquisition; easements for new turnouts; agreement from CVFPB and USACE to construction turnout in the Bypass levee system; SWRCB appropriative water rights	$5-10 Million	$80,000	AWD; Grants

P/MA Number	P/MA Name	Timetable for Completion	Timetable for Accrual of Expected Benefits	Expected Benefits						Source(s) of Water, if applicable	Legal Authority Required	Estimated Costs		
				Primary		Secondary								
				Water Supply Augmentation	Water Demand Reduction	Water Quality Improvement	Flood Control	Water Management Flexibility	Data Gap Filling/ Monitoring			Capital Costs	On-going Costs	Potential Funding Source(s)
CDM-2 / GWD-1 / SJREC-5	Los Banos Creek Diversion Facility	Completed in 2017	2017	7,000 AFY			X	X		Los Banos Creek Watershed	Existing authority	$3,100,000	$1,000	CCID / GWD / SLWD
CDM-3 / GWD-2 / SJREC-6	Los Banos Creek Dentation Reservoir Regulation and Storage Project (previously known as Los Banos Creek Storage Project)	2025	2025	8,000 AF of storage			X	X		Conserved water or groundwater	Existing authority	$3,900,000	TBD	SGM Program SGMA Implementation – Round 1 Grant
GWD-3	North Grassland Water Conservation and Water Quality Control Project	Construction of enhancements anticipated complete in 2026	2020	16,000 AFY (current); additional 14,000 AFY beginning in 2026		X	X	X		Recirculation of GWD conveyance system and maintenance flows	Existing authority	$17,700,000	$700,000	GWD
GWD-4 / NDM-3	North Valley Regional Recycled Water Program - Modesto and Early Turlock Years	2017	Beginning in 2017; increasing benefits through 2040	27,000 AFY (2023) to 59,000 AFY - 2040				X		Municipal wastewater and stormwater from the Cities of Ceres, Turlock, and Modesto	Existing authority	$96,000,000	$1,400,000	Grant funding (Clean Water State Revolving Fund; Water Recycling Funding Program; Title XVI-WIIN; CNRA Prop 1 and USBR) / DPWD
NDM-4 / SJREC-7	Orestimba Creek Recharge and Recovery Project	2025	2025	up to 7,500 AFY of recharge for each project partner in wet years	250 AFY from retirement of agricultural land	X	X	X		Orestimba Creek flood flows, Section 215 contract water, contract water	Existing authority	$15,000,000	$500,000	Grant funding (IRWM Grant Program; SWRCB Stormwater Grant Program, USBR); DPWD; CCID
SJREC-8	Red Top Area Subsidence Mitigation	2017	2017	5,000 AFY (outside of the Basin)						Surface Supplies from CCID's Poso Canal	Existing authority	$1,125,000	$0	SJREC
Tier 2 - Management Actions (Implemented by 2030)														
ALL-3	Basin-wide Pumping Reduction Plan	2025	2030		42,000 AFY					N/A	Authority of GSA under SGMA to develop and implement the GSP	TBD	TBD	All GSAs
AWD-4	Fallowing and Crop Conversion	2025	2030		Included in ALL-3	X				N/A	Authority of GSA under SGMA to develop and implement the GSP	TBD	TBD	AWD

P/MA Number	P/MA Name	Timetable for Completion	Timetable for Accrual of Expected Benefits	Expected Benefits						Source(s) of Water, if applicable	Legal Authority Required	Estimated Costs		
				Primary		Secondary								
				Water Supply Augmentation	Water Demand Reduction	Water Quality Improvement	Flood Control	Water Management Flexibility	Data Gap Filling/ Monitoring			Capital Costs	On-going Costs	Potential Funding Source(s)
Tier 2 - Projects (Implemented by 2030)														
CDM-4 / SJREC-9	Los Banos Creek Recharge and Recovery Project	2027	2027	2,000 AFY during Shasta Non-Critical Years		X	X	X		Los Banos Creek flood flows; surplus irrigation supply	Existing authority	$9,116,374	$5,000	SGM Program SGMA Implementation – Round 1 Grant
CDM-5	Ortigalita Creek Groundwater Recharge and Recovery Project	2026	2026	up to 16,000 AFY of recharge in wet years		X	X	X		Storm water; surplus supplies available to SLWD	Existing authority	$6,466,200	TBD	Grant funding (USBR); SLWD
CDM-6	Kaljian Drainwater Reuse Project	2025	2026	1,200 AFY		X	X	X		San Joaquin River and Kings River flood waters	Existing authority	$16,500,000	TBD	Grant funding (USBR); SLWD
GWD-5	Basins and Storm Water Capture Project	2026	2026	500 AFY of recharge in wet years		X	X	X		Excess water from local precipitation	Authorization from USBR	$3,200,000	$20/AF	GWD
NDM-5	WSID Lateral 4-North Recapture and Recirculation Reservoir	2025	2025	1,800 AFY of recapture; 270 AFY recharge		X		X		Operational spill	Existing authority	$5,200,000	$15,000	SGM Program SGMA Implementation – Round 1 Grant
NDM-6	WSID Lateral 4-South Recapture and Recirculation Reservoir	2026	2026	1,800 AFY of recapture; 270 AFY recharge		X		X		Operational spill, CVP Supplies	Existing authority	$5,200,000	$15,000	State Grant Funds (TBD)
NDM-7	PID Groundwater Bank and/or Flood- Managed Aquifer Recharge (MAR)- type Project	2029	2029	up to 3,000 AFY recharge in wet years		X	X	X		Surplus surface water from the San Joaquin River (pre-1914 water rights)	Existing authority	$3,286,000	N/A	PID; Grant funding (TBD)

P/MA Number	P/MA Name	Timetable for Completion	Timetable for Accrual of Expected Benefits	Expected Benefits						Source(s) of Water, if applicable	Legal Authority Required	Estimated Costs		
				Primary		Secondary								
				Water Supply Augmentation	Water Demand Reduction	Water Quality Improvement	Flood Control	Water Management Flexibility	Data Gap Filling/ Monitoring			Capital Costs	On-going Costs	Potential Funding Source(s)
NDM-8	East-West Conveyance Project	2027	2029	Increase in capacity to provide up to an additional 120,000 AFY of supply in wet years				X		San Joaquin River (pre-1914 water rights)	Existing authority	$69,000,000	$2,000,000	Federal Inflation Reduction Act funding ($40M), Proposition 1 ($2.9M), California General Fund Appropriations ($5M), PID ($21M)
SJREC-10	City of Los Banos Wastewater Treatment Facility Tertiary Upgrade	2028	2030	7,000 AFY		X		X		Wastewater from the City of Los Banos	Existing authority	$80,000,000	$2,000,000	City
Tier 3 - Projects (Implemented by 2040)														
NDM-9	Little Salado Creek Groundwater Recharge and Flood Control Basin	2032	2032	up to 489 AFY recharge in wet years		X	X	X		Little Salado Creek flood flows	Existing authority	$7,710,000	TBD	State Grant Funds (TBD); Local Funds
NDM-10	City of Patterson Percolation Ponds for Stormwater Capture and Recharge	2 years for design and permitting, pending available funding	2035	1,700 AFY				X		Stormwater from Del Puerto Creek	Existing authority	$7,800,000	TBD	State Grant Funds (TBD); City of Patterson
NDM-11	Del Puerto Canyon Reservoir Project	Permitting and final design anticipated completion in 2028; construction completion in 2037	2035	up to 35,570 AFY in wet years			X	X		CVP supplies; flood flows from Del Puerto Creek	Existing authority	$1,100,000,000	TBD	WIIN Grant Program; DPWD; SJREC
SJREC-11	BB Limited Groundwater Recharge and Recovery	2030	2030	up to 4,000 AFY recharge in wet years			X	X		SJREC surface supplies; Kings River and/or San Joaquin River flood flows	Existing authority	$600,000	$2,000	SJREC
SJREC-12	City of Los Banos Stormwater Management Master Plan	2030	2035	10,000 AFY			X	X		Stormwater capture (precipitation)	Existing authority	$5,000,000	$300,000	City
Tier 4 Management Actions (Implemented After 2040 or As-Needed)														
AWD-5	Incentivize On-Farm irrigation Efficiency Improvements	TBD	TBD		TBD					N/A	Authority of GSA under SGMA to develop and implement the GSP	$50,000	N/A	AWD
AWD-6	Internal Groundwater Marketing Program	TBD	TBD		TBD					N/A	Authority of GSA under SGMA to develop and implement the GSP	TBD	TBD	AWD

P/MA Number	P/MA Name	Timetable for Completion	Timetable for Accrual of Expected Benefits	Expected Benefits						Source(s) of Water, if applicable	Legal Authority Required	Estimated Costs		
				Primary		Secondary								
				Water Supply Augmentation	Water Demand Reduction	Water Quality Improvement	Flood Control	Water Management Flexibility	Data Gap Filling/ Monitoring			Capital Costs	On-going Costs	Potential Funding Source(s)
CDM-7 / NDM-12	Maximizing Use of Other Water Supplies	TBD	TBD		TBD	X	X	X		Surplus surface water, recycled water, stormwater, and/or tile drain water would be used to offset groundwater deficits	Authority of GSA under SGMA to develop and implement the GSP	TBD	TBD	Local funds
CDM-8 / NDM-13	Rotational Fallowing of Crop Lands	TBD	TBD		TBD	X				N/A	Authority of GSA under SGMA to develop and implement the GSP	TBD	TBD	Local Funds
CDM-9 / NDM-14	Groundwater Extraction Fee with Land Use Modifications	TBD	TBD		TBD					N/A	Authority of GSA under SGMA to develop and implement the GSP	$0	$0	N/A
GWD-6	Increasing Access to Excess Non-CVP Surface Water	TBD	TBD	2,000 AFY						TBD	Existing authority	TBD	TBD	Grasslands GSA and MCDMGSA
GWD-7	Canal Improvements	TBD	TBD	5,000 AFY						TBD	Existing authority	TBD	TBD	Grasslands GSA and MCDMGSA
GWD-8	Require Developments to Prove Sustainable Water Supplies	TBD	TBD						X	N/A	Authority of GSA under SGMA to develop and implement the GSP	TBD	TBD	Grasslands GSA and MCDMGSA
GWD-9	Recharge Estimation Methods	TBD	TBD						X	N/A	N/A	TBD	TBD	Grasslands GSA and MCDMGSA
NDM-15	City of Patterson Reduced Groundwater Use Portfolio	TBD	TBD		TBD			X		TBD	Existing authority	TBD	TBD	City of Patterson
Tier 4 Projects (Implemented After 2040 or As-Needed)														
AWD-7	USBR 215 Flood Water	TBD	First wet year after water rights are granted	TBD			X	X		Section 215 water (non-storable water)	Section 215 water contract with USBR	TBD	Market water rate	AWD
AWD-8	Banking Out-of-District Water	TBD	TBD	TBD				X		Out-of-District water	Existing authority	TBD	TBD	AWD
AWD-9	Latent Water Rights	TBD	If/when latent water rights are established	TBD						Latent water rights	N/A	Approximately $50,000	None	AWD
AWD-10	Water Contracts	TBD	First year after contract is established	TBD						CVP supplies	CVP contract	TBD	Market water rate	AWD
AWD-11	Water Exchange/Transfers/Purchases	TBD	First year after agreements are established	TBD						Out-of-District water	Agreements with other water districts and/or agencies	TBD	Market water rate	AWD
AWD-12	Improving Aliso Canal Turnout on San Joaquin River	TBD	TBD, Pending turnout improvements	TBD						San Joaquin River	Easements and permits	$1,000,000	TBD	AWD; Grants (TBD)
AWD-13	Restoration of the Aliso Canal for Conveyance from SJR to Cottonwood Creek	TBD	TBD, Pending turnout improvements	TBD						San Joaquin River (via the Aliso Canal)	Landowner partnerships	$5-10 Million	TBD	AWD; Grants (TBD)
AWD-14	Bypass Pipeline Crossing	TBD	TBD, Pending water agreements	TBD						Mendota Pool	Easements and permits	$1-5 Million	TBD	AWD; Grants (TBD)

P/MA Number	P/MA Name	Timetable for Completion	Timetable for Accrual of Expected Benefits	Expected Benefits						Source(s) of Water, if applicable	Legal Authority Required	Estimated Costs		
				Primary		Secondary								
				Water Supply Augmentation	Water Demand Reduction	Water Quality Improvement	Flood Control	Water Management Flexibility	Data Gap Filling/ Monitoring			Capital Costs	On-going Costs	Potential Funding Source(s)
AWD-15	Restoration of the Aliso Canal for Conveyance from Cottonwood Creek to Northerly Boundary	TBD	TBD	TBD						San Joaquin River (via the Aliso Canal)	Landowner partnerships	$5-10 Million	TBD	AWD; Grants (TBD)
AWD-16	Aliso Lateral as Linear Recharge Ponds	TBD	TBD	TBD				X		Non-flood source	Landowner partnerships	$0	TBD	AWD
AWD-17	Recharge in Bypass	TBD	TBD	TBD				X		Non-flood source (TBD)	Agency Partnership	$0	TBD	AWD; Grants (TBD)
AWD-18	Groundwater Injection Wells	As-needed to meet SMCs and address groundwater deficit; likely after 2035	As-needed to meet SMCs and address groundwater deficit; likely after 2035	TBD				X		TBD	RWQCB permits	$1-5 Million	TBD	AWD; Grants (TBD)

Abbreviations
AF = acre-feet
AFY = acre-feet per year
AWD = Aliso Water District
CCID = Central California Irrigation District
CEQA = California Environmental Quality Act
CNRA = California Natural Resources Agency
CVFPB = Central Valley Flood Protection Board
CVP = Central Valley Project
CWSRF = Clean Water State Revolving Fund
DMR = California Division of Mine Reclamation
DPWD = Del Puerto Water District
FCWD = Firebaugh Canal Water District
FEMA = Federal Emergency Management Agency
GSA = Groundwater Sustainability Agency
GSP = Groundwater Sustainability Plan
GWD = Grasslands Water District
IRWM = Integrated Regional Water Management
MCDMGSA = Merced County - Delta-Mendota GSA
N/A = Not Applicable
NEPA = National Environmental Protection Act
PID = Patterson Irrigation District
P/MA = Projects and Management Actions
RMW = Representative Monitoring Well
RWQCB = Regional Water Quality Control Board
SAGBI = Soil Agricultural Groundwater Banking Index
SLWD = San Luis Water District
SMC = Sustainable Management Criteria
SGM = Sustainable Groundwater Management
SGMA = Sustainable Groundwater Management Act
SJREC = San Joaquin River Exchange Contractors
SWRCB = State Water Resources Control Board
TBD = To Be Determined
UWMP = Urban Water Management Plan
WIIN = Water Infrastructure Improvements for the Nation
USACE = United States Army Corps of Engineers
USBR = United States Bureau of Reclamation
WSID = West Stanislaus Irrigation District
WY = Water Year

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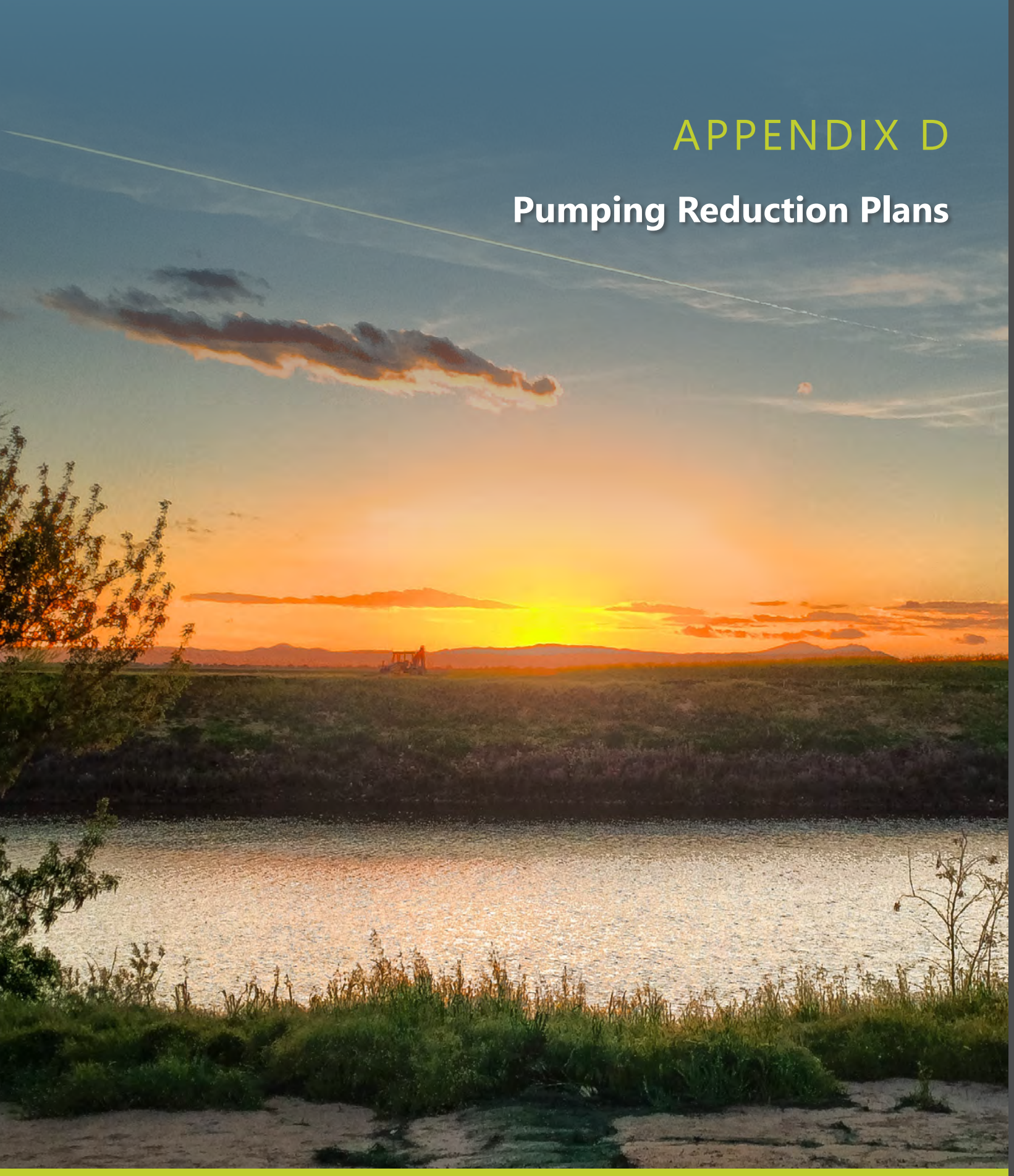

APPENDIX D

Pumping Reduction Plans

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ALISO WATER DISTRICT GSA PUMPING REDUCTION PLAN

FINAL | Approved February 28, 2025

ALISO WATER DISTRICT GSA PUMPING REDUCTION PLAN

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1 INTRODUCTION

The Aliso Water District GSA (AWDGSA) has developed this Pumping Reduction Plan (PRP) in accordance with Section 16.1.1 of the 2024 revised Groundwater Sustainability Plan (2024 GSP) for the Delta Mendota Subbasin (Basin). This PRP addresses the following six required components of the PRP framework outlined in the 2024 GSP:

- Monitoring and Data Collection Plan;
- Overdraft Mitigation Plan;
- Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan;
- Water Quality Minimum Threshold (WQ-MT) Exceedance Plan;
- Subsidence Avoidance Plan, and;
- Groundwater Allocation Backstop.

For applicable PRP components, specific triggers and procedures are defined. These include an entry trigger to activate the PRP, a zone of impact (ZOI) to determine where the PRP will be applied, a cutback approach to provide quantitative estimates of pumping reductions, an exit trigger to conclude the cutback once objectives are met, and enforcement measures to ensure successful implementation. Additional monitoring and reporting requirements are outlined in each component, aligning with the Monitoring and Data Collection Plan.

The District will develop and adopt regulations to implement the actions described in this plan.

2 MONITORING AND DATA COLLECTION PLAN

In accordance with Section 16.1.1 of the 2024 GSP, the Monitoring and Data Collection Plan developed by each GSA or GSA Group must include commitments and strategies for achieving the eight components outlined in Table 1. The Aliso Water District GSA has committed to meeting all these requirements as detailed in Table 1.

Table 1. Scheduled compliance with the requirements of the monitoring and data collection plan

Requirement	Commitment
Regular monitoring network(s) assessment	To be conducted during each annual report cycle, an evaluation will be performed of the monitoring network to understand if the data collected is representative of the GSA.
Quarterly groundwater level monitoring	Water levels will be measured at Representative Monitoring Wells for Water Levels (RMW-WL) quarterly starting in the 1st Quarter of 2025. Measurements will be as follows: 1st Quarter: between January 1st and March 31st, with a target of February 1st – 15th 2nd Quarter: between April 1st and June 30th, with a target of May 1st – 15th 3rd Quarter: between July 1st and September 30th, with a target of August 1st – 15th 4th Quarter: between October 1st and December 31st, with a target of October 15th – 31st
Semiannual water quality monitoring	Water quality will be sampled twice per year at each Representative Monitoring Well for Water Quality (RMW-WQ). 1st Half: Between January 1st and March 31st, with a target of February 14th -28th 2nd Half: between July 1st and September 30th, with a target of August 1st -15th
Well registration policy	For both well registration and metering, a policy was adopted on September 18, 2024, Entitled: *Regulations Regarding Registration of Wells and Metering of Groundwater.* (https://www.alisowdgsa.org/assets/Well-Registration-and-Metering-Regs_Adopted-20240918.pdf)
Well metering policy	Key points regarding well registration: • All active production wells must be registered, with location Lat/long, by 12/31/2024 • Construction information including diameter, and perforated intervals, along with justification (well log, video log, or similar), must be submitted by 12/31/2029 • De minimis wells need only be registered with location • New wells must satisfy the construction requirements of the *Policy for the Construction of Groundwater Extraction Wells within the Aliso Water District. Adopted May 19, 2023.* o https://www.alisowdgsa.org/assets/Construction%20of%20GW%20Extraction%20Wells-20230519.pdf) Key Points Regarding Well Metering Policy • Meters shall be installed and registered by 12/31/2024

	• Meters shall demonstrate 5% accuracy by 12/31/2025
Well extraction reporting policy (including estimation of pumping from composite wells)	A policy was adopted on September 18, 2024, Entitled: *Regulations Regarding Registration of Wells and Metering of Groundwater.* (https://www.alisowdgsa.org/assets/Well-Registration-and-Metering-Regs_Adopted-20240918.pdf) • Meters shall be read monthly, and submitted to the GSA quarterly. Composite well pumping is estimated to pump 60% from the upper 40% from the lower aquifer on average, based on evaluation by the AWDGSA's contracted hydrogeologist. A grower may perform a site-specific test to refine that estimate, based on a policy to be adopted for the implementation of this plan.
Provide well construction information for all monitoring wells	All information has been provided to the 2024 GSP consultant.
Replacing composite/production RMW-WL wells in the monitoring network with dedicated monitoring wells by 2030	AWDGSA currently has one composite well that is an RMW-WL. AWDGSA has 4 upper aquifer-specific and 2 lower aquifer-specific RMW-WLs. AWDGSA intends to expand the lower network with a minimum of 2 wells by 12/31/2029, scheduled to be complied with through planned monitoring network expansion

3 OVERDRAFT MITIGATION PLAN

3.1 Objective and Requirement

The AWDGSA along with the GSAs in Zone 1 are required to reduce their average pumping by a total of approximately 5,700 AF acre-feet per year (AFY) by 2030, based on the overdraft evaluation period (Water Year [WY] 2003 to WY 2023). The 2024 GSP mandates achieving this reduction through an annual minimum of 20% of the total apportioned pumping cut, beginning in January 2025 and continuing each year for the following five years.

3.2 Implementation Approach

Regarding Lower Aquifer Pumping, it is AWDGSA's understanding that in current practice, Farmers Water District GSA and Fresno County Management Areas A & B do not have any lower aquifer or composite wells. It is also understood that the Central Delta-Mendota GSA Members in Zone 1 (Tranquillity ID, Fresno Slough WD, and Fresno County White Area), do have lower aquifer wells, but are only used in dry years and in limited quantities (less than 1 AF/ac). However, it is unclear how previous practices (dating back to 2003) may have influenced the estimated pumping reduction requirements outlined in Table 2.

Regarding Upper Aquifer Pumping, it is AWDGSA's understanding that no other parties in Zone 1 are experiencing decline in their upper aquifer wells. Some parties (e.g. Farmers WD GSA) report they already have management practices in place to correct overdraft issues when encountered, and return water levels to their steady state.

Therefore, for planning purposes, AWDGSA is developing a program to mitigate the full 5,700 AF of overdraft reduction; 2,800 AF from the Upper Aquifer and 2,900 AF from the Lower Aquifer. Recognizing that 5,700 AF is an estimate derived from a coarse model and that true groundwater sustainability is determined by maintaining water levels above the established minimum thresholds, the AWDGSA's program is designed to be scalable. This will allow the program to adapt to the actual needs of the basin and be able to mitigate more or less overdraft as necessary to be sustainable. AWDGSA overdraft mitigation plan results will be achieved by implementing other elements of the Pumping Reduction Plan.

Based on 5,700 AF, the AWDGSA will reduce on the following schedule, recognizing that the AWDGSA is ultimately adhering to the Sustainable Management Criteria (SMC) MO's and MT's, based on Table PI-1 of the GSP

Table 2. Pumping reduction schedule

Implementation Year	Reduction in Overdraft	Upper Aquifer Reduction (AF)	Lower Aquifer Reduction (AF)	Total Reduction (AF)
2025	0%	0	0	0
2026	20%	560	580	1,140
2027	40%	1,120	1,160	2,280
2028	60%	1,680	1,740	3,420
2029	80%	2,240	2,320	4,560
2030	100%	2,800	2,900	5,700

3.3 Coordination with other GSAs to Achieve Required Pumping Reduction

Zone 1 parties have met and agreed to the above approach. All parties understand that they are ultimately responsible for maintaining SMC targets in their respective areas.

3.4 Additional Monitoring and Reporting Requirements

Planned pumping reductions will be verified and adjusted through pumping estimation using ET products in 2025 and metered pumping after, conducted according to the monitoring and data collection plan.

Adjustments to targets will be made as SMCs are evaluated.

3.5 Enforcement

Groundwater Allocation Backstop will be enforced in cases of implementation lapses, with further actions governed by the dispute resolution mechanisms in the Basin GSAs' Memorandum of Agreement (MOA).

4 GROUNDWATER LEVEL MINIMUM THRESHOLD AVOIDANCE PLAN

4.1 Objective and Requirements

The Basin GSAs are required to identify GWL-MT hotspots based on defined triggers by the end of February each year and implement targeted pumping cutbacks, on an acre-foot per acre basis, for identified groundwater level representative monitoring wells (RMW-WL) within each principal aquifer.

The AWDGSA will manage the Groundwater Level Minimum Threshold Avoidance Plan through its Groundwater Pumping Limit program discussed in *Section 7 - Groundwater Allocation Backstop.*

4.2 Investigation Trigger

The occurrence of any of the following conditions at an RMW-WL will trigger a GWL-MT investigation that may lead to hotspot designation and require pumping reductions:

- Exceedance of the GWL-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs.
- Projected exceedance of the GWL-MT, based on the linear trend of the previous four Fall groundwater level measurements (using the seasonal average if multiple measurements are taken).
- Exceedance of a trigger point.
    - Trigger points are established as halfway between the MO and MT.

4.3 Investigation Approach

AWDGSA does not intend to conduct investigations, other than comparing to other wells and past data to verify that the data is not an anomaly. Actions will be taken based on the pumping reduction plan described in *Section 7 – Groundwater Allocation Backstop*.

4.4 Zone of Impact and Cutback Approach

The AWDGSA will manage the GSA as a single zone at this time. A cutback will be GSA-wide.

4.5 Cutback Exit Trigger

The pumping cutback may be exited upon occurrence of any/all of the following conditions:

- Monitoring indicates groundwater levels have recovered to above the established trigger level.

4.6 Additional Monitoring and Reporting Requirements

Monitoring and reporting will be conducted as detailed under the Monitoring and Data Collection Plan.

4.7 Enforcement

Groundwater Allocation Backstop will be enforced in cases of implementation lapses, or if a GSA fails to implement policy within two quarters. Further actions will be governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

5 WATER QUALITY MINIMUM THRESHOLD EXCEEDANCE PLAN

5.1 Objective and Requirements

Aliso Water District GSA is responsible for identifying exceedances or projected exceedances of WQ-MT. If such exceedances are linked to Basin management, GSAs must investigate the cause and, if necessary, design and implement appropriate mitigation measures, including pumping cutbacks or other strategies, to prevent future WQ-MT exceedances caused by Basin management.

The WQ-MT Plan triggers pumping cutbacks only when a direct relationship or convincing linkage is established between changes in water quality concentrations exceeding or projected to exceed their MTs and management actions of the GSAs in the Basin or changes in groundwater levels. In the absence of such correlations or due to data gaps, continued monitoring and data collection are prioritized. When necessary, pumping cutbacks are implemented using the same approach outlined in the GWL-MT Plan.

5.2 Investigation Trigger

The occurrence of any of the following conditions at an identified groundwater quality representative monitoring well (RMW-WQ) triggers a 60-day investigation requirement:

- Exceedance of the WQ-MT.
- Projected exceedance of the WQ-MT, based on a statistically significant linear trend of the previous three Fall groundwater level measurements (using the seasonal average if multiple measurements are taken).

5.3 Investigation Approach

Respective GSAs are required to conclude an investigation within 60 days of reporting an investigation trigger and recommend the next steps to be taken.

The GSA will contract with a qualified hydrogeologist and a study area will be defined. Within the study area, a review of the water quality of the subject well and at least one well upgradient and downgradient of the well with an exceedance, will be performed. The investigation will look at water quality trends of all the GSP constituents of concern over the longest period possible where quality data exists. The trends of water levels will be reviewed for the same period. The two data sets will be overlaid to observe correlation and causation. An investigation will also be done to understand which beneficial users are affected by the exceedance, if any.

5.4 Mitigation Approach

AWDGSA will mitigate with the following approach depending on the cause of the water quality issue:

- Degradation due to GWL decline:
    - Establish a new MO/MT/Trigger point for the well that is not detrimental to water quality.
    - Adjust the pumping limit to reach a new target.
- Degradation due to recharge projects:

- Recharge of groundwater is of the utmost importance to the GSA. If it is determined that recharge has caused an exceedance of groundwater quality thresholds, the GSA will:
  - First, offer alternative sources of water to the affected parties
  - Second, cease recharge in that area, until corrective actions can be determined and implemented.

5.5 Exit Trigger

Mitigation action (pumping cutback or mitigation plan) will be exited if the GWL target is reached and WQ has stabilized or improved.

5.6 Additional Monitoring and Reporting Requirements

Monitoring will be generally conducted as outlined under monitoring and data collection plan.

In cases of monitoring exceedances, more frequent measurements will be taken. For exceedances believed to be caused by GSA actions:

- Monthly water levels measurements will be taken at wells in the Study Area,
- Quarterly water quality testing will be performed, and
- Testing frequency will continue until an investigation is conclusive or mitigation measures are demonstrated effective.

5.7 Enforcement

Enforcement of this plan is governed by the dispute resolution mechanisms in the Basin GSAs' MOA. When pumping cutbacks are implemented, enforcement mirrors the procedures used for GWL-MT violations. In such cases, failure to comply with implementation or a delay of more than two quarters will trigger the Groundwater Allocation Backstop.

6 SUBSIDENCE AVOIDANCE PLAN

6.1 Objective and Requirements

Aliso Water District GSA is required to proactively address progressing land subsidence that does not or is not projected to comply with the requirements of the 2024 GSP as soon as feasible and implement pumping cutbacks that will bring back the identified regions into sustainability path of the Basin. The Subsidence Avoidance Plan has two components that lead to different requirements: The Critical Infrastructure Component only applies to critical infrastructure and the hotspot mitigation component applies to the entire Basin.

6.2 Cutback Entry Trigger

Pumping cutback under the Subsidence Avoidance Plan is triggered under the following conditions for each component:

- **Critical Infrastructure Component**: the three-year average subsidence rate exceeds 0.2 feet per year (ft/year) within 0.5 miles of critical infrastructure
- **Hotspot Mitigation Component:** The five-year linear trend established based on land survey data indicates a projected subsidence of more than 2 feet by 2040 (MT), or more than 1.5 feet by 2030 (IM) or exceedance of any subsequent IM.

Triggers under both components should be based on subsidence due to Basin management, or under conditions that such causality cannot be justifiably established.

6.3 Zone of Impact and Cutback Approach

6.3.1 Critical Infrastructure Component

ZOI is identified as areas where the three-year average subsidence rate exceeds 0.2 ft/year and is located within 0.5 miles of critical infrastructure. In the AWDGSA, the GSA is managed as a single zone at this time. Therefore, cutbacks will be GSA-wide.

AWDGSA will incrementally decrease the allowed pumping from the lower aquifer based on Section 7 – Groundwater Allocation Backstop.

6.3.2 Hotspot Mitigation Component

A ZOI is defined as a radius of 0.5 miles around any point that meets the cutback entry trigger. In the AWDGSA, the GSA is managed as a single zone at this time. Therefore, cutbacks will be GSA-wide.

AWDGSA will incrementally decrease the allowed pumping from the lower aquifer based on Section 7 – Groundwater Allocation Backstop.

6.4 Cutback Exit Trigger

Pumping cutback under subsidence avoidance plan may be relieved if and when the conditions defined under each respective component below is met:

- **Critical Infrastructure Component**:
    - Pumping limits will be incrementally increased once the 4-year moving average of subsidence is less than 0.1 ft/yr.

- **Hotspot Mitigation Component:**
    - Pumping limits will be incrementally increased once the 4-year moving average of subsidence is less than 0.1 ft/yr.

6.5 Additional Monitoring and Reporting Requirements

AWDGSA will continue with annual subsidence measurements at its dedicated benchmarks. Further, the *Policy for the Construction of Groundwater Extraction Wells within the Aliso Water District, adopted May 19, 2023 (*https://www.alisowdgsa.org/assets/Construction%20of%20GW%20Extraction%20Wells-20230519.pdf), requires new wells that are deep or composite to install subsidence benchmarks.

6.6 Enforcement

Enforcement of the subsidence avoidance plan is governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

7 GROUNDWATER ALLOCATION BACKSTOP

7.1 Objective and Requirements

In accordance with Exhibit C of the MOA, GSAs are required to implement the groundwater allocation backstop plan if they cannot sufficiently meet the requirements of the GSP 2024.

7.2 Cutback Entry Trigger

The AWDGSA will implement a Groundwater Pumping Limit Program with its growers in 2025. It will not be a backstop program, or last resort, but rather the main management action to reach sustainability.

In a typical (non-flood) year, the growers in the AWDGSA pump an estimated 2.5 AF/Ac from the upper aquifer and 1.1 AF/Ac from the lower aquifer. However, on an average annual basis over the period of 2019 to 2023 (which included flood years) the average extraction was 2.3 AF/Ac from the upper aquifer and 0.9 from the lower aquifer. These values will serve as the basis for the transition suggested under Section 3 – Overdraft Mitigation Plan.

Regarding the upper aquifer, the average overdraft in the upper aquifer is roughly 0.1 AF/Ac. Deducting 0.1 AF/Ac from the average upper aquifer pumping experienced of 2.3 AF/Ac, results in a sustainable yield target of 2.2 AF/Ac.

Regarding the lower aquifer, the average annual extraction is roughly 0.9 AF/Ac. This overdraft of the aquifer is estimated at 0.1 AF/Ac as described in Section 3. Given this information, the sustainable yield target should be 0.8 AF/ac. However, since subsidence is our biggest concern associated with the lower aquifer, and since it is widely considered that lower aquifer sustainable yield is roughly 0.5 AF/Ac, the AWDGSA will plan for the worse case, and plan to transition to 0.5 AF/Ac.

To align with Section 3 - Overdraft Mitigation Plan, the AWDGSA initial schedule of pumping limits is described below:

Table 3. Pumping Limit Transition

Year	2025	2026	2027	2028	2029
Upper Aquifer Limit (AF/Ac)	2.5	2.5	2.4	2.3	2.2
Lower Aquifer Limit (AF/Ac)	0.9	0.8	0.7	0.6	0.5
Total Limit (Af/Ac)	3.4	3.3	3.1	2.9	2.7

The discussion and recommendation above are based on the best available data at this time. However, it should be recognized that the data was limited in precision and accuracy. With the adoption of recent policies, the AWDGSA's understanding of groundwater extractions, well construction, upper/lower aquifer contributions, etc. will improve with time. These improvements may result in modifications to

the approach. Therefore, all numbers are subject to change and will be based on the status of the SMC, as SMCs are a true measure of sustainability, and the pumping limit is a tool to achieve it.

This program is more fully described in a policy that is yet to be adopted.

7.3 Zone of Impact and Cutback Approach

This plan applies to the entire service area of the GSA.

Regarding Subsidence, the pumping limit of the lower aquifer will be incrementally decreased until the subsidence rate is below 0.1 ft/yr, as described in Section 6 of this pumping reduction plan.

Regarding Water Levels, the pumping limit will be managed as described in Section 4 of this Pumping Reduction Plan, and based on the following table.

Table 4. Adjustment to Pumping Limits

Groundwater Level Position (most recent seasonal low measurement)	Trend (Period = 4 years, Data = Seasonal Low)	Adjustment to Pumping Limit
Above MO	Upward	Increase pumping limit
	Downward	None
Below MO	Upward	Possibly increase limit
	Downward	Possibly decrease pumping limit
Below Trigger	Upward	Maintain pumping limit
	Downward	Decrease pumping limit
At or Below MT	Upward	Maintain pumping limit (possibly decreased)
	Downward	Further decrease pumping limit

7.4 Additional Monitoring and Reporting Requirements

AWDGSA will monitor Water Levels, Subsidence Rates, and Water Quality, at the minimum to the frequency and extent outline under Monitoring and Data Collection Plan or outlined by individual components, to influence the decision regarding pumping limits.

7.5 Enforcement

Enforcement of the groundwater allocation backstop is governed by the dispute resolution mechanisms in the Basin GSAs' MOA. Growers within the AWDGSA will be charged groundwater extraction penalty fees if exceeding the pumping limits established by the GSA. The fees will be up to $500/AF per water code 10732.

CENTRAL DELTA-MENDOTA GROUNDWATER SUSTAINABILITY AGENCY

PUMPING REDUCTION PLAN

APPROVED: February 27, 2025

CENTRAL DELTA-MENDOTA PUMPING REDUCTION PLAN

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1 INTRODUCTION

The Central Delta Mendota GSA (CDMGSA) has developed this Pumping Reduction Plan (PRP or Plan) in accordance with Section 16.1 of the 2024 revised Groundwater Sustainability Plan (2024 GSP) for the Delta Mendota Subbasin (Basin). The PRP addresses the six required components specified in the 2024 GSP:

1. Monitoring and Data Collection Plan;
2. Overdraft Mitigation Plan;
3. Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan;
4. Water Quality Minimum Threshold (WQ-MT) Exceedance Plan;
5. Subsidence Avoidance Plan, and;
6. Groundwater Allocation Backstop.

This PRP will cover the jurisdictions of all of the CDMGSA member agencies (GSP Table Intro-2), except for Widren Water District and Tranquility Irrigation District. Both of those entities have separate plans that are coordinated with the CDMGSA PRP. For the purposes of this PRP, all wells within Southern DMC Subsidence Management Area (SSMA), as defined in the Southern DMC Subsidence Management Area Policy (Attachment A), are assumed to be Lower Aquifer wells, unless the landowner can demonstrate otherwise. Acceptable documentation may include a well drillers log showing well perforation or a video inspection. Any composite wells will be treated as Lower Aquifer wells under this Plan.

For applicable PRP components, specific triggers and procedures are defined. These include an entry trigger to activate the PRP, a zone of impact (ZOI) to determine where the PRP will be applied, a cutback approach to provide quantitative estimates of pumping reductions, an exit trigger to conclude the cutback once objectives are met, and enforcement measures to ensure successful implementation. Additional monitoring and reporting requirements are outlined in each component, aligning with the Monitoring and Data Collection Plan.

2 MONITORING AND DATA COLLECTION PLAN

In accordance with Section 16.1 of the 2024 GSP, the Monitoring and Data Collection Plan developed by each GSA or GSA Group must include commitments and strategies for achieving the eight components outlined in Table 1. The CDMGSA has committed to meeting all these requirements as detailed in Table 1. CDMGSA has adopted two GSA policies to address the requirements under this component, included in **Attachment A**:

- Administrative Policy #1: Well Census and Registration (Policy #1): Aims to establish and achieve an accurate and comprehensive well census for all wells within the CDMGSA boundary by requiring all existing wells to be registered using a form provided by the CDMGSA no later than April 1, 2021, and mandating that any new wells constructed after this date be registered within 30 days of the completion of drilling activities.
- Administrative Policy #2: Well Metering and Reporting (Policy #2): Aims to build upon Policy #1 by establishing a requirement for the measurement of groundwater extractions from all wells within the CDMGSA boundary, with certain exceptions, by mandating that all wells have a CDMGSA-approved meter installed no later than December 31, 2023, and requiring that any new wells constructed after this date be registered with the CDMGSA within 30 days of completing drilling activities and have a CDMGSA-approved meter installed prior to use.

Table 1. Scheduled compliance with the requirements of the monitoring and data collection plan

Requirement	Commitment
Regular monitoring network(s) assessment	CDMGSA will conduct an annual assessment of its monitoring network and its adequacy in conjunction with annual report preparation.
Quarterly groundwater level monitoring	Will be conducted aligned with GSP implementation and its requirements.
Semiannual water quality monitoring	Will be conducted aligned with GSP implementation and its requirements.
Well registration policy	Per Administrative Policy #1, all wells in CDMGSA were required to be registered by April 2021, and all new wells are required to be registered within 30 days of completion.
Well metering policy	Per Administrative Policy #2, meters were required to be installed on all wells by April 2021, and all new wells are required to be metered prior to operation.
Well extraction reporting policy (including estimation of pumping from composite wells)	Per Administrative Policy #2, extractions are required to be reported on a monthly basis by 31 October for the preceding water year.
Provide well construction information for all monitoring wells	In process and will be accomplished through communication with the coordination committee.

Replacing composite/production wells in the monitoring network with dedicated monitoring wells by 2030	In Process and will be accomplished by 2030.

3 OVERDRAFT MITIGATION PLAN

3.1 Objective and Requirement

The CDMGSA is required to reduce its average pumping by approximately 18,743 acre-feet per year (AFY) by 2030, based on the overdraft evaluation period of Water Year [WY] 2003 to WY 2023. This includes a 1,303 AFY reduction in the Upper Aquifer and a 17,440 AFY reduction in the Lower Aquifer. The corresponding pumping averages for the evaluation period estimated by the model and used to calculate the pumping reduction volumes are 33,904 AFY and 114,501 AFY, from Upper Aquifer and Lower Aquifer, respectively. The 2024 GSP mandates achieving this reduction through an annual minimum of 20% of the total apportioned pumping cut, beginning in January 2026 and continuing each year for the following five years, and shown in Table 2.

Table 2. Pumping reduction schedule for Upper and Lower Aquifers to achieve the total overdraft mitigation required by GSP

WY	Upper Aquifer		Lower Aquifer	
	Available Pumping from WY2003-2023 Simulated Average Aquifer Pumping (AFY)	**Annual Pumping Reduction Target (AFY) From WY2003-2023 Simulated Average**	**Available Pumping from WY2003-2023 Simulated Average Aquifer Pumping (AFY)**	**Annual Pumping Reduction Target (AFY) From WY2003-2023 Simulated Average**
2025	33,904	0	114,501	0
2026	33,643	261	111,013	3,488
2027	33,122	521	114,502	6,976
2028	32,340	782	104,038	10,464
2029	31,298	1,042	114,503	13,952
2030	**29,995**	**1,303**	**97,063**	**17,440**

The pumping reductions implemented under the CDMGSA Subsidence Avoidance Plan and GWL-MT Avoidance Plan are expected to contribute significantly toward meeting the agency's overdraft mitigation targets. To address any remaining overdraft reduction requirements, the CDMGSA will reduce overall pumping across its area by applying an AFY per acre allocation in areas not impacted by the Subsidence and GWL-MT Avoidance Plans, ensuring the total required commitment is achieved.

3.2 Implementation Approach

Overdraft mitigation will be implemented according to the approach outlined in Section 6 Subsidence Avoidance Plan. The Supplemental OMF will include implementation details as required by the GSP.

3.3 Coordination with other GSAs to Achieve Required Pumping Reduction

This PRP will cover the jurisdictions of all CDMGSA member agencies (GSP Table Intro-2), except for Widren Water District and Tranquility Irrigation District. Both of those entities will have separate plans that are coordinated with the CDMGSA's PRP.

3.4 Additional Monitoring and Reporting Requirements

Planned pumping reductions will be verified and adjusted through metered pumping implemented under Policy #2 and according to the Monitoring And Data Collection Plan.

3.5 Enforcement

The Groundwater Allocation Backstop will be enforced in cases of implementation lapses, with further actions governed by the dispute resolution mechanisms in the Basin GSAs' Memorandum of Agreement (MOA).

4 GROUNDWATER LEVEL MINIMUM THRESHOLD AVOIDANCE PLAN

4.1 Objective and Requirements

Per Section 16.1.1.3 of the GSP, the CDMGSA member agencies are required to identify GWL-MT hotspots[1] based on defined triggers by the end of February each year for identified groundwater level representative monitoring wells (RMW-WLs) within each principal aquifer and implement targeted pumping cutbacks, on an AFY/acre basis. These cutbacks will be applied at the rate and within an area determined by the ZOI and Cutback Approach (Section 4.4), accompanied by increased monitoring frequency, and adapted as required and justified under this PRP.

4.2 Investigation Trigger

The occurrence of any of the following conditions at an RMW-WL triggers a GWL-MT investigation that may lead to hotspot designation and require pumping reductions:

- Exceedance of the GWL-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs (per GSP Section 16.1.1.3); OR
- Projected exceedance of the GWL-MT, based on the linear trend of the previous four Fall groundwater level measurements (using the seasonal average if multiple measurements are taken; per GSP Section 16.1.1.3).

If multiple measurements are taken during a season, the average will be used for comparison.

4.3 Investigation Approach

The investigation should verify the accuracy of the groundwater level measurement at the RMW-WL, ensuring it is not influenced by pumping from the well itself, nearby wells, or any unusual management practices in the area. This process includes taking measurements after an adequate shutoff period to allow groundwater levels to stabilize. It may also involve measuring water levels in nearby wells to identify trends for comparison and analyzing pumping activities in the surrounding area to determine whether they deviate from typical practices.

The CDMGSA member agencies are required to complete the investigation within the same measurement season and no later than 30 days after the initial reading. The results must be reported to CDMGSA. If the findings fail to provide sufficient evidence to refute the projected exceedance of the trigger, the RMW-WL will be designated as a GWL-MT hotspot, and the cutback requirements outlined in this PRP will be implemented.

4.4 Zone of Impact and Cutback Approach

The ZOI around hotspot RMW-WLs will initially be defined as the smaller of either a 2-mile radius from the RMW-WL where the exceedance occurred or two-thirds of the distance from the nearest RMW-WL to the hotspot RMW-WL, with a minimum ZOI of 1 mile. The ZOI represents areas where groundwater pumping is likely to affect water levels at the RMW-WL and may extend beyond GSA boundaries. To

[1] Per GSP, if groundwater levels at groundwater level representative monitoring wells (RMW-WL) exceed established trigger levels or are projected to exceed an MT, an investigation is required to determine if the RMW-WL should be designated as an MT hotspot and require an RMW-WL. This plan will designate an RMW-WL that exceeds any of the cutback entry triggers an MT hotspot.

achieve the target groundwater level recovery, an initial pumping limit of 1.0 AFY/acre will be imposed within the ZOI. The target groundwater level recovery is tied to the cutback exit trigger outlined in Section 4.5. The initial ZOI and cutback limits are designed as starting points and may be adjusted based on the 3-month rolling linear trend of groundwater levels. Adjustments will be made to increase or decrease the cutback proportionally, based on a comparison of current groundwater level trends with the previous year and projections of groundwater levels for the upcoming fall derived from those trends.

The CDMGSA member agencies subject to pumping cutbacks may initiate an independent investigation, conducted by or under the supervision of a licensed professional engineer or geologist, to assess and recommend revisions to the ZOI and cutback allocations. This investigation must provide sufficient technical evidence to the CDMGSA, demonstrating that the proposed changes will meet the exit trigger by the upcoming fall. Any adjustments to the ZOI boundaries or pumping limits will require CDMGSA approval.

4.5 Cutback Exit Trigger

The pumping cutback may be exited upon occurrence of any of the following conditions:

- Groundwater level at the hotspot RMW-WL matches or exceeds its designated Measurable Objective (MO);
- Linear trend of the four most recent Fall measurements (one Fall measurement per water year ending in the current year's measurement) does not project a GWL-MT exceedance in the next Fall;
- Entry trigger was an exceedance of GWL-MT and the groundwater level at the hotspot RMW-WL is above GWL-MT in the most recent Fall measurement.

Following the determination that the exit trigger condition has been met, the uniform acre-foot per acre pumping limit will be removed by the respective CDMGSA member agencies throughout the ZOI through communications with the applicable groundwater users.

4.6 Additional Monitoring and Reporting Requirements

Per GSP Section 16.1.1.3, the GWLs and pumping within the ZOI will be measured monthly during the implementation of the pumping cutback. Measured data within the ZOI should be submitted to the CDMGSA within two weeks of collection. All data reported should also be imported into the Basin Data Management System (DMS) by the respective CDMGSA member agencies.

4.7 Enforcement

The Groundwater Allocation Backstop will be enforced in cases of implementation lapses, or if a CDMGSA member agency fails to implement this PRP within two quarters. Further actions will be governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

5 WATER QUALITY MINIMUM THRESHOLD EXCEEDANCE PLAN:

5.1 Objective and Requirements

Per GSP Section 16.1.1.4, the CDMGSA member agencies are responsible for identifying exceedances or projected exceedances of a WQ-MT. If such exceedances are linked to Basin management (pumping or recharge), the CDMGSA GSAs must investigate the cause and, if necessary, design and implement appropriate mitigation measures, including pumping cutbacks or other strategies, to prevent future WQ-MT exceedances caused by Basin management.

The WQ-MT Plan requires pumping cutbacks only when a clear connection or convincing evidence links changes in water quality concentrations—exceeding or projected to exceed their MTs—to management actions by the GSAs in the Basin or changes in groundwater levels. In the absence of such correlations or due to data limitations, the focus remains on continued monitoring and data collection. If needed, pumping cutbacks are carried out following the approach specified in the GWL-MT Avoidance Plan.

5.2 Investigation trigger

The occurrence of any of the following conditions at an identified groundwater quality representative monitoring well (RMW-WQ) triggers an investigation to assess the cause of the degradation and its correlation with groundwater level changes:

- Exceedance of the WQ-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs (per GSP Section 16.1.1.4); OR
- Projected exceedance of the WQ-MT, based on a statistically significant linear trend of the previous three Fall groundwater level measurements (using the seasonal average if multiple measurements are taken; per GSP Section 16.1.1.4).

The statistical significance of a linear trend is determined using the p-value of the linear model. A p-value of less than 0.05 is generally considered statistically significant, but this threshold can be adjusted based on sample size and professional judgment. It is important to note that the occurrence of an investigation trigger does not automatically necessitate the implementation of pumping cutbacks.

5.3 Investigation Approach

The CDMGSA member agencies must complete an investigation within 60 days of reporting a WQ-MT investigation trigger and recommend next steps to the CDMGSA. The investigation should assess whether there is sufficient scientific evidence to link the RMW-WQ exceedance to actions taken within the Basin and/or declines in groundwater levels. If a reasonable correlation cannot be established or if the available data is inadequate to make a conclusion, more frequent sampling will be conducted until re-evaluation is possible.

If a correlation is identified, mitigation measures will be triggered, designating the RMW-WQ as a WQ hotspot. A link between declining groundwater levels and water quality will lead to a reduction in pumping, while a correlation involving groundwater levels and water quality for recharge projects will require actions related to project implementation. The CDMGSA retains discretion over evaluating the reasonableness of the investigation approach, its assessments, and its outcomes.

5.4 Mitigation Approach

Following the requirements of the GSP Section 16.1.1.4, upon triggering mitigation, respective CDMGSA member agencies will have 90 days to propose a mitigation action plan to address increased concentrations of constituents of concern (COCs) and prevent future exceedances of WQ-MTs. The responsible member agencies are required to notify groundwater pumpers within a three (3) mile radius of the RMW-WQ exceeding the trigger about the projected degradation and potential mitigation. The mitigation approach will depend on whether the trigger is caused by GWL declines due to pumping or by the implementation of projects and management actions (P/MAs), primarily recharge projects.

5.4.1 Mitigation for Degradation Due to Groundwater Level Decline

When water quality degradation is linked to groundwater level declines, a temporary GWL-MT hotspot will be established at the RMW-WQ or a nearby well with similar construction to monitor and manage conditions. The temporary GWL trigger will be set to the previous year's seasonal high (average spring water level). Pumping cutbacks will be implemented following the GWL-MT process, with the temporary GWL trigger at the well acting as the target level.

A uniform pumping limit of 1 AFY/acre will be applied throughout the ZOI, initially defined as a 2-mile radius around the RMW-WQ hotspot, with communications from the respective CDMGSA member agencies to affected landowners and pumpers. Pumping within the ZOI and any need for curtailment adjustments will be reviewed quarterly by the CDMGSA member agencies to ensure compliance. Member agencies may request evidence-based modifications to the ZOI and cutback plan from the CDMGSA for approval as part of the proposed mitigation strategy.

Upon achieving the GWL target, the conditions will be reevaluated. If the cutback exit trigger is not met (WQ is not stabilized), the WQ/GWL correlation will be re-investigated. If a significant correlation persists, further cutbacks or other actions should be implemented.

5.4.2 Mitigation for Degradation Due to Recharge Projects

If it appears that the WQ-MT has been triggered by a recharge project, the investigation will determine if the degradation results from factors such as poor-quality recharge water, flushing of soil constituents, geochemical reactions, altered groundwater gradients, etc.

Following the requirements of the GSP Section 16.1.1.4, the respective CDMGSA member agencies will submit a detailed mitigation plan to the CDMGSA within the 90-day time frame. The recharge project must be paused during this period and until the exit trigger is met unless the respective the CDMGSA member agencies can justify successful mitigation through modified or continued operation. The plan should address the source of water quality degradation, identified in the investigation, and propose modifications to operations to mitigate incurred impacts. Throughout this period, WQ monitoring continues to ensure that any future triggers are addressed promptly. These actions aim to ensure a stable balance between groundwater recharge efforts and the protection of groundwater quality in the Basin, adapting as needed based on new data and observations.

5.5 Exit Trigger

Mitigation actions (pumping cutback or mitigation plan) can be exited if any of the following occur:

- GWL target is met, and WQ at the hotspot RMW-WQ does not show a statistically significant increasing trend using the last three measurements; OR

- GWL target is met, and a significant correlation between WQ and GWL can no longer be established; OR
- Projected WQ at the RMW-WQ will not exceed the respective WQ-MT.

Following the determination that the exit trigger condition(s) have been met, the respective CDMGSA member agencies throughout the ZOI will communicate the removal of mitigation measures to the applicable landowners/pumpers.

5.6 Additional Monitoring and Reporting Requirements

Monitoring will be generally conducted as outlined under the Monitoring and Data Collection Plan. All measurements and monitoring conducted under this Plan should be reported to the CDMGSA within two weeks. All data reported should also be imported into the Basin DMS by the respective member agencies.

5.7 Enforcement

Enforcement of this Plan is governed by the dispute resolution mechanisms in the Basin GSAs' MOA. When pumping cutbacks are implemented, enforcement mirrors the procedures used for GWL-MT violations. In such cases, failure to comply with implementation or a delay of more than two quarters will trigger the Groundwater Allocation Backstop.

6 SUBSIDENCE AVOIDANCE PLAN

6.1 Objective and Requirements

The CDMGSA is required to proactively address progressing land subsidence that does not or is not projected to comply with the requirements of the GSP as soon as feasible and implement pumping cutbacks that will bring back the identified regions into sustainability path of the Basin. The Subsidence Avoidance Plan has two components that lead to different requirements. The Critical Infrastructure Component applies to critical infrastructure while the hotspot mitigation component applies to the entire CDMGSA region.

6.2 Cutback Entry Trigger

6.2.1 Critical Infrastructure Component

The critical infrastructure component of the subsidence mitigation plan will go into effect in Water Year (WY) 2025. It applies to Delta-Mendota Canal (DMC) and California Aqueduct within CDMGSA. Historical accounts of land subsidence on the Westside of the San Joaquin Valley have shown that the sustainable amount of sub-Corcoran pumping is in the range of 0.50 AFY/acre.

For areas within the SSMA, the critical infrastructure component relating to the DMC will not rely on defined triggers, but rather will proactively curtail sub-Corcoran pumping within 1.0 mile of the DMC beginning in WY2025 and across all land within the SSMA by WY 2029. These measures are more protective than the triggers defined in the GSP and will automatically satisfy its requirements.

For areas within 0.5 miles of the DMC and outside of the SSMA, the critical infrastructure pumping reduction will be triggered if the 3-year moving average rate of inelastic subsidence exceeds 0.2 feet per year (ft/year) at any location within 0.5 miles of the DMC, attributed to in-Basin pumping using a consistent source of monitoring data.

With regard to the California Aqueduct, the critical infrastructure pumping reduction will be triggered if the 3-year moving average rate of inelastic subsidence exceeds 0.15 feet per year (ft/year) at any location within 0.5 miles of the California Aqueduct, attributed to in-Basin pumping using a consistent source of monitoring data. Additional and/or more restrictive criteria may be established if the San Luis Water District, in coordination with the California Department of Water Resources as the operator of the California Aqueduct, determines that additional and/or more restrictive criteria are necessary to avoid or mitigate subsidence-related impacts to California Aqueduct infrastructure or operations.

6.2.2 Hotspot Mitigation Component

The hotspot mitigation component of the Subsidence Avoidance Plan will be triggered if the five-year linear trend established based on InSAR data indicates a projected subsidence of more than 2.0 feet by 2040 (MT), or more than 0.5 feet by 2030 (IM), or an exceedance of any subsequent IM. This trigger will be based on subsidence caused by Basin management, or under conditions that such causality cannot be justifiably established.

6.3 Zone of Impact and Cutback Approach

6.3.1 Critical Infrastructure Component

6.3.1.1 Delta-Mendota Canal

In the initial year of implementation, the PRP will incorporate all sub-Corcoran wells within 1-mile of the DMC. Beginning in WY 2029, the ZOI will be expanded to the full SSMA within the portion of DMC covered under the CDMGSA Subsidence Policy. All wells within the ZOI will be limited to 0.50 AFY/acre, and pumping will be prohibited when South-of-Delta Central Valley Project allocations are at or above 45% of contracted supply. The pumping limitation shall be reviewed annually to determine the correlation between pumping and the measured subsidence. Additionally, construction of new Lower Aquifer or composite wells is prohibited within the SSMA.

In areas within 0.5-miles of the DMC and outside of the SSMA, where the three-year average subsidence rate exceeds 0.20 ft/year, symmetrically defined on both sides of the critical infrastructure, Lower Aquifer pumping will be limited to 0.50 AFY/acre, and construction of new Lower Aquifer or composite wells will be prohibited. The pumping limitation shall be reviewed annually to determine the correlation between pumping and the measured subsidence. If necessary, CDMGSA members within the SSMA will have the authority to adjust the pumping limit.

6.3.1.2 California Aqueduct

The zone of exceedance will be the area within 0.5 miles of the California Aqueduct where the three-year average subsidence rate exceeds 0.15 ft/year, symmetrically defined on both sides of the critical infrastructure. Lower Aquifer pumping will be limited to 0.50 AFY/acre within the ZOI, and construction of new Lower Aquifer or composite wells will be prohibited. The pumping limitation shall be reviewed annually to determine the correlation between pumping and the measured subsidence. If necessary, CDMGSA members within the SSMA will have the authority to adjust the pumping limit.

6.3.2 Hotspot Mitigation Component

The ZOI is defined as a radius of 0.5 miles around any point that meets the cutback entry trigger. Pumping cutbacks are initiated at a rate of 0.50 AFY/acre. The pumping limitation shall be reviewed annually to determine the correlation between pumping and the measured subsidence. If necessary, CDMGSA will have the authority to adjust the pumping limit.

6.4 Cutback Exit Trigger

6.4.1 Critical Infrastructure Component

The critical infrastructure component of the SSMA will remain in effect indefinitely, with amendments made as necessary. The program will be closely monitored to achieve the goal of eliminating GSA-caused subsidence by 2040. The GSP sets a cumulative subsidence limit (MT) of 2.0 feet for the period from 2020 to 2040, which allows for estimating an allowable annual subsidence rate based on the cumulative subsidence observed since 2020. Annual subsidence rates will be monitored, and the SSMA Policy will be reviewed and adjusted annually, as needed, to align with the allowable subsidence rate and address any discrepancies between actual and allowable subsidence.

Pumping reduction under the critical infrastructure component outside of the SSMA (i.e. around the California Aqueduct) may be relieved when any of the following conditions are met:

- The 4-year moving average rate of inelastic subsidence falls below 0.1 ft/year in the ZOI, per GSP Section 16.1.1.5; OR
- The CDMGSA member agencies can provide justification in the form of a technical report from a qualified professional to sufficiently demonstrate that subsidence is not caused due to pumping within ZOI, using multiple years of pumping measurement data gathered after the trigger.

6.4.2 Hotspot Mitigation Component

Pumping cutback under the Hotspot Mitigation Component may be relieved if any of the following conditions are met:

- Subsidence due to Lower Aquifer Pumping attributable to Basin is eliminated, per GSP Section 16.1.1.5; OR
- The five-year linear trend established based on InSAR data no longer indicates exceedance of cumulative MT or IMs; OR
- The CDMGSA member agencies can provide justification in the form of a technical report from a qualified professional to sufficiently demonstrate that subsidence is not caused due to pumping within ZOI, using multiple years of pumping measurement data gathered after the trigger.

Following the determination that the exit trigger condition(s) have been met, the uniform acre-foot per acre pumping limit will be removed by the respective CDMGSA member agencies throughout the ZOI through communications with the applicable landowners/pumpers.

6.5 Additional Monitoring and Reporting Requirements

Monthly pumping measurements and subsidence rates (if available) should be reported to the CDMGSA within two weeks of collection. All data reported should also be imported into the Basin DMS by the respective member agencies. If subsidence data is unavailable, quarterly reporting is sufficient. GWL measurements in the Lower Aquifer should be measured monthly within the ZOI and reported within two weeks of collection. Any updates to the number of known, active Lower Aquifer or composite wells should be reported within one month.

6.6 Enforcement

Enforcement of the Subsidence Avoidance Plan is governed by the dispute resolution mechanisms in the Basin GSA's MOA.

7 GROUNDWATER ALLOCATION BACKSTOP

7.1 Objective and Requirements

In accordance with Exhibit C of the MOA, the CDMGSA is required to implement the Groundwater Allocation Backstop if they cannot sufficiently meet the requirements of the PRP and GSP.

7.2 Cutback Entry Trigger

If the CDMGSA fails to achieve the allocated Overdraft Mitigation pumping reduction by 2030, the groundwater allocation backstop will be applied to the entire CDMGSA region.

7.3 Zone of Impact and Cutback Approach

If triggered by a failure to achieve the allocated overdraft mitigation pumping reduction by 2030, the ZOI will be defined as the entire CDMGSA region. Pumping within the entire CDMGSA region will be limited to the estimated sustainable yield for the Basin (by principal aquifer) and implemented through AFY/acre allocations.

In the event that allocations are implemented and one or more CDMGSA member agencies are not able to satisfy minimum health and safety requirements for municipal and industrial water uses from the allocation and all other available sources, the CDMGSA may find and make a determination that it is necessary to provide an additional allocation for municipal and industrial water uses and a corresponding reduction in the overall allocation. Any such allocation, if made, shall not result in pumping within the entire CDMGSA region exceeding the sustainable yield for the Basin.

It is the intention of the CDMGSA to conduct a study along with the other GSAs in the Basin to refine the estimated sustainable yield and, ideally, to determine local sustainable yields. Should local sustainable yields be determined, the relevant local sustainable yield will be used to define the backstop allocation, rather than the Basin-wide value. In any area that is subject to pumping limitations under other parts of this PRP, the most stringent limitation will apply. The AFY/acre pumping limit will be implemented by the respective CDMGSA member agencies throughout the entire CDMGSA region through communications with the applicable landowners/pumpers. The groundwater allocation backstop may be ended when the triggering conditions are resolved.

7.4 Additional Monitoring and Reporting Requirements

Annual pumping measurements should be reported to the CDMGSA within two weeks of collection. All data reported should also be imported into the Basin DMS by the respective member agencies.

7.5 Enforcement

Enforcement of the groundwater allocation backstop is governed by the dispute resolution mechanisms in the Basin GSA's MOA.

Luhdorff & Scalmanini
Consulting Engineers

TECHNICAL MEMORANDUM

DATE: February 12, 2025 Project No. 22-1-032

TO: Jim Stilwell

FROM: Andrew Francis, PG
Will Halligan, PG

SUBJECT: Farmers Water District Pumping Reduction Plan

INTRODUCTION

This Technical Memorandum (**TM**) describes the Farmers Water District (**FWD**) Groundwater Sustainability Agency (**GSA**) Pumping Reduction Plan (**PRP**). As outlined in the Delta-Mendota Subbasin (Subbasin) 2024 Groundwater Sustainability Plan (**GSP**) prepared by EKI, the PRP consists of six sections:

1. Monitoring and Data Collection Plan
2. Overdraft Mitigation Plan
3. Groundwater Level Minimum Threshold Avoidance Plan
4. Water Quality Minimum Threshold Exceedance Plan
5. Subsidence Avoidance Plan
6. Groundwater Allocation Backstop

This TM conforms with all requirements of the PRP outlined in Section 16.1.1 of the GSP and all monitoring protocols described in Section 14.3. For applicable PRP components, specific triggers and procedures are defined. These include an entry trigger to activate the PRP, a zone of impact (**ZOI**) to determine where the PRP will be applied, a cutback approach to provide quantitative estimates of pumping reductions, an exit trigger to conclude the cutback once objectives are met, and enforcement measures to ensure successful implementation. Additional monitoring and reporting requirements are outlined in each component, aligning with the Monitoring and Data Collection Plan.

1 MONITORING AND DATA COLLECTION PLAN

The Monitoring and Data Collection plan includes eight components that establish minimum standards for all GSA groups. This will facilitate the implementation of the Subbasin GSP and will help prevent undesirable results. The individual components include the items listed in **Table 1**. FWD has committed to complying with all eight components of the plan as described in section 16.1.1.1 in the Subbasin GSP.

Table 1 – Monitoring and Data Collection Plan	
Requirement	**Commitment**
Regular monitoring network(s) assessment	FWD
Quarterly groundwater level monitoring	FWD
Semiannual water quality monitoring	FWD
Well registration policy	FWD
Well metering policy	FWD
Well extraction reporting policy (including estimation of pumping from composite wells)	FWD
Provide well construction information for all monitoring wells	FWD
Replacing composite/production wells in the monitoring network with dedicated monitoring wells by 2030	FWD

2 OVERDRAFT MITIGATION PLAN

2.1 Objective and Requirement

FWD GSA is a member of Zone 1, which includes the Fresno County GSA Group, Aliso GSA Group, and a portion of the Central GSA Group (Tranquility Irrigation District). Zone 1 is required to reduce its average pumping by approximately 2,800 acre-feet per year (**AF/year**) in the Upper Aquifer and 2,900 AF/year in the Lower Aquifer by 2030, based on the overdraft evaluation period (Water Year [**WY**] 2003 to WY 2023).

2.2 Implementation Approach

The proposed path for pumping reductions over the next five years for Zone 1 is presented in **Table 2**.

Table 2 - Zone 1 Overdraft Reduction				
Water Year	**Reduction in overdraft**	**Upper Aquifer Reduction (AF)**	**Lower Aquifer Reduction (AF)**	**Total Reduction (AF)**
2025	0	0	0	0
2026	0.2	560	580	1140
2027	0.4	1120	1160	2280
2028	0.6	1680	1740	3420
2029	0.8	2240	2320	4560
2030	1	2800	2900	5700

FWD does not pump from the Lower Aquifer. However, FWD will continue to measure Upper Aquifer groundwater pumping and coordinate with other GSAs to achieve sustainability. FWD has monitored water levels and pumping amounts for more than 20 years, and the data suggests that the historical pumping average will result in sustainable conditions. FWD will not contribute to the overall reduction between 2025 and 2030.

2.3 Coordination with other GSAs to Achieve Required Pumping Reduction

Following the end of each water year, FWD will meet with other Zone 1 members to determine the total pumping. The volume of pumping for each entity will be compared to the average from 2003 to 2023. These annual meetings will also include discussion of planned pumping for the upcoming water year.

3 GROUNDWATER LEVEL MINIMUM THRESHOLD AVOIDANCE PLAN

3.1 Objective and Requirements

The Groundwater Level Minimum Threshold (**GWL-MT**) Avoidance Plan is intended to prevent GWL-MT exceedances and provide corrective action when they occur. FWD GSA has two groundwater level representative monitoring sites (**RMW-WL**), one in the Upper Aquifer (TSS-325) and one in the Lower Aquifer (TSS-485). The Sustainable Management Criteria (**SMC**) for these sites are presented in **Table 3**.

By the end of February each year, GSAs will compare the water level data at each RMW-WL to the defined triggers. If a GWL-MT exceedance occurs or is projected to occur, an investigation will be conducted to determine if an area should be designated as an MT "hotspot" and will require an RMW-WL-specific PRP. This PRP will define pumping reductions or other management actions to be implemented in the designated hotspot.

Table 3 – FWD GWL Monitoring Wells

Subbasin DMS ID	Local ID	Aquifer	MO (ft NAVD 88)	MT (ft NAVD 88)
10-009	TSS-325	Upper Aquifer	83.7	3.4
10-010	TSS-485	Lower Aquifer	-12.9	-44.3

3.2 Investigation Trigger

The GWL-MT for each monitoring site is equal to the seasonal low measured in 2015 or the equivalent method as described in 13.1.2 of the GSP. Both RMW-WL sites were constructed in 2021 and used water level data from 2022 for MT levels (Method 4 in Section 13.1.2.1 Minimum Threshold Development). The occurrence of any of the following conditions at an RMW-WL triggers a GWL-MT investigation to determine whether an area should be designated as an MT "hotspot" and will require pumping reductions:

- Exceedance of the GWL-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs.
- Projected exceedance of the GWL-MT, based on the linear trend of the previous four Fall groundwater level measurements (using the seasonal average if multiple measurements are taken).

3.3 Investigation Approach

In the event of a GWL-MT exceedance or projected exceedance, an investigation will be conducted to determine if declining water levels are a result of FWD groundwater management. The following is an outline of the steps to be taken during an investigation.

3.3.1 Data Collection & Timeline

The following describes the data to be collected and the timeline for completion of the GWL-MT exceedance investigation.

- Monitoring frequency at the site will increase quarterly to monthly.
- FWD will request pumping and groundwater level data from all surrounding GSAs within 14 days of the reported GWL-MT exceedance.
    - Identify other RMW-WL that have experienced GWL-MT exceedances
    - For non-RMW, compare current water levels to conditions in 2015. Use 2022 if data is not available going back to 2015.
    - Compare current pumping numbers to the historical average (2003-2023)
        - Complete evaluation within 60 days of GWL-MT exceedance utilizing the best available information.

3.3.2 Methods for Investigation

The following steps will be used to determine if FWD is responsible for a GWL-MT exceedance or projected exceedance:

1. Determine if declining groundwater levels are confined to a single GSA or if the problem is regional. Water levels in the Zone 1 area will be compared to the established GWL-MT values. Current water levels in relation to the established MT will inform the ZOI (discussed in 3.3).
2. The second step in determining the cause of a GWL-MT exceedance will be to review pumping from FWD and surrounding GSAs within Zone 1. Pumping values for the current water year leading up to the MT exceedance will be compared to the average pumping that occurred from the period 2003 to 2023. Comparing these pumping values will be an important factor in determining the party responsible.
3. Evaluate the drawdown at the GWL-MT site where the exceedance occurred or is projected to occur. Using either a numerical model and/or analytical solution. This analysis will be conducted in a coordinated effort to ensure all parties agree on the amount and timing of pumping.
4. Decide whether FWD or an outside GSA is responsible for the GWL-MT exceedance. FWD will prepare a TM describing the investigation and making a conclusion on the party responsible. This

TM will be provided to the Coordination Committee for review by all interested parties within 60 days.

5. IF FWD is determined to be responsible for the GWL-MT exceedance, a ZOI will be delineated and will be designated as a "hotspot."

3.4 Zone of Impact

If it is determined that FWD groundwater management is responsible for the GWL-MT exceedance or projected exceedances and is to be designated a hotspot, a ZOI will be determined to delineate the area where management actions are to be implemented. The ZOI will be based on a spatially interpolated surface representing the minimum threshold across the basin. The following outlines how the ZOI will be delineated when a GWL-MT exceedances has occurred:

1. Create a groundwater level contour map that represents the GWL-MT at all RMW-WL in Zone 1.
2. Create a groundwater level contour map using groundwater levels measured at the time of the MT exceedance.
3. Areas where water levels are lower than the GWL-MT will be delineated as the ZOI.

The following outlines how the ZOI will be delineated when a GWL-MT exceedance is projected to occur:

1. Create a groundwater level contour map that represents the GWL-MT at all RMW-WL in Zone 1.
2. Create a groundwater level contour map using groundwater levels measured at the time of the MT projected exceedance. Water levels will be projected a year in advance using water levels from the previous four fall measurements.
3. Area areas where the projected water levels are lower, the GWL-MT will be delineated as the ZOI.

3.5 Mitigation and Cutback Approach

After a ZOI for a hotspot is determined, a cutback approach is implemented with specific pumping reductions. When groundwater levels are projected to exceed the GWL-MT, mitigation measures include a reduction in pumping by 0.25 acre-feet (AF)/acre that is kept in place until water levels are no longer projected to exceed the MT. If groundwater levels have exceeded the GWL-MT, the reduction in pumping will be increased to 0.5 AF/acre for as long as water levels remain below GWL-MT levels. Pumping reductions are calculated based on the average pumping that occurred within the ZOI from 2003 to 2023

Pumping reductions may be adjusted for the subsequent water year if conditions do not show improvement. Conversely, the GSA may decide to suspend these pumping limits if trends in groundwater levels improve, ensuring avoidance of GWL-MT.

Additional monitoring of groundwater levels will also be incorporated as a management action. This will provide useful data to better understand how pumping affects groundwater levels. FWD will modify the mitigation and cutback approach as more information is collected to improve groundwater management and prevent future GWL-MT exceedances. Pumping reductions will not apply to groundwater pumping related to the mitigation of degraded water quality or the recovery of recharged surface water.

3.6 Cutback Exit Trigger

Following a year when a GWL PRP is implemented, water level and pumping data will be evaluated to determine the impact of the mitigation actions. The pumping cut back will remain in place until water levels have recovered above MT levels and there are no projected MT exceedances for the upcoming fall. An MT exceedance will no longer be projected when four consecutive measurements have shown an increasing trend above the MT. When MT exceedances are no longer projected and water levels are above the MT, FWD will resume normal pumping. Example PRP scenarios are provided in the next section, which describes the action that will be taken.

3.7 Example Scenarios

Example 1. Based on seasonal low measurements, groundwater levels are projected to exceed the GWL-MT in the following year, and an investigation has determined that FWD groundwater management is responsible:

- FWD will increase its monitoring frequency from quarterly to monthly.
- Delineate the ZOI and reduce pumping from the historical average from 2003-2023 by 0.25 acre/feet within that area.
- ZOI is determined to have an area of 1000 acres where the average historical pumping is 2000 AF/year (2 AF/acre).
- Allowable pumping within the ZOI will be 1.75 AF/acre or 1,750 AF.
- Maintain pumping reduction of 0.25 AF/acre until three consecutive water levels have shown a projected level above the MT. Four consecutive measurements have shown an increasing trend with projected water levels above the MT.
- Once MT exceedance is no longer projected, FWD can resume normal pumping.
- Modify future PRPs based on data collected during implementation of this PRP.

Example 2. A seasonal low water level measurement has exceeded the GWL-MT, and the investigation has determined that FWD groundwater management is responsible:

- FWD will increase its monitoring frequency from quarterly to monthly.
- Delineate the ZOI and reduce pumping from the historical average from 2003-2023 by 0.5 AF/acre within that area.
- ZOI is determined to have an area of 1000 acres where the average historical pumping is 2000 AF/year (2 AF/acre).
- Allowable pumping within the ZOI will be 1.5 AF/acre or 1,500 AF.
- Maintain the pumping reduction of 0.5 AF/acre until water levels are recovered above GWL-MT.
- IF water levels recover above the MT but still show a projected exceedance based on the previous three measurements, pumping reductions will be reduced from 0.5 AF/acre to 0.25 AF/acre.
- Maintain pumping reduction of 0.25 AF/acre until three consecutive water levels have shown a projected level above the MT. Four consecutive measurements have shown an increasing trend with projected water levels above the MT.

- Once MT exceedance is no longer projected, FWD can resume normal pumping.
- Modify future PRPs based on the data collected during the implementation of this PRP.

3.8 Enforcement

Groundwater Allocation Backstop will be enforced in cases of implementation lapses or if a GSA fails to implement policy within two quarters. Further actions will be governed by the dispute resolution mechanisms in the Subbasin GSAs' Memorandum of Agreement (**MOA**).

4 WATER QUALITY MINIMUM THRESHOLD EXCEEDANCE PLAN

4.1 Objective and Requirements

The Groundwater Quality Minimum Threshold (**WQ-MT**) Exceedance Plan is intended to prevent WQ-MT exceedances and provide corrective action when WQ-MT exceedances occur. FWD has two water quality representative monitoring wells (**RMW-WQ**), which also serve as RMW-WL. WQ-MT values are based on Title 22 Drinking Water Standards or values greater if the measurements have historically exceeded the MCL value. A full description of the methods used to develop WQ-MT is provided in section 13.4.2.1 of the GSP. GSAs must investigate the cause to determine if such exceedances are linked to Subbasin management. If it is determined that FWD groundwater management is responsible for a WQ-MT exceedance, the GSP must design and implement appropriate mitigation measures, including pumping cutbacks or other strategies, to prevent future WQ-MT exceedances caused by Subbasin management.

The WQ-MT Plan triggers pumping cutbacks only when a direct relationship or convincing linkage is established between changes in water quality concentrations exceeding or projected to exceed their MTs and management actions of the GSAs in the Basin or changes in groundwater levels. In the absence of such correlations or due to data gaps, continued monitoring and data collection are prioritized. When necessary, pumping cutbacks are implemented using the same approach outlined in the GWL-MT Plan.

4.2 Investigation Trigger

The occurrence of any of the following conditions at an identified RMW-WQ triggers a 60-day investigation requirement:

- Exceedance of the WQ-MT.
- Projected exceedance of the WQ-MT, based on a statistically significant linear trend of the previous three Fall groundwater quality measurements (using the seasonal average if multiple measurements are taken).

4.3 Investigation Approach

In the event of a WQ-MT exceedance, an investigation will be conducted to determine if degraded water quality is a result of FWD groundwater management. The following is an outline of the steps to be taken during an investigation.

4.3.1 Data Collection and Timeline

- Retest water quality from the RMS site that exceeds MT within 14 days of lab results indicating MT exceedance.
- Request all water quality and pumping data from surrounding GSAs within 14 days of the reported WQ-MT exceedance
    - Identify other RMW-WQ that have experienced WQ-MT exceedances.
    - For non-RMW, compare water quality values to the established MTs.
    - Compare current pumping to the historical average (2003-2023).
- Evaluate all RMW-WQ from surrounding GSAs and determine if other wells have increasing trends.
- Evaluation of groundwater level for FWD and surrounding GSAs.
- Statistical analysis of the relationship between water level and water quality at the RMS-MT exceedance.
- Complete evaluation with 60 days of WQ-MT exceedances utilizing the best available information.

4.3.2 Method of Investigation

To investigate the cause of a WQ-MT exceedance, FWD will evaluate the relationship between declining water levels (i.e. GWL-MT exceedance or projected exceedance) and degraded water quality by using an integrated approach combining a visual and statistical analysis. The following provides a general overview of the methods to be used during the WQ MT exceedance investigation.

1. FWD will utilize water quality time series graphs to visually assess trends in water quality parameters over time. These graphs will allow us to observe any concurrent patterns between water level decline and changes in water quality.
2. Historical isoconcentration maps will also be incorporated to spatially analyze how groundwater quality has shifted in relation to changing water levels across the Subbasin.
3. Additionally, statistical analyses will be used to further examine the causality of water levels and water quality.

In addition to evaluating water quality and water level data, the investigation will consider the natural migration of degraded water quality (e.g., Western Saline Front) and impacts on beneficial groundwater users. In the event that a degraded WQ-MT exceedance is due to the migration of naturally degraded groundwater and there have been no impacts on beneficial users, FWD will continue the groundwater management that maintains water levels above GWL-MT levels.

4.4 Zone of Impact

The ZOI will be delineated by evaluating both water level and water quality data. First, it will be determined if there is a significant cone of depression around the site with the WQ-MT exceedance. Second, a geospatial analysis will be conducted to determine if increases in water quality have any spatial relationship or if increases are random.

4.5 Mitigation Approach

Following an investigation that has determined that FWD groundwater management is responsible for the WQ-MT exceedance, the following actions will be taken to address the WQ-MT.

- Degradation due to GWL decline (GWL-MT exceedance or projected exceedance):
    - Establish a temporary GWL-MT hotspot at the well.
    - Temporary GWL trigger equals the previous year's seasonal high or Measurable Objective (whichever is lower).
    - Follow the GWL-MT curtailment process:
        - An initial cutback will be consistent with Section 3.5. Pumping reductions will be equal over the ZOI.
        - Projected GWL-MT exceedance results in a pumping reduction of 0.25 AF/acre.
        - GWL-MT exceedance results in a pumping reduction of 0.5 AF/acre.
        - Maintain pumping reductions until water quality has improved or stabilized and water levels have recovered above the temporary GWL-MT.
    - After each year a water quality PRP is implemented, the additional data collected will be evaluated to determine if any changes to the PRP are necessary.
- In the event of WQ-MT exceedances due to recharge from a recharge project, FWD will modify future recharge as necessary to correct for degraded water quality. This is not anticipated, as data collection from existing recharge projects has been a net positive for water quality.

4.6 Mitigation Exit Trigger

A PRP for WQ-MT exceedances is to be maintained for at least three years as described in the Subbasin GSP. At the end of a year, when a PRP is implemented, water level, water quality, and pumping data will be reviewed to evaluate the impact of mitigation actions. Utilizing the additional water quality and water level data that has been collected from increased monitoring, FWD will modify the PRP based on changes to water level and water quality data. The following are mitigation exit triggers:

- If groundwater quality has improved and no longer exceeds the WQ-MT, pumping reductions will no longer be required. The increased monitoring frequency will remain in place.
- If groundwater quality has stabilized, meaning that three consecutive measurements have not shown an increasing trend, and water levels have recovered above the temporary GWL-MT, pumping reductions will no longer be required. The increased monitoring frequency will remain in place for three years from the time the WQ-MT exceedance occurred.

If groundwater quality continues to degrade while groundwater levels have recovered above the temporary GWL-MT after three years of implementing the PRP, FWD will develop an alternative mitigation approach that considers all beneficial uses of groundwater and maintains water levels above GWL-MT.

4.7 Example Scenario

Example 3: A WQ-TM exceedance is projected to occur based on a statistically significant trend in TDS concentrations for three consecutive years, and it has been determined that FWD groundwater management is responsible for declining water levels (projected GWL-MT exceedance):

- FWD will increase its groundwater level monitoring frequency from quarterly to monthly. Water quality monitoring will be increased from semi-annual to quarterly.
- Increase the frequency of water quality monitoring to quarterly at one upgradient well and one downgradient well for TDS.
- Establish a temporary GWL-MT equal to the previous year's seasonal high or measurable objective (whichever is lower).
- Delineate the ZOI and reduce pumping from the historical average from 2003-2023 by 0.25 acre/feet within that area.
- ZOI is determined to have an area of 1000 acres where the average historical pumping is 2000 AF/year (2 AF/acre).
- Allowable pumping within the ZOI will be 1.75 AF/acre or 1,750 AF.
- Maintain this pumping reduction until water levels have recovered above the temporary GWL-MT and water quality has either stabilized or improved.
- Maintain increased monitoring frequency for three years.
- Evaluate additional data collected each to re-evaluate PRP and make any necessary adjustments to prevent water level and water quality MT exceedances.

4.8 Enforcement

Enforcement of this plan is governed by the dispute resolution mechanisms in the Basin GSAs' MOA. When pumping cutbacks are implemented, enforcement mirrors the procedures used for GWL-MT violations. In such cases, failure to comply with implementation or a delay of more than two quarters will trigger the Groundwater Allocation Backstop.

5 SUBSIDENCE AVOIDANCE PLAN

5.1 Objective and Requirements

The FWD GSA group is required to proactively address progressing land subsidence that does not or is not projected to comply with the requirements of the 2024 GSP as soon as feasible and implement pumping cutbacks that will bring the identified regions back in line with the sustainability path of the Basin. The Subsidence Avoidance Plan has two components that lead to different requirements. Critical Infrastructure Component only applies to critical, and the hotspot mitigation component applies to the entire Basin:

- **Critical Infrastructure Component:** The three-year moving average subsidence rate exceeds 0.2 feet/year and is located within 0.5 miles of critical infrastructure. Critical infrastructure within 0.5 miles of FWD includes the Fresno Slough and the Mendota Pool.
- **Hotspot Mitigation Component:** The five-year average subsidence rate exceeds 0.2 feet/year, based on InSAR data, which indicates a projected subsidence of more than 2 feet by 2040 (MT) or more than 0.5 feet by the 2030 interim milestone or any subsequent interim milestone.

Currently, FWD only pumps from the Upper Aquifer, which does not significantly contribute to land subsidence. FWD will continue to monitor subsidence within their GSA boundaries and notify the coordination committee in the event either of the subsidence triggers has been exceeded. FWD will assist in surrounding GSAs with investigations to determine the responsible party for land subsidence that exceeds either the Critical Infrastructure or Hotspot Component.

6 GROUNDWATER ALLOCATION BACKSTOP

6.1 Objective and Requirements

In accordance with Exhibit C of the MOA, GSAs are required to implement the groundwater allocation backstop plan if they cannot sufficiently meet the requirements of the 2024 GSP.

6.2 Cutback Entry Trigger

The occurrence of the following conditions will result in a groundwater allocation backstop:

- GWL-MT exceedances for two consecutive years and
- Failure to achieve allocated Overdraft Mitigation pumping reduction by 2030

6.3 Zone of Impact and Cutback Approach

This plan applies to the entire service area of the GSA. Pumping within the subjected GSAs will be limited to the estimated sustainable yield, as determined by the GSA, and implemented through AFY/acre allocations. The estimated sustainable yield will be developed based on the additional data collected during implementations of PRPs associated with GWL-MT and WQ-MT exceedances.

6.4 Enforcement

Enforcement of the groundwater allocation backstop is governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

Luhdorff & Scalmanini
Consulting Engineers

TECHNICAL MEMORANDUM

DATE: February 7, 2025 Project No. 24-1-057

TO: Augustine C. Ramirez

FROM: Andrew Francis, PG

Will Halligan, PG

SUBJECT: Fresno County Management Area A&B Pumping Reduction Plan

INTRODUCTION

This Technical Memorandum (TM) describes the Fresno County Management Area & Management Area B (FCMA) GSA Pumping Reduction Plan (PRP). As outlined in the 2024 Delta-Mendota Subbasin (Subbasin) Groundwater Sustainability Plan (GSP) prepared by EKI, the PRP consists of six sections:

1. Monitoring and Data Collection Plan
2. Overdraft Mitigation Plan
3. Groundwater Level Minimum Threshold Avoidance Plan
4. Water Quality Minimum Threshold Exceedance Plan
5. Subsidence Avoidance Plan
6. Groundwater Allocation Backstop

This TM conforms with all requirements of the PRP outlined in Section 16.1.1 of the GSP and all monitoring protocols described in Section 14.3. For applicable PRP components, specific triggers and procedures are defined. These include an entry trigger to activate the PRP, a zone of impact (ZOI) to determine where the PRP will be applied, a cutback approach to provide quantitative estimates of pumping reductions, an exit trigger to conclude the cutback once objectives are met, and enforcement measures to ensure successful implementation. Additional monitoring and reporting requirements are outlined in each component, aligning with the Monitoring and Data Collection Plan.

1 MONITORING AND DATA COLLECTION PLAN

The Monitoring and Data Collection plan includes eight components that establish minimum standards for all GSA groups. This will facilitate the implementation of the Subbasin GSP and will help prevent undesirable results. The individual components include the items listed in **Table 1**. FCMA has committed to complying with all eight components of the plan as described in section 16.1.1.1 in the Subbasin GSP.

Table 1 – Monitoring and Data Collection Plan	
Requirement	**Commitment**
1. Regular monitoring network(s) assessment	FCMA
2. Quarterly groundwater level monitoring	FCMA
3. Semiannual water quality monitoring	FCMA
4. Well registration policy	FCMA
5. Well metering policy	FCMA
6. Well extraction reporting policy (including estimation of pumping from composite wells)	FCMA
7. Provide well construction information for all monitoring wells	FCMA
8. Replacing composite/production wells in the monitoring network with dedicated monitoring wells by 2030	FCMA

2 OVERDRAFT MITIGATION PLAN

2.1 Objective and Requirement

FCMA GSA is a member of Zone 1 which includes the Farmers Water District GSA Group, Aliso GSA Group, and a portion of the Central GSA Group (Tranquility Irrigation District). Zone 1 is required to reduce its average pumping by approximately 2,800 AF/year in the Upper Aquifer and 2,900 AF in the Lower Aquifer by 2030, based on the overdraft evaluation period (Water Year [WY] 2003 to WY 2023). FCMA will actively coordinate with adjacent GSAs within Zone 1 to meet this goal.

2.2 Implementation Approach

The proposed path for pumping reductions over the next five years for Zone 1 is presented in **Table 2**.

Table 2 - Zone 1 Overdraft Reduction				
Implementation Year	Reduction in overdraft	Upper Aquifer Reduction (AF)	Lower Aquifer Reduction (AF)	Total Reduction (AF)
2025	0	0	0	0
2026	0.2	560	580	1140
2027	0.4	1120	1160	2280
2028	0.6	1680	1740	3420
2029	0.8	2240	2320	4560
2030	1	2800	2900	5700

FCMA does not pump from the Lower Aquifer. FCMA will continue to measure Upper Aquifer groundwater pumping and coordinate with other GSAs to achieve sustainability. FCMA has monitored water levels and pumping amounts for more than 20 year and the data suggests that the historical pumping average will result in sustainable conditions.

2.3 Coordination with other GSAs to Achieve Required Pumping Reduction

Following the end of each water year, FCMA will meet with other Zone 1 members to determine the total pumping. The volume of pumping for each entity will be compared to the average from 2003 to 2023. These annual meetings will also include a discussion of planned pumping for the upcoming water year.

3 GROUNDWATER LEVEL MINIMUM THRESHOLD AVOIDANCE PLAN

3.1 Objective and Requirements

The Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan is intended to prevent GWL-MT exceedances and provide corrective action when GWL-MT exceedances occur. FCMA GSA has six groundwater level representative monitoring sites (RMW-WL). Two of these sites were constructed in the Fall/Winter 2024 and do not have established Sustainable Management Criteria. The Sustainable Management Criteria for these sites is presented in **Table 3**.

By the end of February of each year, GSAs will compare the water level data at each RMW-WL to the defined triggers. If a GWL-MT exceedances occurs or is projected to occur, an investigation will be conducted to determine if an area should be designated as an MT “hotspot” and will require an RMW-WL

specific PRP. This PRP will define pumping reductions or other management actions to be implemented in the designated hotspot.

Table 3 – FCMA GWL Monitoring Wells					
Site ID	Local ID	GSA	Aquifer	MO (ft NAVD 88)	MT (ft NAVD 88)
12-001	SPRECK-MW-7	MAA	Upper Aquifer	99	79
13-001	HANS-7C1	MAB	Upper Aquifer	120.5	100.5
13-003	TL-HS-3	MAB	Upper Aquifer	116.1	57.4
TBD	Traction Ranch UA	MAB	Upper Aquifer	TBD	TBD
13-004	USGS-31J6	MAB	Lower Aquifer	-27	-50.6
TBD	Traction Ranch LA	MAB	Lower Aquifer	TBD	TBD

3.2 Investigation Trigger

The GWL-MT for each monitoring site is equal to the seasonal low measured in 2015, or equivalent method as described in 13.1.2 of the GSP. Traction Ranch UA and Traction Ranch LA were not constructed at the time of GSP development and are pending GWL-MT. The occurrence of any of the following conditions at an RMW-WL triggers a GWL-MT investigation to determine whether an area should be designated as an MT "hotspot" and will require pumping reductions:

- Exceedance of the GWL-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs.
- Projected exceedance of the GWL-MT, based on the linear trend of the previous four Fall groundwater level measurements (using the seasonal average if multiple measurements are taken).

3.3 Investigation Approach

In the event of a GWL-MT exceedance or projected exceedance, an investigation will be conducted to determine if declining water levels are a result of FCMA groundwater management. The following is an outline of the steps to be taken during an investigation.

3.3.1 Data Collection & Timeline

The following describes the data to be collected and timeline for completion of the GWL-MT exceedance investigation.

- Monitoring at the site will increase quarterly to monthly.
- FCMA will request pumping and groundwater level data from all surrounding GSAs within 14 days of the reported GWL-MT exceedance.
    - Identify other RMW-WL that have experienced GWL-MT exceedances or have projected exceedances.
    - For non-RMW, compare current water levels to conditions in 2015. Use 2022 if data is not available going back to 2015.
    - Compare current pumping numbers to historical average (2003-2023)
- Complete evaluation within 60 days of GWL-MT exceedance utilizing the best available information.

3.3.2 Methods for Investigation

The following steps will be used to determine if FCMA is responsible for a GWL-MT exceedance or projected exceedance.

1. Determine if declining groundwater levels are confined to a single GSA or if the problem is regional. Water levels in the Zone 1 area will be compared to the established GWL-MT values. Current water levels in relation to the established MT will inform the ZOI (discussed in 3.3).
2. The second step to determine the cause of a GWL-MT exceedance will be a review of pumping from FCMA and surrounding GSAs that are within Zone 1. Pumping values for the current water year leading up to the MT exceedance will be compared to the average pumping that occurred from the period 2003 to 2023. Comparing these pumping values will be an important factor in determining the party responsible.
3. Evaluate drawdown at the GWL-MT site where the exceedance occurred or will occur. Using either a numerical model and/or analytical solution, the proportional amount of drawdown respective GSAs are responsible for will be determined. This analysis will be conducted in a coordinated effort to ensure all parties agree on the amount and timing of pumping.
4. The final step of the analysis will be to decide as to whether FCMA or an outside GSA is responsible for the GWL-MT exceedance. FCMA will prepare a TM describing the investigation and making a conclusion on the responsible part. This TM will be provided to the Coordination Committee for review by all interested parties within 60 days.
5. If FCMA is determined to be responsible for the GWL-MT exceedance, the ZOI will be designated as a “hotspot”.

3.4 Zone of Impact

If it is determined that FCMA is responsible for the GWL-MT exceedance and is to be designated a hotspot, a ZOI will be determined to delineate the area where management actions are to be implemented. The ZOI will be determined based on a spatially interpolated surface representing the minimum threshold across the basin. The following outlines how the ZOI will be de when an MT exceedances has occurred:

1. Create a groundwater level contour map that represents the GWL-MT at all RMW-WL in Zone 1.
2. Create a groundwater level contour map using groundwater levels measured at the time of the MT exceedance.
3. Areas where water levels are lower than the GWL-MT will be delineated as the ZOI.

The following outlines how the ZOI will be delineated when an GWL-MT exceedance is projected to occur:

1. Create a groundwater level contour map that represents the GWL-MT at all RMW-WL in Zone 1.
2. Create a groundwater level contour map using groundwater levels measured at the time of the MT projected exceedance. Water levels will be projected a year in advance using water levels from the previous four fall measurements.
3. Area areas where the projected water levels are lower the GWL-MT will be delineated as the ZOI.

3.5 Mitigation and Cutback Approach

After a ZOI for a hotspot is determined, a cutback approach is implemented with specific pumping reductions. When groundwater levels are projected to exceed the GWL-MT mitigation measures include a reduction in pumping by 0.25 acre-feet (AF)/acre. If groundwater levels have exceeded the GWL-MT, the reduction in pumping will be increased to 0.5 AF/acre. These reductions are calculated based on the average pumping that occurred within the ZOI from 2003 to 2023.

Pumping reductions may be adjusted for the subsequent water year if conditions do not show improvement. Conversely, the GSA may decide to suspend these pumping limits if trends in ground water levels improve, ensuring avoidance of GWL-MT.

Additional monitoring of groundwater levels will also be incorporated as a management action. This will provide useful data to better understand how pumping affects groundwater levels. FCMA will modify the mitigation and cutback approach as more information is collected to improve groundwater management and prevent future GWL-MT exceedances. Pumping reductions will not apply to groundwater pumping related to the mitigation of degraded water quality or the recovery of recharge surface water.

3.6 Cutback Exit Trigger

Following a year when a GWL PRP is implemented, water level and pumping data will be evaluated to determine the impact of the mitigation actions. The pumping cutback will remain in place until water levels have recovered above the MT and there are no projected exceedances for the upcoming fall. An MT exceedance will no longer be projected when four consecutive measurements have shown an increasing trend that above the MT, When MT exceedances are no longer projected and water levels are above the MT, FCMA will resume normal pumping. Example PRP scenarios are provided in the next section to describe action that will be taken.

3.7 Example Scenarios

Example 1. Based on seasonal low measurements, groundwater levels are projected to exceed the GWL-MT in the following year. An investigation has determined FCMA is responsible:

- FCMA will increase its monitoring frequency from quarterly to monthly.
- Delineate the ZOI and reduce pumping from the historical average from 2003-2023 by 0.25 acre/feet within that area.
- ZOI is determined to have an area of 1000 acres where the average historical pumping is 2000 AF/year (2 AF/acre).
- Allowable pumping within the ZOI will be 1.75 AF/acre or 1,750 AF.
- Maintain pumping reduction of 0.25 AF/acre until water levels no longer are projected to exceed the MT. Four consecutive measurements have shown an increasing trend with projected water levels above MT.
- Modify future PRPs based on the data collected during implementation of this PRP.

Example 2. A seasonal low water level measurement has exceeded the GWL-MT and the investigation has determined FCMA is responsible:

- FCMA will increase its monitoring frequency from quarterly to monthly.
- Delineate the ZOI and reduce pumping from the historical average from 2003-2023 by 0.5 AF/acre within that area.
- ZOI is determined to have an area of 1000 acres where the average historical pumping is 2000 AF/year (2 AF/acre).
- Allowable pumping within the ZOI will be 1.5 AF/acre or 1,500 AF.
- Maintain the pumping reduction of 0.5 AF/acre until water levels are recovered above GWL-MT and future MT exceedances are not projected.
- Modify future PRPs based on the data collected ruing implementation of this PRP.

3.8 Enforcement

Groundwater Allocation Backstop will be enforced in cases of implementation lapses, or if a GSA fails to implement policy within two quarters. Further actions will be governed by the dispute resolution mechanisms in the Subbasin GSAs' MOA.

4 WATER QUALITY MINIMUM THRESHOLD EXCEEDANCE PLAN

4.1 Objective and Requirements

The Groundwater Quality Minimum Threshold (WQ-MT) Exceedance Plan is intended to prevent WQ-MT exceedances and provide corrective action when WQ-MT exceedances occur. FCMA has three water quality representative monitoring wells (RMW-WQ). WQ-MT values are based on Title 22 Drinking Water Standards or value greater if measurements have historically exceeded the MCL value. A full description of the methods used to develop WQ-MT is provided in section 13.4.2.1 in the Subbasin GSP. FCMA is responsible for identifying exceedances or projected exceedances of WQ-MT. GSAs must investigate the

cause to determine if such exceedances are linked to Subbasin management. If it is determined that FCMA is responsible for a WQ-MT exceedance, the GSP must design and implement appropriate mitigation measures, including pumping cutbacks or other strategies, to prevent future WQ-MT exceedances caused by Subbasin management. The RMW-WQ network is presented in **Table 4**.

The WQ-MT Plan triggers pumping cutbacks only when a direct relationship or convincing linkage is established between changes in water quality concentrations exceeding or projected to exceed their MTs and management actions of the GSAs in the Basin or changes in groundwater levels. In the absence of such correlations or due to data gaps, continued monitoring and data collection are prioritized. When necessary, pumping cutbacks are implemented using the same approach outlined in the GWL-MT Plan.

Table 4 – FCMA RMW-WQ

Site ID	Local ID	GSA	Aquifer	Constituents of Concern	Minimum Threshold
12-001	SPRECK-MW-32	MAA	Upper Aquifer	Arsenic, Nitrate as N, TDS, 1,2,3, -TCP, Gross Alpha, Hexavalent Chromium	Title 22 Drinking Water Standards or historical high (2010-2014)
TBD	Traction Ranch UA	MAB	Upper Aquifer		
TBD	Traction Ranch LA	MAB	Lower Aquifer		

4.2 Investigation Trigger

The occurrence of any of the following conditions at an identified RMW-WQ triggers a 60-day investigation requirement:

- Exceedance of the WQ-MT.
- Projected exceedance of the WQ-MT, based on a statistically significant linear trend of the previous three Fall groundwater quality measurements (using the seasonal average if multiple measurements are taken).

4.3 Investigation Approach

In the event of a WQ-MT exceedance, an investigation will be conducted to determine if degraded water quality is a result of FCMA groundwater management. The following is an outline of the steps to be taken during an investigation.

4.3.1 Data Collection and Timeline

- Re-test water quality from RMS site that exceeds WQ-MT within 14 days of lab results indicating MT exceedance.
- Request all water quality and pumping data from surrounding GSAs within 14 days of the reported WQ-MT Exceedance
    - Identify other RMW-WQ that have experienced WQ-MT exceedances.

    - For non-RMW, compare water quality values to drinking water standards and historical highs.
    - Compare current pumping to the historical average (2003-2023).
- Evaluate all RMW-WQ from surrounding GSAs and determine if other wells have increasing trends.
- Evaluation of groundwater level for FCMA and surrounding GSAs.
- Statistical analysis of the relationship between water level and water quality at the RMW-WQ where the exceedance occurred.
- Complete evaluation with 60 days of WQ-MT Exceedances utilizing the best available information.

4.3.2 Method of Investigation

To investigate the cause of a WQ-MT exceedance, FCMA will evaluate the relationship between declining water levels (i.e. GWL-MT exceedance or projected exceedance) and degraded water quality by using an integrated approach combining a visual and statistical analysis. The following provides a general overview of the methods to be used during the WQ-MT exceedance investigation.

1. FCMA will utilize water quality time series graphs to visually assess trends in water quality parameters over time. These graphs will allow us to observe any concurrent patterns between water level decline and changes in water quality.
2. Historical isoconcentration maps will also be incorporated to spatially analyze how groundwater quality has shifted in relation to changing water levels across the Subbasin.
3. Additionally, statistical analysis will be used to further examine the causality of water levels and water quality.

In addition to the evaluation of water quality and water level data, the investigation will consider the natural migration of degraded water quality (e.g. Western Saline Front) and impacts to beneficial users of groundwater. In the event a WQ-MT exceedance is due to the migration of naturally degraded groundwater and there have been no impacts to beneficial users, FCMA will continue with groundwater management that maintains water levels above GWL-MT levels.

4.4 Zone of Impact

The ZOI will be delineated by evaluating both water level and water quality data. First it will be determined if there is a significant cone of depression around that site that had the WQ-MT exceedance. Second, a geospatial analysis will be conducted to determine if increases in water quality have any spatial relationship or if increases are random. The overlap between the cone of depression and wells with degrading water quality will be the ZOI.

4.5 Mitigation Approach

Following an investigation that has determined FCMA is responsible for the WQ-MT exceedance, actions will be taken depending on whether the exceedance was due to a decline in GWL or due to recharge from a recharge project.

- Degradation due to GWL decline (GWL-MT exceedance or projected exceedance)):
    - Establish a temporary GWL-MT hotspot at the well

- Temporary GWL trigger equals the previous year's seasonal high or Measurable Objective (whichever is lower).
- Follow GWL-MT curtailment process:
  - Initial cutback will be consistent with Section 3.5. Pumping reduction will be equal over the AOI.
    - Projected GWL-MT exceedance will result in a pumping reduction of 0.25AF/acre over the AOI.
    - GWL-MT exceedance results in a pumping reduction of 0.5 AF/acre over the AOI.
    - Maintain pumping reduction until water quality has improved or stabilized and water levels have recovered above the temporary GWL-MT.
  - If exit trigger is not met, pumping reductions may be modified in the following year based on information collected from the increased monitoring.

- In the event of WQ-MT exceedances due to recharge from a recharge project, FCMA will modify future recharge as necessary to correct for degraded water quality. This is not anticipated as data collection from existing recharge projects has been a net positive for water quality.

4.6 Mitigation Exit Trigger

A PRP for a WQ-MT exceedances is to be maintained for at least three years as described in the Subbasin GSP. At the end of a year when a PRP is implemented, water level, water quality, and pumping data will be reviewed to evaluate the impact of mitigation actions. Utilizing the additional water quality and water level data that has been collected from increased monitoring, FCMA will modify the PRP based on changes to water level and water quality data. The following are mitigation exit triggers:

- If groundwater quality has improved and no longer exceeds the WQ-MT for three consecutive sampling events, pumping reductions will no longer be required. The increased monitoring frequency will remain in place.
- If groundwater quality has stabilized, meaning that three consecutive measurements have not shown an increasing trend, and water levels have recovered above the temporary GWL-MT, pumping reductions will no longer be required. The increased monitoring frequency will remain in place.

If groundwater quality continues to degrade while groundwater levels have recovered above the temporary GWL-MT after three-years of implementing the PRP, FCMA will develop an alternative mitigation approach that considers all beneficial uses of groundwater and maintain water levels above GWL-MT.

4.7 Example Scenario

Example 1. A WQ-TM exceedance is projected to occur based on a statistically significant trend in TDS concentration for three consecutive years and it has been determined that FCMA is responsible due to declining water levels (projected GWL-MT exceedance):

- FCMA will increase its groundwater level monitoring frequency from quarterly to monthly. Water quality monitoring will be increased from semi-annual to quarterly.
- Increase frequency of water quality monitoring to quarterly at one upgradient well and one downgradient well for TDS.
- Establish a temporary GWL-MT equal to the previous year's seasonal high or measurable objective (whichever is lower).
- Delineate the ZOI and reduce pumping from the historical average from 2003-2023 by 0.25 acre/feet within that area.
- ZOI is determined to have an area of 1000 acres where the average historical pumping is 2000 AF/year (2 AF/acre).
- Allowable pumping within the ZOI will be 1.75 AF/acre or 1,750 AF.
- Maintain this pumping reduction until water levels have recovered above the temporary GWL-MT and water quality had either stabilized or improved (3 measurements have not shown increasing trend.
- Maintain increased monitoring frequency for three years.
- Evaluate additional data collected each to re-evaluate PRP and make any necessary adjustments to prevent water level and water quality MT exceedances.

4.8 Enforcement

Enforcement of this plan is governed by the dispute resolution mechanisms in the Basin GSAs' MOA. When pumping cutbacks are implemented, enforcement mirrors the procedures used for GWL-MT violations. In such cases, failure to comply with implementation or a delay of more than two quarters will trigger the Groundwater Allocation Backstop.

5 SUBSIDENCE AVOIDANCE PLAN

5.1 Objective and Requirements

The FCMA GSA group is required to proactively address progressing land subsidence that does not or is not projected to comply with the requirements of the 2024 GSP as soon as feasible and implement pumping cutbacks that will bring back the identified regions into sustainability path of the Basin. The Subsidence Avoidance Plan has two components that lead to different requirements. Critical Infrastructure Component only applies to critical, and the hotspot mitigation component applies to the entire Basin.

Pumping cutback under the Subsidence Avoidance Plan is triggered under the flowing conditions for each component:

- **Critical Infrastructure Component:** The three-year moving average subsidence rate exceeds 0.2 feet/year and is located within 0.5 miles of critical infrastructure. Critical infrastructure within 0.5 miles of FCMA includes the Fresno Slough and the Mendota Pool.
- **Hotspot Mitigation Component:** The five-year average subsidence rate exceeds 0.2 feet/year based on InSAR data indicates a projected subsidence of more than 2 feet by 2040 (MT), or more than 0.5 feet by 2030 interim milestone or any subsequent interim milestone.

Triggers under both components should be based on subsidence caused by Subbasin management, or under conditions that such causality cannot be justifiably established.

Currently, FCMA only pumps from the Upper Aquifer which does not significantly contribute to land subsidence. FCMA will continue to monitor subsidence within their GSA boundaries and notify the coordination committee in the event either of the subsidence triggers has been exceeded. FCMA will assist in surrounding GSAs with investigations to determine the responsible party for land subsidence that exceeds either the Critical Infrastructure or Hotspot Component.

6 GROUNDWATER ALLOCATION BACKSTOP

6.1 Objective and Requirements

In accordance with Exhibit C of the MOA, GSAs are required to implement the groundwater allocation backstop plan if they cannot sufficiently meet the requirements of the 2024 GSP.

6.2 Cutback Entry Trigger

Occurrence of any of the following conditions will result in groundwater allocation backstop:

- GWL-MT exceedances for two consecutive years and
- Failure to achieve allocated Overdraft Mitigation pumping reduction by 2030

6.3 Zone of Impact and Cutback Approach

This plan applies to the entire service area of the GSA subject to it. Pumping within the subjected GSAs will be limited to the estimated sustainable yield, as determined by the GSA, and implemented through AFY/acre allocations. The estimated sustainable yield will be developed based on the additional data collected during implementations of PRPs associated with GWL-MT and WQ-MT exceedances.

6.4 Enforcement

Enforcement of the groundwater allocation backstop is governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

ZONE 2 PUMPING REDUCTION PLAN

APPROVED | March 2025

ZONE 2 PUMPING REDUCTION PLAN

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1 INTRODUCTION:

In September 2014, the Governor signed legislation creating the Sustainable Groundwater Management Act (SGMA) "to provide local groundwater sustainability agencies with the authority and technical and financial assistance necessary to sustainably manage groundwater" (Wat. Code, § 10720, (d)). SGMA requires sustainable management through the development of groundwater sustainability plans (GSPs), which can be a single plan developed by one (1) or more groundwater sustainability agencies (GSAs) or multiple coordinated plans within a basin or subbasin (Wat. Code, § 10727). SGMA requires a GSP to be developed and implemented in all basins designated by the California Department of Water Resources (DWR) as medium or high priority.

The Delta Mendota Subbasin (Basin) is one (1) of the twenty-one (21) basins and subbasins identified by (DWR) as in a "critically overdraft" condition. This designation triggered an accelerated timetable for SGMA compliance, including GSP development by 2020 and achievement of sustainability by 2040. In compliance with this timeline, the twenty-three (23) Basin GSAs submitted six (6) GSPs, a common chapter, and a coordination agreement to DWR in January 2020 (2020 GSPs). DWR designated the 2020 GSPs as "incomplete" in January 2022 and identified four (4) main deficiencies. In June 2022, the GSAs amended and resubmitted the six (6) GSPs to DWR to address the identified deficiencies (2022 GSPs) and in March 2023, DWR made a finding of "inadequate" after reviewing the 2022 GSPs. As a result, the Basin is subject to the state intervention process defined in SGMA regulations and under California Water Code (CWC) §10735 et seq. The first formal step of the state intervention process will be a public hearing convened by the State Water Resources Control Board (SWRCB) to consider designating the Basin as probationary based on any specific deficiencies in its GSP that remain unresolved at the time of hearing.

In response to DWR's "inadequate" determination, the twenty-three (23) Basin GSAs collectively agreed to develop a single GSP (2024 GSP) for the Basin that synthesizes, updates, and replaces content from the 2022 GSPs and common chapter to address the corrective actions outlined by DWR. The 2024 GSP, adopted by the twenty-three (23) Basin GSAs provides the path to achieve sustainable groundwater management in the Basin, avoid Undesirable Results, avoid probation with the SWRCB, and maintain local control of the Basin.

1.1 Purpose:

The purpose of the Zone 2 Pumping Reduction Plan (PRP) is to facilitate the implementation of the 2024 GSP and provide the maximum degree of local control while achieving sustainable conditions based on the calculated historical overdraft set forth in the 2024 GSP. The Zone 2 PRP was developed by the Grassland GSA and San Joaquin River Exchange Contractor GSA Groups in accordance with Section 16.1 of the 2024 GSP and specifically addresses the following six (6) requirements:

- Monitoring and Data Collection Plan
- Overdraft Mitigation Plan
- Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan
- Water Quality Minimum Threshold (WQ-MT) Exceedance Plan
- Subsidence Avoidance Plan
- Groundwater Allocation Backstop

For applicable PRP components, specific triggers and procedures are defined. These include an entry trigger to activate the PRP, a zone of impact (ZOI) to determine where the PRP will be applied, a cutback approach to provide quantitative estimates of pumping reductions, an exit trigger to conclude the cutback once objectives are met, and enforcement measures to ensure successful implementation. Additional

monitoring and reporting requirements are outlined in each component, aligning with the Monitoring and Data Collection Plan.

1.2 Authority and Applicability:

1.2.1 Authority. The eleven (11) Basin GSAs encompassing the Grassland GSA and San Joaquin River Exchange Contractor GSA Groups, depicted in Attachment 1, (referred to herein as the "Zone 2 GSAs"), have the authority to draft, adopt, amend, and implement a GSP (Wat. Code , § 10725 et seq.; 10728.4). The Zone 2 GSAs reserve the right to modify this PRP at any time. Further, the Zone 2 GSAs have the authority to charge fees to implement the GSP, and to implement and enforce the PRP pursuant to the authority granted by Chapters 8 and 9 of Part 2.74 of the California Water Code, along with Proposition 26, Proposition 218, and the California Constitution.

1.2.2 Effective Date and Changes. This PRP shall become effective for each of the Zone 2 GSAs upon the date of adoption by each GSA's governing body. Any subsequent additions, amendments, and/or repeals by less than all GSAs in Zone 2 shall become effective only for the adopting GSAs as specified by each GSA governing body, and shall not affect PRP implementation by other GSAs. Furthermore, the San Joaquin River Exchange Contractors (SJREC) have a decades long historic partnership managing water resources with the adjacent communities. Through the development of SGMA compliance in the Delta-Mendota Subbasin, each of the six (6) adjacent community GSAs has signed a Memorandum of Understanding (MOU) with the SJREC GSA. Each MOU outlines the roles and responsibilities of each GSA, including obligations to mitigate groundwater overdraft, overall compliance with sustainable management criteria, and financial commitments for ensuring compliance under SMGA[1]. Failure for these community GSAs to adhere to the commitments set forth in the MOU with SJREC will result in the GSA defaulting to obligations set forth in Basin GSAs' Memorandum of Agreement (MOA).

1.2.3 Applicability. This PRP is only applicable within the boundaries of the eleven (11) Basin GSAs encompassing the Grassland GSA and San Joaquin River Exchange Contractor GSA Groups and collectively representing Zone 2, as depicted in Attachment 1.

[1] Community GSAs with MOUs with the SJREC GSA include: City of Dos Palos GSA, City of Firebaugh GSA, City of Gustine GSA, City of Los Banos GSA, City of Mendota GSA, and City of Newman GSA.

2 MONITORING AND DATA COLLECTION PLAN

Developed in accordance with Section 16.1 of the 2024 GSP, the Monitoring and Data Collection Plan, detailed in Table 1, represents Zone 2's commitments and strategies for achieving the monitoring and data requirements set forth in the 2024 GSP. To meet the requirements, the Zone 2 GSAs will implement new programs and policies, such as the County of Merced GSA – Delta-Mendota's Groundwater Monitoring and Reporting Program Guidelines (Attachment 2), or will continue to implement existing programs and policies, such as the SJREC GSA Group's monitoring and reporting program.

Table 1. Scheduled compliance with the requirements of the monitoring and data collection plan

		Grassland GSA Group Commitment	SJREC GSA Group Commitment
1	Regular monitoring network(s) assessment	To be conducted on a regular basis, at least once annually	To be conducted on a regular basis, at least once annually
2	Quarterly groundwater level monitoring	To be implemented starting Fall 2024	To be implemented starting Fall 2024
3	Semiannual water quality monitoring	To be implemented starting Fall 2024	To be implemented starting Fall 2024
4	Well registration policy	The two GSAs within the Grassland GSA Group will adopt policies prior to February 2025	All wells within the SJREC GSA Group are registered in the SJREC Database
5	Well metering policy	The two GSAs within the Grassland GSA Group will adopt policies prior to Fall 2025	All wells within the SJREC GSA Group have flow measurement required during installation
6	Well extraction reporting policy (including estimation of pumping from composite wells)	The two GSA groups will implement well metering policies by January 2026 or via an equivalently sufficient method such as remote sensing and report at least annually	All wells within the SJREC GSA Group are read at least annually for volume
7	Provide well construction information for all monitoring wells	The two GSAs within the Grassland GSA Group are already in compliance	The SJREC GSA Group is already in compliance
8	Replacing composite/ production wells in the monitoring network with dedicated monitoring wells by 2030	Zone 2 GSA Groups (with the exception of the SJRECWA GSA group) will replace composite/ production wells in the monitoring network by 2030.	

3 OVERDRAFT AND MITIGATION PLAN

3.1 Objective and Requirement

Developed in accordance with Section 16.1 of the 2024 GSP, the Overdraft and Mitigation Plan, detailed in Table 2, represents the Zone 2 GSAs' commitments and strategies for achieving the pumping reduction requirements set forth in the 2024 GSP. Per the 2024 GSP, the Zone 2 GSAs are required to reduce their average pumping by approximately 7,758 acre-feet per year (AFY) by 2030, based on the overdraft evaluation period of Water Year (WY) 2003 to WY 2023. The 2024 GSP mandates achieving this reduction through an annual minimum of 20% of the total apportioned pumping cut, beginning in WY 2026 and continuing each year for the following five (5) years. The Zone 2 GSAs have collectively developed and will collectively implement this Overdraft and Mitigation Plan to ensure that the pumping reduction requirements set forth in the 2024 GSP are achieved as prescribed.

3.2 Implementation Approach

Table 2. Required pumping reduction for Projects and Management Actions Zones, estimated based on 2030 Central Tendency Climate Change scenario.

P/MA Zones Representing GSA Groups	Required Pumping Reduction From Upper Aquifer (Acre-foot per Year)	Required Pumping Reduction From Lower Aquifer (Acre-foot per Year)	Total Required Pumping Reduction (Acre-foot per Year)
Zone 1 (Aliso Water District, Fresno County, Farmers Water District, Central Delta Mendota Region GSA Groups)	2,798	2,886	5,683
Zone 2 (San Joaquin River Exchange Contractors and Grassland GSA Groups)	**4,619**	**3,139**	**7,758**
Zone 3 (Northern Delta Mendota Region)	803	9,023	9,826
Zone 4 (Central Delta Mendota Region)	1,303	17,440	18,743
Basin	**9,523**	**32,487**	**42,010**

The Zone 2 GSAs will implement two (2) initial strategies for meeting the annual minimum required pumping reduction of 20%. The strategies will ensure that pumping reductions occur in target areas where groundwater level trends have declined during the overdraft evaluation period referenced in the 2024 GSP.[2]

Grassland GSA Group Pumping Reduction Strategy:

The Grassland Water District delivers federal Central Valley Project water to state, federal, and private wildlife refuges on the behalf of the United States Bureau of Reclamation (USBR) in Merced County. USBR

[2] Attachment 3 depicts the target areas where the two (2) initial pumping reduction strategies will generally occur.

acquires refuge water supply from willing sellers including some groundwater. It should be noted that the Grassland GSA has a balanced water budget and does not contribute to any overdraft in the subbasin.

A number of groundwater wells in the Merced County Delta Mendota GSA (MCDMGSA) have historically pumped for the Refuge Water Supply Program (RWSP) in certain years. One (1) area in the MCDMGSA is experiencing a declining water level trend in the Upper Aquifer where some RWSP pumping occurs and is estimated to be in overdraft by 1,800 AFY on average. Average annual off-farm pumping in this area for the RWSP is 1,800 AFY from the Upper Aquifer. The Grassland GSA Group is committing to reduce the RWSP related pumping by 20% (360 AF average annual) beginning in 2026 until resolving the localized overdraft by the end of 2030.

The Grassland Water District and GSA are also partnering with the City of Los Banos and DWR to construct 140 acres of retention basins in the area experiencing declining water levels in the Upper Aquifer. The project is located on 160-acres of irrigated alfalfa using approximately 800 AF per year of groundwater (160 acres * 5 AF/acre). Therefore, the subbasin anticipates to receive an additional benefit of 800 AF per year due to demand reduction through the implementation of this project. This project is being funded by the DWR through the Round 1 SGMA implementation funding, the City of Los Banos, and the Grassland Water District. The project is anticipated to begin construction in 2025 and operational in 2026.

San Joaquin River Exchange Contractor Pumping Reduction Strategy:

The Exchange Contractors have been monitoring groundwater levels for over 50 years and have used historic data to analyze the long-term overdraft throughout its service area.

Starting in the 1990's, the Exchange Contractors established representative monitoring wells for their service area. Review of the long-term hydrographs indicates three (3) areas where a pumping reduction plan should be established. It should be noted that the SJREC GSA has a balanced water budget and does not contribute to any overdraft in the subbasin.

Stanislaus County

The representative monitoring wells in the northwestern (Stanislaus County) area of Zone 2 are showing a long-term decline in water levels. It should be noted that Stanislaus County has many composite wells due to the shallow depth of the Corcoran Clay in the region. The average pumping breakdown from composite wells in this area indicates about 45% from the Upper Aquifer and 55% from the Lower Aquifer. Around 2010, the Exchange Contractors established a trigger water level in the target area to reduce extractions in the region for Exchange Contractors growers. The 1,200 AF/year of overdraft is primarily caused by pumping in white areas located within Stanislaus County and outside of the SJREC GSA. Zone 3 has adopted its own PRP, reducing overdraft by 8,000 AF over five (5) years. It is anticipated that the PRP and adaptive management approach in Zone 3 will resolve this overdraft. Adaptive management actions in Zone 2 will be taken as appropriate and in coordination with Zone 3.

Los Banos Area

The representative wells in the Los Banos area show water level declines. This area has a distinct Upper Aquifer and Lower Aquifer. Around 2010, the Exchange Contractors established a trigger water level in the target area to reduce groundwater extractions from the region for Exchange Contractor growers. This action has significantly mitigated the long-term overdraft in the region and will continue to mitigate overdraft in this target area.

Madera County

The representative wells in the Madera County area are showing a long-term decline in water levels. The water elevation maps indicate that there is a large cone of depression occurring in Madera County outside of the subbasin located to the north and east of Zone 2 for both the Upper and Lower Aquifers. All of Zone 2 in this area is within the SJREC GSA. The average annual water level decline in the Upper Aquifer is about 0.5'/year with an estimated annual overdraft of 1,250 AF/year. Provided the drawdown in this area is caused by pumping outside the subbasin and jurisdiction of Zone 2 GSAs, and therefore pumping reductions within the subbasin will not address the overdraft, Zone 2 GSAs are committed to coordination with neighboring subbasins to address the overdraft.

Summary

The implementation of the above strategies will achieve the early pumping reduction targets for Zone 2. The remaining pumping reductions will be achieved through the expansion of the aforementioned strategies and via the implementation of additional to-be-developed strategies focused on Zones of Impact (ZOIs) as identified through ongoing monitoring. In addition to achieving the required pumping reduction, the implementation of these two (2) initial strategies will provide the Zone 2 GSAs with the opportunity to engage stakeholders and the public on the development and implementation of additional strategies for achieving the remaining balance of the required pumping reduction.

In 2018 CA State Legislature passed SB 606 and AB 1668 (Water Conservation and Drought Planning) which included provisions for urban water use efficiency standards and performance measures. This legislation "establishes a method to estimate the aggregate amount of water that would have been delivered the previous year by an urban retail water supplier if all that water had been used efficiently. This estimated aggregate water use is the urban retail water supplier's urban water use objective (UWUO)."[3]

Beginning in 2024, Urban Water Suppliers are required to calculate their own UWUO and compare it to the supplier's actual water use. Until 2025, indoor residential water use standard is 55 gallons per capita daily (gpcd), but this standard is tightened to 47 gpcd from 2025-2030, and is further reduced to 42 gpcd beyond 2030. The UWUO also includes additional efficiency requirements for commercial, industrial, and institutional (CII) landscapes. Zone 2 contains six (6) urban water suppliers: the Cities of Newman, Gustine, Los Banos, Dos Palos, Firebaugh and Mendota, which are required to comply with the UWUO requirements. While the final estimated pumping reductions are still being confirmed, it can be assumed that the six (6) cities will implement demand management measures for their new and existing customers in order to comply with UWUO requirements. These efforts will be factored into ongoing pumping reduction strategies. The GSAs in Zone 2 are committed to achieving reduction of the identified overdraft by WY 2030. If there is an indication that Zone 2 is not sufficiently meeting the requirements of GSP 2024 then the Groundwater Allocation Backstop will be enforced, as per Section 7.

3.3 Additional Monitoring and Reporting Requirements

Planned pumping reductions will be verified and adjusted through pumping estimation using a combination of ET products and metered pumping, conducted according to the Monitoring and Data Collection Plan.

[3] California Water Code § 10609-10609.38

3.4 Enforcement

The Groundwater Allocation Backstop will be enforced in cases of implementation lapses, with further actions governed by the dispute resolution mechanisms in the Basin GSAs' (MOA).

4 GROUNDWATER LEVEL MINIMUM THRESHOLD AVOIDANCE PLAN

4.1 Objective and Requirements

The Zone 2 GSAs are required to identify GWL-MT hotspots based on defined triggers by the end of February each year and implement targeted pumping cutbacks, on an acre-foot per acre basis, for identified groundwater level representative monitoring wells (RMW-WL) within each principal aquifer.

4.2 Cutback Entry Trigger

The occurrence of any of the following conditions at an RMW-WL triggers a GWL-MT cutback and requires pumping reductions:

- Exceedance of the GWL-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs.
- Projected exceedance of the GWL-MT, based on the linear trend of the previous four (4) Fall groundwater level measurements (using the seasonal average if multiple measurements are taken).

4.3 Zones of Impact and Cutback Approach

The ZOIs around hotspot RMW-WLs will be delineated based on, but not limited to, existing well conditions, hydrogeology, subsurface lateral flow, and groundwater production density. The ZOIs represent areas where groundwater pumping directly influences water levels at the RMW-WL and may extend or cross GSA boundaries. The objective of identifying the ZOIs is to minimize the total volume of pumping reduction while achieving the necessary groundwater level increase. The estimations of the ZOI and the associated cutbacks, established as a uniform acre-foot per acre pumping limit across the ZOI, will serve as starting points and be adaptive. Cutback adaptation will follow a 3-month rolling linear trend of groundwater levels at the associated RMW(s), proportionally increasing or decreasing cutbacks based on the difference between the slopes of the rolling 3-month trend and the trendline, ending in Fall.

Following the ZOI determination in February of each year, a uniform acre-foot per acre pumping limit will be implemented by the respective GSA(s) throughout the ZOI, through communications with the applicable landowners. Pumping within the ZOI and the need for any cutback adaptation will be assessed by the respective GSA(s) on a quarterly basis to ensure compliance.

Special consideration will be given to GSA's importing surface water supplies and/or implementing groundwater recharge projects.

4.4 Cutback Exit Trigger

The pumping cutback may be exited upon occurrence of the following condition:

- Exceedance of GWL MT is projected to be avoided in the following year based on the linear trend calculated from the previous four (4) Fall GWLs with the inclusion of the effects of the cutbacks from the current year.

Following the determination that the exit trigger condition(s) have been met, the uniform acre-foot per acre pumping limit will be removed by the respective GSA(s) throughout the ZOI, through communications with the applicable landowners.

4.5 Additional Monitoring and Reporting Requirements

The GWLs and pumping within a ZOI will be measured monthly during the implementation of the pumping cutback pursuant to the Monitoring and Data Collection Plan.

4.6 Enforcement

A Groundwater Allocation Backstop will be enforced in cases of implementation lapses, or if a GSA fails to implement this GWL-MT Avoidance Plan within two (2) quarters. Further actions will be governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

5 WATER QUALITY MINIMUM THRESHOLD EXCEEDANCE PLAN:

5.1 Objective and Requirements

The Zone 2 GSAs are responsible for identifying exceedances or projected exceedances of WQ-MT. If such exceedances are linked to Basin management, GSAs must investigate the cause and, if necessary, design and implement appropriate mitigation measures, including pumping cutbacks or other strategies, to prevent future WQ-MT exceedances caused by Basin management.

This WQ-MT Exceedance Plan triggers pumping cutbacks only when a direct relationship or convincing linkage is established between changes in water quality concentrations exceeding or projected to exceed their MTs and management actions of the GSAs in the Basin, or changes in groundwater levels. In the absence of such correlations or due to data gaps, continued monitoring and data collection are prioritized. When necessary, pumping cutbacks are implemented using the same approach outlined in the GWL-MT Avoidance Plan.

5.2 Investigation trigger

The occurrence of any of the following conditions at an identified groundwater quality representative monitoring well (RMW-WQ) triggers an investigation to assess the cause of the degradation and its correlation with groundwater level changes:

- Exceedance of the WQ-MT.
- Projected exceedance of the WQ-MT, based on a statistically significant linear trend of the previous three (3) Fall groundwater level measurements (using the seasonal average if multiple measurements are taken).

5.3 Investigation Approach

Respective GSAs are required to conclude an investigation within 60 days of reporting an investigation trigger and recommend the next steps to be taken. A Kendall Tau test will be used to assess potential correlations between water quality (WQ) and GWLs when an exceedance of a WQ-MT at a RMW-WQ site occurs. At least six (6) WQ/GWL sample pairs from the same or nearby wells are required, with pairs consisting of samples collected within the same year and season (e.g., Fall of a specific year) or within a sufficiently close timeframe.[4] If there are not enough samples, monitoring will continue until sufficient data is available. For groundwater management projects (e.g., recharge facilities) with known operational changes, additional case-specific investigations will be performed.

A significant correlation is identified when at least six (6) WQ/GWL measurements, taken within the last decade—including at least one (1) from the current year—yield an absolute Kendall Tau coefficient ($|\tau|$) of 0.6 or greater and a p-value of 0.05 or less.[5] If a statistically significant correlation is not found or if the

[4] In the absence of sufficient data or at the beginning of implementation, more flexible thresholds may be necessary, and samples from different years could be considered as pairs for the Kendall Tau test.

[5] The p-value of less than 0.05 is a typical threshold for hypothesis testing and statistical significance. These correlations can be loosened by the GSAs on an as-needed basis and based on professional judgment. It is recommended that depending on sample size and data available, a larger p-value is considered to be sufficient when a clear correlation can be observed from hydrographs.

sample size is insufficient, more frequent sampling is implemented until a re-evaluation is possible. Otherwise, mitigation is triggered for the RMW-WQ and it is assigned as a WQ Hotspot. A correlation between declining GWL and WQ prompts a reduction in pumping, while any correlation between GWL and WQ for recharge projects will require actions related to project implementation.

5.4 Mitigation Approach

Following the requirements of the GSP Section 16.1, upon triggering mitigation, respective GSAs will have 90 days to propose a Mitigation Action Plan to address increased concentrations of constituents of concern (COCs) and prevent future exceedances of WQ-MTs. The responsible GSA is required to notify groundwater pumpers within a three (3) mile radius of the RMW-WQ exceeding trigger regarding the projected degradation and potential mitigation. The mitigation approach will depend on whether the trigger is caused by GWL declines due to pumping or by the implementation of projects and management actions (P/MAs), primarily recharge projects.

5.4.1 Mitigation for Degradation Due to Groundwater Level Decline

When WQ degradation is linked to GWL declines, a temporary GWL-MT Hotspot is established at the RMW-WQ, or a nearby well with similar construction, to monitor and control conditions. A temporary GWL trigger is set to the previous year's seasonal high (average Spring water level). Pumping cutbacks are implemented following the GWL-MT process, based on the temporary GWL trigger set at the well acting as the target level, using the most current seasonal high measurement. Upon achieving the GWL target, the conditions will be reevaluated. If a cutback exit trigger is not met (WQ is not stabilized), the WQ/GWL correlation will be re-investigated. If a significant correlation persists, further cutbacks should be implemented.

5.4.2 Mitigation for Degradation Due to Recharge Projects

If it appears that the WQ-MT has been triggered by a recharge project, the investigation will determine if the degradation results from factors such as poor-quality recharge water, flushing of soil constituents, geochemical reactions, altered groundwater gradients, etc.

The respective GSA will submit a detailed mitigation plan to the Committee within the 90-day time frame. The recharge project must be paused during this period and until the exit trigger is met unless the GSA can justify successful mitigation through modified or continued operation. The plan should address the source of water quality degradation, identified in the investigation, and propose modifications to operations to mitigate incurred impacts. Throughout this period, WQ monitoring continues to ensure that any future triggers are addressed promptly. These actions aim to ensure a stable balance between groundwater recharge efforts and the protection of groundwater quality in the Basin, adapting as needed based on new data and observations.

5.5 Exit Trigger

Mitigation action (pumping cutback or mitigation plan) can be exited if any of the following occur:

- GWL target is met, and WQ at the hotspot RMW-WQ does not show a statistically significant increasing trend using the last three (3) measurements; OR
- GWL target is met, and a significant correlation between WQ and GWL can no longer be established; OR
- Projected WQ at the RMW-WQ will not exceed the respective WQ-MT.

5.6 Additional Monitoring and Reporting Requirements

Monitoring will be generally conducted as outlined under Monitoring and Data Collection Plan.

5.7 Enforcement

Enforcement of this plan is governed by the dispute resolution mechanisms in the Basin GSAs' MOA. When pumping cutbacks are implemented, enforcement mirrors the procedures used for GWL-MT violations. In such cases, failure to comply with implementation or a delay of more than two (2) quarters will trigger the Groundwater Allocation Backstop.

6 SUBSIDENCE AVOIDANCE PLAN

6.1 Objective and Requirements

The Zone 2 GSAs are required to proactively address progressing land subsidence that does not or is not projected to comply with the requirements of the 2024 GSP as soon as feasible and implement pumping cutbacks that will bring back the identified regions into sustainability path of the Basin. The Subsidence Avoidance Plan has two (2) components that lead to different requirements. Critical Infrastructure Component only applies to critical infrastructure and the hotspot mitigation component applies to the entire Basin.

6.2 Cutback Entry Trigger

Pumping cutback under subsidence avoidance plan is triggered under the following conditions for each component:

- **Critical Infrastructure Component**: The three-year average subsidence rate exceeds 0.2 feet per year (ft/year) within 0.5 miles of critical infrastructure
- **Hotspot Mitigation Component:** The five-year linear trend established based on InSAR data indicates a projected subsidence of more than 2 feet by 2040 (MT), or more than 0.5 feet by 2030 (IM) or exceedance of any subsequent IM.

Triggers under both components should be based on subsidence caused dues to Basin management, or under conditions that such causality cannot be justifiably established.

6.3 Zone of Impact and Cutback Approach

6.3.1 Critical Infrastructure Component

Critical infrastructure is defined as non-pressurized water conveyance facilities. A ZOI is identified as an area where the three-year average subsidence rate exceeds 0.1 ft/year and is located within 0.5 miles of critical infrastructure. For wells screened in the Lower Aquifer, pumping cutbacks would start at 0.35 AFY/acre (approximately the estimated sustainable yield for the Lower Aquifer in the Region) within the ZOI, and be adjusted as warranted.

6.3.2 Hotspot Mitigation Component

A ZOI is defined as a radius of 0.5 miles around any point that meets the cutback entry trigger. For wells screened in the Lower Aquifer, pumping cutbacks would start at 0.35 AFY/acre (approximately the estimated sustainable yield for the Lower Aquifer in the Region) within the ZOI, and be adjusted as warranted.

6.4 Cutback Exit Trigger

Pumping cutback under subsidence avoidance plan may be relieved if and when the conditions defined under each respective component below is met:

- **Critical Infrastructure Component**:
    - The four-year average subsidence rate within the ZOI is 0 feet per year; OR
    - The GSAs can sufficiently justify that subsidence is not caused due to pumping within the ZOI.

- **Hotspot Mitigation Component:**
  - Subsidence due to Lower Aquifer Pumping attributable to the Basin is eliminated; OR
  - The GSAs can sufficiently justify that subsidence is not caused due to pumping within the ZOI.

6.5 Additional Monitoring and Reporting Requirements

Monthly pumping measurements and subsidence rates (if available) should be reported to the Committee within two (2) weeks of collection. All data reported should also be imported into the Basin DMS by the respective GSA(s). If subsidence data is unavailable, quarterly reporting is sufficient. GWL measurements in the Lower Aquifer should be measured monthly within the ZOI and reported within two (2) weeks of collection. The number of new Lower Aquifer or Composite wells within the ZOI should be reported monthly. For the purposes of the Subsidence Avoidance Plan, composite wells are conservatively considered Lower Aquifer wells for calculating pumping cutbacks and complying with other requirements, unless detailed data and information are provided to support a more precise apportionment and decision-making process. All data reported should also be imported into the Basin DMS by the respective GSA(s).

6.6 Enforcement

Enforcement of the subsidence avoidance plan is governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

7 GROUNDWATER ALLOCATION BACKSTOP

7.1 Objective and Requirements

In accordance with Exhibit C of the MOA, GSAs are required to implement the groundwater allocation backstop plan if they cannot sufficiently meet the requirements of the GSP 2024.

7.2 Cutback Entry Trigger

Occurrence of any of the following conditions will result in groundwater allocation backstop:

- GWL-MT exceedances for two (2) consecutive years.
- Failure to comply with the GWL-MT or GWQ-MT requirements within two (2) quarters.
- Failure to comply with the Subsidence Avoidance Plan requirements within one (1) year.

Special consideration will be given to GSA's importing surface water supplies and/or implementing groundwater recharge projects. This means when pumping reductions are needed, the GSA's that are not sustainable will need to reduce pumping.

7.3 Zone of Impact and Cutback Approach

This plan applies to the entire service area of the GSA subject to it. Pumping within the subjected GSAs will be limited to the estimated sustainable yield, as determined within the GSP, and implemented through AFY/acre allocations.

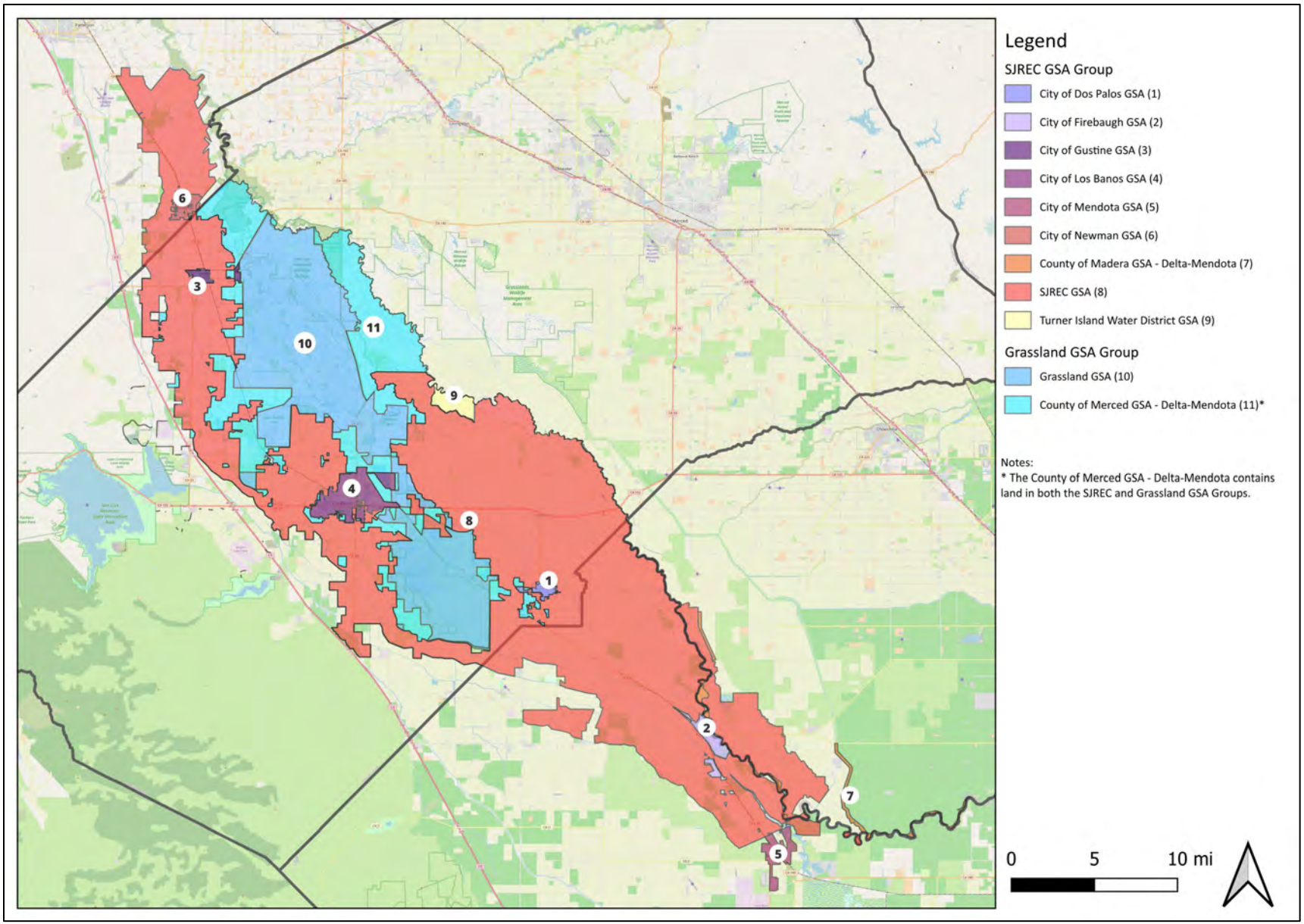
7.4 Additional Monitoring and Reporting Requirements

Monthly pumping measurements should be reported to the Committee within two (2) weeks of collection.

7.5 Enforcement

Enforcement of the groundwater allocation backstop is governed by the dispute resolution mechanisms in the Basin GSAs' MOA.

Attachment 1 – Zone 2 GSA's



Attachment 2 – County of Merced GSA – Delta-Mendota Groundwater Monitoring and Reporting Program Guidelines:

Note: The County of Merced GSA – Delta Mendota Groundwater Monitoring and Reporting Program Guidelines and associated attachments, presented hereafter and attached to the Zone 2 PRP, are only applicable within the unincorporated, undistracted lands within Merced County in the County of Merced GSA – Delta-Mendota. The remaining Zone 2 GSAs have existing programs and policies in place to accomplish the Monitoring and Data Collection Plan requirements detailed in Table 1.

The purpose of the County of Merced GSA – Delta-Mendota's Groundwater Monitoring and Reporting Program Guidelines (Guidelines) is to provide guidance for compliance with state GSP regulations and to outline the minimum requirements necessary for accurate monitoring and measurement of groundwater extractions. In addition to the implementation of the planned supply augmentation projects within the Basin, the County of Merced GSA – Delta-Mendota will need implement the Zone 2 Pumping Reduction Plan (PRP) to provide the maximum degree of local control and achieve sustainable conditions based on the calculated historical overdraft set forth in the 2024 GSP.

Metering, monitoring and reporting requirements are crucial for sustainable groundwater management because they provide the necessary data needed to manage groundwater resources accurately and effectively while ensuring compliance with GSP objectives. The data obtained will be used to foster transparency and collaboration between the Zone 2 GSAs, Groundwater users, the public and other GSAs. Furthermore, it enables the Zone 2 GSAs to detect issues early and allow for the implementation of proactive management strategies to best respond to changing conditions to secure equitable and long-term groundwater resource reliability for all beneficial uses.

1.1 DEFINTIONS:

1.1.1 **"Agricultural Well"** shall have the same meaning as Non-de Minimis Well. The use of the term "Agricultural Well" means a Water Well used exclusively to supply water for irrigation, livestock watering or other agricultural purposes, not for domestic use or to provide potable water, consistent with *Merced County Ordinance 9.28.020.*

1.1.2 **"Animal Feeding Operations"** or **"AFOs"** are defined as, operations where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period and where vegetation is not sustained in the confinement area during the normal growing season. *40 CFR § 122.23(b)(1)*.

1.1.3 **"Assessor's Parcel Number"** or **"APN"** is a series of twelve numbers/digits used by the Merced County assessor's office as a file number to inventory or identify a property.

1.1.4 **"Board of Directors"** or **"Board"** means the Merced County Board of Supervisors acting as the County of Merced GSA – Delta-Mendota Board.

1.1.5 **"Consumptive Use"** refers to water within a system that cannot be recovered or reused and includes water that is consumed by plants or humans, animals, evaporated, or contaminated. For purposes of these Guidelines, this also is a subset of Evapotranspiration and can be referred to as Evapotranspiration of Applied Water ("ETAW").

1.1.6 **"Corcoran Clay Layer"** A low-permeability, regionally extensive, lacustrine deposit as much as 200-ft thick that divides the groundwater-flow system of the western San Joaquin Valley into an upper semi-confined zone and a lower confined zone. A map displaying the extent and depth of the Corcoran Clay Layer within the County is available here.

1.1.7 **"County"** means the County of Merced.

1.1.8 **"Delta-Mendota Subbasin," "Subbasin"** or **"Basin"** means the San Joaquin Valley – Delta-Mendota Groundwater Basin identified by the California Department of Water Resources as Basin Number 5-22.07.

1.1.9 **"De Minimis Extractor"** means a Person or Public Agency who extracts no more than 2 acre feet per parcel of groundwater for domestic purposes.

1.1.10 **"Evapotranspiration"** or **"ET"** is the process by which water is transferred from the land to the atmosphere. It includes both evaporation from soil and transpiration from plant leaves and is a determined quantity of water used as part of agricultural operations.

1.1.11 **"Evapotranspiration of Applied Water"** or **"ETAW"** is the subset of Evapotranspiration that is met through the purposeful application of water regardless of source.

1.1.12 **"Flow Meter"** means a water measuring device approved by the County of Merced GSA – Delta-Mendota that measures the instantaneous flow and totalizes the volume of groundwater extracted by a well or the volume of surface water diverted onto a parcel.

1.1.13 **"Groundwater"** means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water but does not include water that flows in known and definite channels. *Water Code Section 10721(g).*

1.1.14 **"Groundwater Sustainability Plan"** or **"GSP"** means the current Delta-Mendota Subbasin Groundwater Sustainability Plan.

1.1.15 **"Landowner"** means any person owning a fee interest in real property within the County of Merced GSA – Delta-Mendota as reflected in Assessor's Office records or documents provided to the GSA.

1.1.16 **"Monitoring Well"** means an artificial excavation by any method for the purpose of monitoring the fluctuations in groundwater levels, groundwater quality, the presence or concentration of contaminants in subsurface soil and water, and for the purpose of vapor monitoring. Monitoring wells include remediation wells and may include a well also being used to pump groundwater.

1.1.17 **"Non-de Minimis Extractor"** means landowners with parcels greater than two (2) acres in gross acreage on which water is used for irrigation, livestock watering, animal feeding operations, wetland habitat management, or other agricultural purposes such as agricultural processing, not for domestic use or to provide potable water.

1.1.18 **"Non-de Minimis Well"** means a Water Well used exclusively to supply water for irrigation, livestock watering or other agricultural purposes, not for domestic use or to provide potable water.

1.1.19 **"OpenET"** is an online platform for mapping Evapotranspiration at the scale of individual fields, available at: www.ETdata.org.

1.1.20 "**Parcel**" shall have the same meaning as Assessor's Parcel Number or APN. The use of the term "parcel" in these rules refers only to a parcel, or any portion thereof, within the boundaries of the County of Merced GSA – Delta-Mendota.

1.1.21 **"Party"** or **"Parties"** may be used interchangeably in these Guidelines with which otherwise would refer to either as "owner".

1.1.22 **"Undesirable Result"** means one or more of the following effects caused by groundwater conditions occurring throughout the Basin: *Water Code Section 10721(x)*

1.1.22.1 Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.

1.1.22.2 Significant and unreasonable reduction of groundwater storage.

1.1.22.3 Significant and unreasonable seawater intrusion.

1.1.22.4 Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water suppliers.

1.1.22.5 Significant and unreasonable land subsidence that substantially interferes with surface land uses.

1.1.22.6 Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

1.1.23 **"Well"** or **"Water Well"** as defined in *Section 13710 of the Water Code*, means any artificial excavation constructed by any method for the purpose of extracting water from, or injecting water into, the underground. This definition shall not include: (a) oil and gas wells, or geothermal wells constructed under the jurisdiction of the Department of Conservation, except those wells converted to use as water wells; or (b) wells used for the purpose of: (1) dewatering excavation during construction, (2) stabilizing hillsides or earth embankments, or (3) monitoring wells.

1.1.24 **"Year"** means the period from January 1 through December 31, inclusive.

1.2 MONITORING AND REPORTING REQUIREMENTS:

1.2.1 Eligibility. All Parties whom consumptively use groundwater for non-de minimis purposes in the County of Merced GSA – Delta-Mendota shall complete and submit the "Land Registration Form" (Attachment A) to the GSA by June 30, 2025. Submission of Attachment A by the aforementioned deadline will exempt non-de minimis extractors, except those defined in Section 1.2.4, from needing to install,

maintain, and report extraction data from flow meters on water wells used to supply their parcels with groundwater.

1.2.2 Process. Upon adoption of these Guidelines, the County of Merced GSA – Delta-Mendota will conduct outreach to and coordinate with eligible landowners to ensure that all applicable lands are registered as required by the GSP by January 1, 2026. The GSA will utilize DWR geospatial crop data, satellite imagery, and Merced County land use information to determine eligible landowners.

1.2.3 Monitoring. Beginning on January 1, 2026, County of Merced GSA – Delta-Mendota will utilize OpenET to monitor the consumptive use of groundwater for all eligible lands within its jurisdiction. The GSA will conduct quarterly monitoring and upload the consumptive use data associated with groundwater by eligible parcel to an online GIS mapper to be hosted at:

https://www.countyofmerced.com/2937/Delta-Mendota-Subbasin

1.2.4 Alternative Monitoring. The consumptive use of certain non-de minimis uses are unable to be effectively monitored via OpenET given that their uses do not emit an ET signature that can that can be measured by satellites or produce an inconclusive ET signature and will therefore be required to submit flow meter data pursuant to Section 1.3.2. These non-de minimis uses include:

1.2.4.1 Animal Feeding Operations

1.2.4.2 Managed Wetland Habitats

1.2.4.3 Commercial or Industrial Processing Facilities

1.3 FLOW METER REQUIREMENTS:

1.3.1 Use of Flow Meters on Eligible Lands. Parties with eligible lands pursuant to Section 1.2.1 can elect to submit monthly extraction data from flow meters on all wells used to supply their parcels with groundwater in addition to the quarterly consumptive use data generated by the, County of Merced GSA – Delta-Mendota. The flow meters and associated data must adhere to the requirements set forth in Section 1.3.5.

1.3.2 Use of Flow Meters for Alternative Monitoring. Parties with eligible lands pursuant to Section 1.2.4 shall provide quarterly extraction data from flow meters on all wells used to supply their parcels with groundwater. The flow meters and associated data must adhere to the requirements set forth in Section 1.3.5.

1.3.3 New Wells. Upon adoption of these Guidelines, the County of Merced GSA – Delta-Mendota will require that all new or replacement non-de minimis wells drilled within its jurisdiction be equipped with a flow meter and provide monthly extraction data pursuant to Section 1.3.5.

1.3.4 Existing Wells. Prior to being amended on February 8, 2022, the Groundwater Mining and Export Ordinance required all new and replacement non-de minimis wells drilled within Merced County to be equipped with a flow meter. As part of its outreach and monitoring efforts, the County of Merced GSA – Delta-Mendota will coordinate with eligible landowners to determine if their existing wells were equipped with flow meters pursuant to the Ordinance.

1.3.4.1 Parties with existing non-de minimis wells previously equipped with flow meters pursuant to the Groundwater Mining and Export Ordinance will be required to provide monthly extraction data and comply with Section 1.3.5.

1.3.4.2 Parties with existing non-de minimis wells previously equipped with flow meters but drilled prior to the March 17, 2015 adoption date of the original Groundwater Mining and Export Ordinance are encouraged to provide monthly extraction data and comply with Section 1.3.5, but not required.

1.3.5 Flow Meter Requirements. Parties electing or required to provide the County of Merced GSA – Delta-Mendota with groundwater extraction data from flow meters shall adhere to the following requirements:

1.3.5.1 The Party shall submit the "Flow Meter Attestation Form" (Attachment B) to the County of Merced GSA – Delta-Mendota annually, no later than January 31st of each year.

1.3.5.2 The Party shall submit all groundwater extraction data to the County of Merced GSA – Delta-Mendota using the "Groundwater Extraction and Monitoring Report" (Attachment C). Parties subject to Sections 1.3.1, 1.3.3, and 1.3.5.1 shall submit Attachment C by the 15th of the following month, while parties subject to Section 1.3.2 shall submit Attachment C by the end of each quarter.

1.4 ENFORCEMENT:

1.4.1 Rights of Access. County of Merced GSA – Delta-Mendota staff and/or other authorized agents shall have access onto any parcels subject to these Guidelines for the sole and exclusive purpose of conducting County of Merced GSA – Delta-Mendota monitoring and enforcement. The GSA representative will provide a 24-hour advance notice as a courtesy to the Party prior to entry.

1.4.2 Non Compliance. Insufficient landowner participation in this program may warrant the initiation of more restrictive groundwater management programs, such as a groundwater allocation backstop, and/ or result in the implementation of a groundwater monitoring and reporting program solely reliant on flow meter data. Additionally, insufficient landowner participation in this program may result in state intervention to ensure that Basin achieves sustainability in accordance with SGMA.

1.4.3 Responsibility. Landowners shall be responsible for compliance with these Guidelines by any lessee or well operator on their property.

1.5 ATTACHMENTS:

Attachment A: County of Merced GSA – Delta-Mendota Land Registration Form
Attachment B: County of Merced GSA – Delta-Mendota Flow Meter Attestation Form
Attachment C: County of Merced GSA – Delta-Mendota Groundwater Extraction and Monitoring Report

Mail or email this form to:
2222 M St. Merced CA 95340
Attn: Lacey McBride
Lacey.McBride@CountyofMerced.com

Attachment A – County of Merced GSA – Delta-Mendota Land Registration Form

Pursuant to the County of Merced GSA – Delta-Mendota's Groundwater Monitoring and Reporting Program Guidelines, non-de minimis groundwater extractors shall complete and submit this form to the GSA by June 30, 2025. Submission of this form by June 30, 2025, will exempt non-de minimis groundwater extractors from needing to install, maintain, and report extraction data from flow meters on wells used to supply a landowners parcels. Parties electing or required to submit groundwater extraction data for non-de minimis uses from flow meters pursuant to Sections 1.3. of the Guidelines shall also submit Attachments B and C to the GSA by dates specified on each attachment and or the Guidelines.

Property Owner Name: _____Owner Phone: _____

Mailing Address: _____ Email: _____

Parcel(s) Owned and Farmed within the County of Merced GSA – Delta-Mendota

Parcel Number	Crop Type	Acres	Water Source [6]

[6] Include all of the following water sources used to supply the parcel with water: Groundwater from well(s) on parcel, Groundwater from well(s) off parcel, Surface water, Public/district water.

Well Information:

Well ID [7]	Parcel Number [8]	Latitude and Longitude of Well	Total Depth of Well	Screened Interval

I hereby affirm that the information submitted with this form is accurate, true and representative of site conditions.

_____	_____	_____
Owner Printed Name	Owner Signature	Date

[7] Provide the Well Completion Report Number or unique well identifier specified by the owner.
[8] Provide the Parcel Number of the property where the well is located.

Attachment B – County of Merced GSA – Delta-Mendota Flow Meter Attestation Form

Parties required to provide the County of Merced GSA – Delta-Mendota with groundwater extraction data from flow meters or required to install and maintain flow meters on applicable wells as pursuant to Section 1.3 of the GSA's Groundwater Monitoring and Reporting Program Guidelines shall submit this form to the GSA annually, no later than January 31st of each year.

I/we attest that the information provided on Attachments A, B, and C, for use of flow meters pursuant to the requirements set forth in the County of Merced GSA – Delta-Mendota's Groundwater Monitoring and Reporting Program Guidelines fully and accurately represents the current conditions of the well(s) and flow meter(s) used within the County of Merced GSA – Delta-Mendota.

I/we further attest that:

1. The wells(s) listed in Attachment C only serve the parcel(s) listed in Attachment A;

2. All extracted groundwater for non-de minimis uses is being monitored with flow meter(s) that have been calibrated by a third-party vendor within the past 5-years;

3. The County of Merced GSA – Delta-Mendota must be notified of any new well(s) and any existing well(s) located outside of parcel(s) listed in Attachment A used to supply the parcel(s) listed in Attachment A;

4. The County of Merced GSA – Delta-Mendota must be notified of any additional parcel(s) operated by the party not currently listed in Attachment A;

5. All new well(s) will be metered as required by the Guidelines;

6. All groundwater extraction reporting shall be done in accordance with the County of Merced GSA – Delta-Mendota's Groundwater Monitoring and Reporting Program Guidelines;

7. Any well and/or flow meter malfunctions that would compromise flow meter readings will be reported to the County of Merced GSA – Delta-Mendota immediately; and

8. The County of Merced GSA – Delta-Mendota staff and/or other authorized agents shall have access onto any parcel(s) subject to the Groundwater Monitoring and Reporting Program Guidelines for the sole and exclusive purpose of conducting monitoring and enforcement. The GSA representative will provide a 24-hour advance notice as a courtesy to the party prior to entry.

I hereby affirm that the information submitted with this form is accurate, true and representative of site conditions.

_____	_____	_____
Owner Printed Name	Owner Signature	Date

Attachment C – County of Merced GSA – Delta-Mendota Groundwater Extraction and Monitoring Report

Pursuant to the County of Merced GSA – Delta-Mendota's Groundwater Monitoring and Reporting Program Guidelines, non-de minimis groundwater extractors electing or required to submit groundwater extraction data for non-de minimis uses from flow meters pursuant to Sections 1.3 shall submit this form to the GSA as specified below and also submit Attachments A and B to the GSA by dates specified on each attachment and or the Guidelines.

Property Owner Name: _____ Owner Phone: _____

Mailing Address: _____ Email: _____

Select one of the following:

☐ This monthly non-de minimis extraction data is being provided pursuant to Sections 1.3.1, 1.3.3, and 1.3.4.1 of the Guidelines and was used to supply groundwater to the parcels listed on Attachment A.

☐ The quarterly non-de minimis extraction data is being provided pursuant to Section 1.3.2 of the Guidelines and was used to supply groundwater to the parcels listed on Attachment A.

Groundwater Extraction Information:

Well ID	Year	Jan [9]	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec

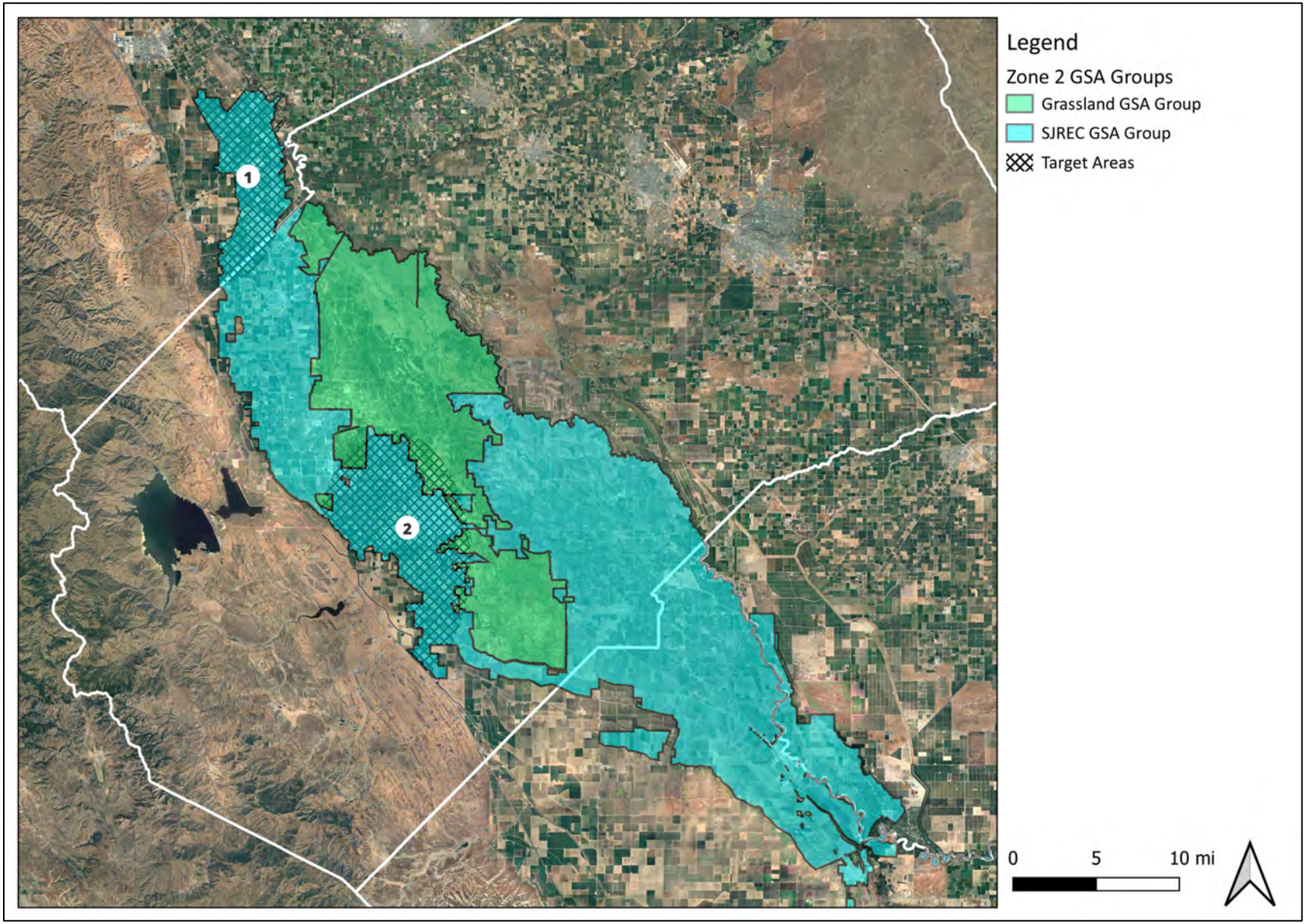
I hereby affirm that the information submitted with this form is accurate, true and representative of site conditions.

_____ _____ _____

Owner Printed Name Owner Signature Date

[9] Provide all flow meter extraction data in either acre-feet (AF), cubic feet per second (cfs), or gallons per minute (gpm).

Attachment 3 – Zone 2 Target Areas



NORTHERN DELTA-MENDOTA REGION PUMPING REDUCTION PLAN

October 2024

NORTHERN DELTA-MENDOTA REGION PUMPING REDUCTION PLAN

October 2024

Prepared for:

Northern Delta-Mendota Region Management Committee

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NORTHERN DELTA-MENDOTA REGION PUMPING REDUCTION PLAN

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1 INTRODUCTION

The Northern Delta Mendota Region Management Committee (Committee) has developed this Pumping Reduction Plan (PRP) in accordance with Section 16.1 of the 2024 revised Groundwater Sustainability Plan (GSP) for the Delta Mendota Subbasin (Basin). The PRP addresses the following six required components of the GSP:

(1) Monitoring and Data Collection Plan,
(2) Overdraft Mitigation Plan,
(3) Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan,
(4) Water Quality Minimum Threshold (WQ-MT) Exceedance Plan,
(5) Subsidence Avoidance Plan, and
(6) Groundwater Allocation Backstop.

This PRP is applied to the five groundwater sustainability agencies (GSAs) forming the Committee (member GSAs), namely the City of Patterson GSA (City GSA), DM-II GSA, Northwestern Delta-Mendota GSA (NW-DM GSA), Patterson Irrigation District and Twin Oaks GSA (PID GSA), and West Stanislaus Irrigation District (WSID GSA).

For applicable PRP components, specific triggers and procedures are defined. These include an entry trigger to activate the PRP, a zone of impact (ZOI) to determine where the PRP will be applied, a cutback approach to provide quantitative estimates of pumping reductions, an exit trigger to conclude the cutback once objectives are met, and enforcement measures to ensure successful implementation. Additional monitoring and reporting requirements are outlined in each component, aligning with the Monitoring and Data Collection Plan. Wells solely used to supply de minimis groundwater users[1] are not subject to pumping cutbacks required under this plan.

Although the Committee has worked diligently to create this plan in support of achieving the GSP sustainability goals, the PRP is designed as a living document. It will be updated and adapted as new data and information become available to better serve the Committee and the Basin in achieving its sustainability goal.

Each responsible GSA will implement this Pumping Reduction Plan (PRP), with coordination and oversight provided by the Committee and the Basin Coordination Committee as applicable, unless otherwise specified. The processes and protocols for monitoring, reporting, and data sharing follow what is outlined in the GSP and/or agreed upon in the Basin GSAs' Memorandum of Agreement (MOA), unless otherwise specified. Enforcement of the PRP will follow the agreements outlined in the MOA, unless otherwise specified.

[1] De minimis user is defined as a user that extracts two acre-feet or less per year of groundwater for domestic purposes.

2 MONITORING AND DATA COLLECTION PLAN

In accordance with Section 16.1 of the GSP, the Monitoring and Data Collection Plan developed by each GSA or GSA Group must include commitments and strategies for achieving the eight components outlined in Table 1. The Committee members have committed to meeting all these requirements as detailed in Table 1.

Table 1. Scheduled Compliance with the Requirements of the Monitoring and Data Collection Plan

Requirement	Commitment
Regular monitoring network(s) assessment	To be conducted on a regular basis, at least once annually, by the Committee
Quarterly groundwater level monitoring	To be implemented starting Fall 2024
Semiannual water quality monitoring	To be implemented starting Fall 2024
Well registration policy	All members will have adopted policies prior to January 2025
Well metering policy	
Well extraction reporting policy	To be measured and reported at least annually, or more frequently as needed by other plans, starting January 2025, and based on metered pumping starting January 2026
Provide well construction information for all monitoring wells	Committee is already in compliance
Replacing composite/production wells in the monitoring network with dedicated monitoring wells by 2030	Committed to complete by 31 December 2029, as-needed, and as appropriate and feasible.

3 OVERDRAFT MITIGATION PLAN

3.1 Objective and Requirement

Per Section 16.1.1.2 of the GSP, the member GSAs are required to reduce their average pumping, based on the overdraft evaluation period (Water Year [WY] 2003 to WY 2023), by approximately 9,000 acre-feet per year (AFY) in the Lower Aquifer by 2030. The GSP mandates achieving this reduction through an annual minimum of 20% of the total apportioned pumping cut, beginning in January 2025 and continuing each year for the following five years accomplishing the total minimum reduction by the end of 2030.

3.2 Implementation Approach

Each member GSA will reduce its pumping from the Lower Aquifer from the Model-estimated pumping for WY 2019-2023, as shown in Table 2. Pumping reduction under this plan may be adjusted and adapted based on model updates and the availability of additional data and measurements.

Table 2. Planned Lower Aquifer Pumping by 2030

Member GSA	Annual Pumping Reduction Starting in 2025 (AFY)	Target Pumping Reduction by 2030 (AFY)
City GSA	92	460
DM-II GSA	1,100	5,498
NW-DM GSA	194	968
PID GSA	83	417
WSID GSA	336	1,680
Total	**1,805**	**9,023**

3.3 Additional Monitoring and Reporting Requirements

Planned pumping reductions will be verified and adjusted through pumping estimation using evapotranspiration (ET) products in 2025 and metered pumping after, conducted according to the Monitoring and Data Collection Plan and GSA-adopted well registration, metering, and reporting requirements.

3.4 Enforcement

The Groundwater Allocation Backstop will be enforced in cases of implementation lapses. GSAs that fail to achieve their respective target pumping reduction will be subject to the groundwater allocation backstop per the GSP (Section 16.1.1.6) until the specific targets are met. If a GSA fails to meet its annual pumping reduction for any year, it is required to submit a report detailing the reasons for the shortfall and the corrective actions planned to return to the step-wise reduction targets. The Committee reserves the right to require the GSA to implement the groundwater allocation backstop if the failure is unjustified and/or the proposed corrective measures are insufficient until it is certain the annual reduction schedule can be met. Further actions governed by the dispute resolution mechanisms in the MOA.

4 GROUNDWATER LEVEL MINIMUM THRESHOLD AVOIDANCE PLAN

4.1 Objective and Requirements

Per Section 16.1.1.3 of the GSP, member GSAs are required to identify GWL-MT hotspots[2] based on defined triggers by the end of February each year for identified groundwater level representative monitoring wells (RMW-WL) within each principal aquifer and implement targeted pumping cutbacks, on an acre-foot per acre basis. These cutbacks will be applied at the rate and within an area determined by Zone of Impact (ZOI) and Cutback Approach (Section 4.3), accompanied by increased monitoring frequency, and adapted as required and justified under this plan.

4.2 Investigation Trigger

The occurrence of any of the following conditions at an RMW-WL triggers a GWL-MT investigation may lead to hotspot designation and require pumping reductions:

- Exceedance of the GWL-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs (per GSP Section 16.1.1.3); OR
- Projected exceedance of the GWL-MT, based on the linear trend of the previous four Fall groundwater level measurements (using the seasonal average if multiple measurements are taken; per GSP Section 16.1.1.3); OR
- A seasonal high (Spring) groundwater level measurement lower than the RMW-WL-specific spring target level. If insufficient data exists to establish a spring target level, the February GWL from the last year without a GWL-MT exceedance will be used as a substitute.

If multiple measurements are taken during a season, the average will be used for comparison. Spring target levels are defined for each RMW-WL by adding the respective GWL-MTs to the average seasonal variation, which is calculated as the long-term average (typically more than six years) difference between seasonal highs and lows at the RMW-WL. A graphical demonstration of each trigger, using hypothetical hydrographs, is provided in Appendix A.

4.3 Investigation Approach

The investigation should focus on verifying the groundwater level measurement at the RMW-WL, ensuring it is not affected by pumping at the well, nearby wells, or any unusual management practices in the area. At a minimum, the investigation should include:

- Taking verification measurements after a sufficient shutoff period to allow groundwater levels at the RMW-WL to stabilize;
- Groundwater level measurements at nearby wells, as needed, for trend comparison; and
- Analysis of pumping activity around the RMW-WL to identify any significant deviations from typical practices.

[2] Per GSP, if groundwater levels at an groundwater level representative monitoring wells (RMW-WL) exceeds established trigger levels, or is projected to exceed an MT, an investigation is required to determine if the RMW-WL should be designated as MT hotspot and require an RMW-WL. This plan will designate an RMW-WL that exceeds any of the cutback entry triggers an MT hotspot.

The implementing GSAs should conduct the investigation within the same measurement season, not exceeding 30 days from the initial measurement, and report the results to the Committee. If the verification and investigation do not provide sufficient evidence to refute the projected exceedance of the trigger, the RMW-WL should be classified as a GWL-MT hotspot and follow the cutback requirements outlined in this policy.

4.4 Zone of Impact and Cutback Approach

The ZOIs around hotspot RMW-WLs will be delineated based on model simulations and validated through analytical calculations by a qualified professional (Professional Geologist, Professional Engineer, or equivalent). These zones represent areas where groundwater pumping directly influences water levels at the RMW-WL. The ZOIs may extend beyond GSA boundaries and are defined using a sensitivity threshold, which quantifies the change in GWL at the RMW-WL in response to pumping variations in different well clusters.

Sensitivities will be calculated as the rate of GWL change per unit of pumping reduction. To achieve the desired groundwater level recovery, defined as the difference between the measured GWL and the trigger target, a uniform acre-foot per acre pumping limit will be identified within the ZOI . The cumulative impact of the defined cutback across the ZOI will be assessed to estimate the overall recovery at the RMW using the estimated sensitivities. The objective is to minimize the total volume of pumping reduction while achieving the necessary groundwater level increase (An example process is provided in Appendix A). The estimations of the ZOI and the cutback serve as starting points and will be adaptive. Curtailment adaptation follows the 3-month rolling linear trend of groundwater levels, proportionally increasing or decreasing curtailment based on the difference between the slopes of the rolling 3-month trend and the trendline ending in Fall or Spring target levels.

Following the determination in February of each year, the uniform acre-foot per acre pumping limit will be implemented by the respective GSA(s) throughout the ZOI through communications with the applicable landowners/pumpers. Pumping within the ZOI and the need for any curtailment adaptation will be assessed by the respective GSA(s) on a quarterly basis to ensure compliance.

4.5 Cutback Exit Trigger

The pumping cutback may be exited upon occurrence of all of the following conditions:

- Cutbacks have been implemented for at least one water year (a period including consecutive Spring and Fall periods);
- Projected exceedance of GWL MT is projected to be avoided in the following year based on the linear trend calculated from the previous four Fall GWLs;
- An increasing spring level trend calculated based on the measurements made in the first quarter and Spring GWL has recovered to be above the Spring Target Level.

Following the determination that the exit trigger condition(s) have been met, the uniform acre-foot per acre pumping limit will be removed by the respective GSA(s) throughout the ZOI through communications with the applicable landowners/pumpers.

4.6 Additional Monitoring and Reporting Requirements

Per GSP Section 16.1.1.3, the GWLs and pumping within the ZOI will be measured monthly during the implementation of the pumping cutback. Measured data within the ZOI should be submitted to the

Committee within two weeks of collection. All data reported should also be imported into the Basin Data Management System (DMS) by the respective GSA(s). In the absence of metering, GSAs agree to report detailed surface water delivery data monthly, as applicable, and utilize Land IQ ET to estimate pumping.

4.7 Enforcement

The Groundwater Allocation Backstop will be enforced if a GSA fails to implement this plan within two quarters. Further actions will be governed by the dispute resolution mechanisms in the MOA.

5 WATER QUALITY MINIMUM THRESHOLD EXCEEDANCE PLAN:

5.1 Objective and Requirements

Per GSP Section 16.1.1.4, member GSAs are responsible for identifying exceedances or projected exceedances of a WQ-MT. If such exceedances are linked to Basin management (pumping or recharge), GSAs must investigate the cause and, if necessary, design and implement appropriate mitigation measures, including pumping cutbacks or other strategies, to prevent future WQ-MT exceedances caused by Basin management.

The WQ-MT Plan triggers pumping cutbacks only when a direct relationship or convincing linkage is established between changes in water quality concentrations exceeding or projected to exceed their MTs and management actions of the GSAs in the Basin or changes in groundwater levels. In the absence of such correlations or due to data gaps, continued monitoring and data collection are prioritized. When necessary, pumping cutbacks are implemented using the same approach outlined in the GWL-MT Plan. A general framework of this plan is illustrated in Figure 1.

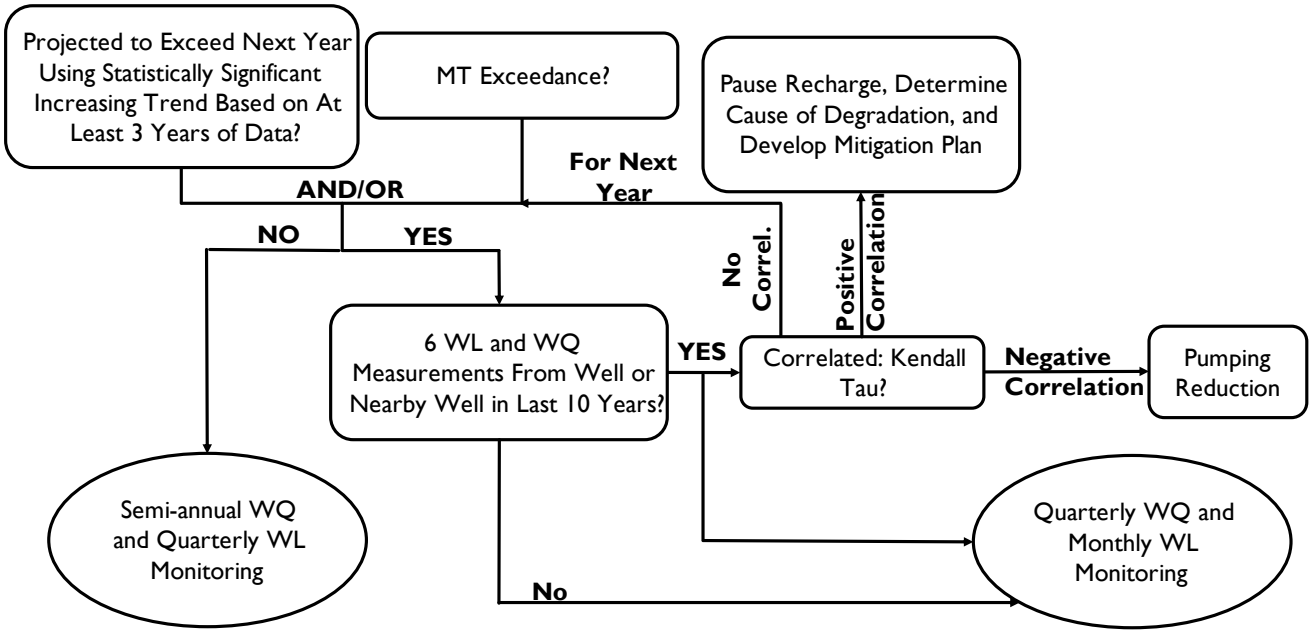


Figure 1. Investigation and Pumping Cutback Workflow for WQ-MT Plan

5.2 Investigation trigger

The occurrence of any of the following conditions at an identified groundwater quality representative monitoring well (RMW-WQ) triggers an investigation to assess the cause of the degradation and its correlation with groundwater level changes

- Exceedance of the WQ-MT, determined by comparing the most recent seasonal low measurement (Fall) to the defined MTs (per GSP Section 16.1.1.4); OR
- Projected exceedance of the WQ-MT, based on a statistically significant linear trend of the previous three Fall groundwater level measurements (using the seasonal average if multiple measurements are taken; per GSP Section 16.1.1.4).

The statistical significance of a linear trend is determined using the p-value of the linear model. A p-value of less than 0.05 is generally considered statistically significant, but this threshold can be adjusted based on sample size and professional judgment. It's important to note that the occurrence of an investigation trigger does not automatically necessitate the implementation of pumping cutbacks.

5.3 Investigation Approach

Respective GSAs are required to conclude an investigation within 60 days of reporting a WQ-MT investigation trigger and recommend next steps to be taken to the Committee. A Kendall Tau test[3] will be used to assess potential correlations between water quality (WQ) and GWLs at a triggered RMW-WQ site. At least six WQ/GWL sample pairs from the same or nearby wells are required, with pairs consisting of samples collected within the same year and season (e.g., Fall of a specific year) or within a sufficiently close timeframe.[4] If there are not enough samples, monitoring will continue until sufficient data is available. For groundwater management projects (e.g., recharge facilities) with known operational changes, additional case-specific investigations will be performed.

A significant correlation is identified when at least six WQ/GWL measurements, taken within the last decade—including at least one from the current year—yield an absolute Kendall Tau coefficient ($|\tau|$) of 0.6 or greater and a p-value of 0.05 or less.[5] If a statistically significant correlation is not found or if the sample size is insufficient, more frequent sampling is implemented until a re-evaluation is possible. Otherwise, mitigation is triggered for the RMW-WQ and it is assigned as a WQ hotspot. A correlation between declining GWL and WQ prompts a reduction in pumping, while any correlation between GWL and WQ for recharge projects will require actions related to project implementation.

5.4 Mitigation Approach

Following the requirements of the GSP Section 16.1.1.4, upon triggering mitigation, respective GSAs will have 90 days to propose a mitigation action plan to address increased concentrations of constituents of concern (COCs) and prevent future exceedances of WQ-MTs. The responsible GSA is required to notify groundwater pumpers within a three (3) mile radius of the RMW-WQ exceeding the trigger about the projected degradation and potential mitigation. The mitigation approach will depend on whether the trigger is caused by GWL declines due to pumping or by the implementation of projects and management actions (P/MAs), primarily recharge projects.

5.4.1 Mitigation for Degradation Due to Groundwater Level Decline

When WQ degradation is linked to GWL declines, a temporary GWL-MT hotspot is established at the RMW-WQ, or a nearby well with similar construction, to monitor and control conditions. The temporary

[3] The Kendall Tau Test is a non-parametric statistical method used to measure the strength and direction of association between two variables. It is particularly useful when the data does not meet the assumptions of normality, and it works well with small sample sizes, making it a flexible choice for assessing correlations in datasets with limited observations (Kendall, M. G. "A New Measure of Rank Correlation." Biometrika 30, no. 1/2 (1938): 81–93. https://doi.org/10.2307/2332226.).

[4] In the absence of sufficient data or at the beginning of implementation, more flexible thresholds may be necessary, and samples from different years could be considered as pairs for the Kendall Tau test.

[5] The p-value of less than 0.05 is a typical threshold for hypothesis testing and statistical significance. These correlations can be loosened by the GSAs on an as-needed basis and based on professional judgment. It is recommended that depending on sample size and data available, a larger p-value is considered to be sufficient when a clear correlation can be observed from hydrographs.

GWL trigger is set to the previous year's seasonal high (average Spring water level). Pumping cutback is implemented following the GWL-MT process, based on the temporary GWL trigger set at the well, acting as the target level and the most current seasonal high measurement. The uniform acre-foot per acre pumping limit will be implemented by the respective GSA(s) throughout the ZOI through communications with the applicable landowners/pumpers. Pumping within the ZOI and the need for any curtailment adaptation will be assessed by the respective GSA(s) on a quarterly basis to ensure compliance.

Upon achieving the GWL target, the conditions will be reevaluated. If cutback exit trigger is not met (WQ is not stabilized), the WQ/GWL correlation will be re-investigated. If a significant correlation persists, further cutbacks should be implemented.

5.4.2 Mitigation for Degradation Due to Recharge Projects

If it appears that the WQ-MT has been triggered by a recharge project, the investigation will determine if the degradation results from factors such as poor-quality recharge water, flushing of soil constituents, geochemical reactions, altered groundwater gradients, etc.

Following the requirements of the GSP Section 16.1.1.4, the respective GSA will submit a detailed mitigation plan to the Committee within the 90-day time frame. The recharge project must be paused during this period and until the exit trigger is met unless the GSA can justify successful mitigation through modified or continued operation. The plan should address the source of water quality degradation, identified in the investigation, and propose modifications to operations to mitigate incurred impacts. Throughout this period, WQ monitoring continues to ensure that any future triggers are addressed promptly. These actions aim to ensure a stable balance between groundwater recharge efforts and the protection of groundwater quality in the Basin, adapting as needed based on new data and observations.

5.5 Exit Trigger

Mitigation action (pumping cutback or mitigation plan) can be exited if any of the following occur:

- GWL target is met, and WQ at the hotspot RMW-WQ does not show a statistically significant increasing trend using the last three measurements; OR
- GWL target is met, and a significant correlation between WQ and GWL can no longer be established; OR
- Projected WQ at the RMW-WQ will not exceed the respective WQ-MT.

Following the determination that the exit trigger condition(s) have been met, the respective GSA(s) throughout the ZOI will communicate the removal of mitigation measures to the applicable landowners/pumpers.

5.6 Additional Monitoring and Reporting Requirements

Monitoring will be generally conducted as outlined under the Monitoring and Data Collection Plan. Following the requirements of the GSP Section 16.1.1.4, if an investigation is triggered but insufficient data is available to conduct meaningful investigation and statistical correlation, WQ monitoring at the triggered RMW-WQ, and at least one upgradient and one downgradient RMW-WQ well, will be increased to quarterly sampling for the specified COC. GWL measurement at the triggered RMW-WQ, the upgradient and downgradient RMW-WQ, and the identified nearby wells will be increased to monthly. For any recharge project, regardless of trigger status, a minimum of quarterly WQ monitoring should be conducted at least in one upstream and one downstream well. Pumping should be measured monthly

within the ZOI. All measurements and monitoring conducted under this plan should be reported to the Committee within two weeks. All data reported should also be imported into the Basin DMS by the respective GSA(s).

5.6.1 Enforcement

Enforcement of this plan is governed by the dispute resolution mechanisms in the MOA. When pumping cutbacks are implemented, enforcement mirrors the procedures used for GWL-MT violations. In such cases, failure to comply with implementation or a delay of more than two quarters will trigger the Groundwater Allocation Backstop.

6 SUBSIDENCE AVOIDANCE PLAN

6.1 Objective and Requirements

Per GSP Section 16.1.1.5, member GSAs are required to proactively address progressing land subsidence that does not or is not projected to comply with the requirements of the GSP. The Subsidence Avoidance Plan has two components that lead to different requirements. The Critical Infrastructure Component only applies to critical infrastructure and includes areas around the Delta Mendota Canal (DMC) and California Aqueduct (Aqueduct) in the Northern Delta Mendota Region (Region). The Hotspot Mitigation Component applies to the entire Basin and will correspondingly apply to the entire Region.

6.2 Cutback Entry Trigger

The pumping cutback under the Subsidence Avoidance Plan is triggered under the following conditions for each component, per GSP Section 16.1.1.5:

- **Critical Infrastructure Component**: the three-year average subsidence rate exceeds 0.2 feet per year (ft/year) within 0.5 miles of critical infrastructure (DMC and Aqueduct, shown in Figure 2)
- **Hotspot Mitigation Component:** The five-year linear trend established based on InSAR data indicates a projected subsidence of more than 2.0 feet by 2040 (MT), or more than 0.5 feet by 2030 (IM) or exceedance of any subsequent IM.

Triggers under both components will be based on subsidence caused by Basin management, or under conditions that such causality cannot be justifiably established. Appendix A provides examples of hypothetical cases of triggers under both components and applicable ZOIs and cutbacks under this plan.

6.3 Zone of Impact and Cutback Approach

6.3.1 Critical Infrastructure Component

Zone of exceedance is the area within 0.5 miles of the critical infrastructure where the three-year average subsidence rate exceeds 0.2 ft/year, symmetrically defined on both sides of the critical infrastructure. The ZOI will be identified as the zone of exceedance plus the areas where the three-year average subsidence rate exceeds 0.1 ft/year contiguous with such defined zone of exceedance.

Pumping cutback starts at 0.35 AFY/acre (approximately the estimated sustainable yield for the Lower Aquifer in the Region)[6] within the ZOI. Groundwater extraction over this estimated sustainable yield is considered likely to contribute to the projected exceedance of subsidence thresholds. The uniform acre-foot per acre pumping limit will be implemented by the respective GSA(s) throughout the ZOI through communications with the applicable landowners/pumpers. Pumping cutbacks are increased based on rolling annual average rates of subsidence to ensure reduction in subsidence. However, pumping cutbacks can only be decreased annually, based on rates calculated over the same period as the entry trigger. The adjustment to pumping cutbacks will be estimated by a qualified professional (Professional Geologist, Professional Engineer, or equivalent). Per GSP Section 16.1.1.5, no new Lower Aquifer or Composite Wells are permitted within the ZOI until the exit trigger is met.

[6] The Committee may adjust this limit upon availability of additional data and information.

6.3.2 Hotspot Mitigation Component

The ZOI is defined as a radius of 0.5 miles around any point that meets the cutback entry trigger. Pumping cutbacks are initiated at a rate of 0.35 AFY/acre (approximately the estimated sustainable yield for the Lower Aquifer in the Region)[7] and adjusted based on rolling annual average subsidence rates. The uniform acre-foot per acre pumping limit will be implemented by the respective GSA(s) throughout the ZOI through communications with the applicable landowners/pumpers. The adjustment to pumping cutbacks will be estimated by a qualified professional (Professional Geologist, Professional Engineer, or equivalent).

If ZOIs defined under different components intersect, the largest overlapping area is subject to the most stringent criteria under the Subsidence Avoidance Plan. Adjustments to the pumping cutback under both components should be made based on the ratio of cutbacks to reduced subsidence achieved.

6.4 Cutback Exit Trigger

Pumping cutback under the Subsidence Avoidance Plan may be relieved if the conditions defined under each respective component below are met:

- **Critical Infrastructure Component**:
    - the four-year average subsidence rate within the ZOI is smaller than 0.1 feet per year (ft/year), per GSP Section 16.1.1.5; OR
    - GSA(s) can provide justification in the form of a technical report from a qualified professional to sufficiently demonstrate that subsidence is not caused due to pumping within ZOI, using multiple years of pumping measurement data gathered after the trigger
- **Hotspot Mitigation Component:**
    - Subsidence due to Lower Aquifer Pumping attributable to Basin is eliminated, per GSP Section 16.1.1.5; OR
    - The five-year linear trend established based on InSAR data no longer indicates exceedance of cumulative MT or IMs; OR
    - GSA(s) can provide justification in the form of a technical report from a qualified professional to sufficiently demonstrate that subsidence is not caused due to pumping within ZOI, using multiple years of pumping measurement data gathered after the trigger.

Following the determination that the exit trigger condition(s) have been met, the uniform acre-foot per acre pumping limit will be removed by the respective GSA(s) throughout the ZOI through communications with the applicable landowners/pumpers.

6.5 Additional Monitoring and Reporting Requirements

Monthly pumping measurements and subsidence rates (if available) should be reported to the Committee within two weeks of collection. All data reported should also be imported into the Basin DMS by the respective GSA(s). If subsidence data is unavailable, quarterly reporting is sufficient. GWL measurements in the Lower Aquifer should be measured monthly within the ZOI and reported within two weeks of collection. The number of new Lower Aquifer or Composite wells within the ZOI should be reported

[7] The Committee may adjust this limit upon availability of additional data and information.

monthly. For the purposes of the Subsidence Avoidance Plan, composite wells are conservatively considered Lower Aquifer wells for calculating pumping cutbacks and complying with other requirements, unless detailed data and information are provided to support a more precise apportionment and decision-making process.

6.6 Enforcement

The Groundwater Allocation Backstop will be enforced if a GSA fails to implement policy within two quarters. Further actions will be governed by the dispute resolution mechanisms in the MOA.

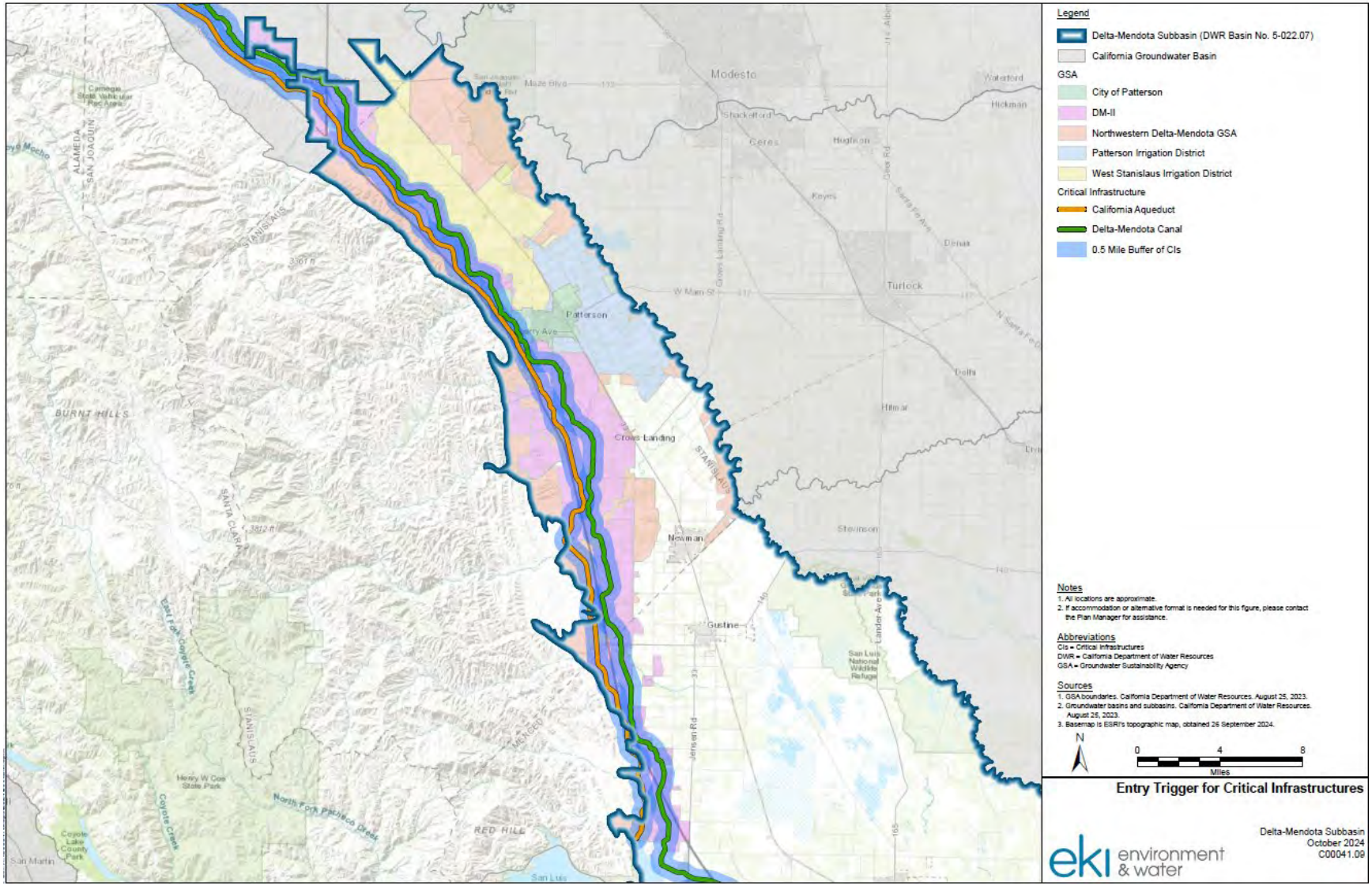


Figure 2. Area Around Critical Infrastructure Subject to Subsidence Avoidance Plan

7 GROUNDWATER ALLOCATION BACKSTOP

7.1 Objective and Requirements

Per GSP Section 16.1.1.6, and in accordance with Exhibit C of the MOA, GSAs are required to implement the groundwater allocation backstop plan if they cannot sufficiently meet the requirements of the GSP 2024.

7.2 Cutback Entry Trigger

The occurrence of any of the following conditions will result in groundwater allocation backstop:

- GWL-MT exceedances for 2 consecutive years; OR
- Failure to achieve allocated Overdraft Mitigation pumping reduction by 2030; OR
- Failure to comply with the GWL-MT or GWQ-MT requirements.
- Failure to comply with the Subsidence Avoidance Plan requirements.

7.3 Zone of Impact and Cutback Approach

This plan applies to the entire service area of the GSA subject to it. Pumping within the subjected GSAs will be limited to the estimated sustainable yield for the Basin and implemented through AFY/acre allocations. The uniform acre-foot per acre pumping limit will be implemented by the respective GSA(s) throughout the ZOI through communications with the applicable landowners/pumpers. GSAs may submit a request to the Committee to exit the groundwater allocation backstop when the triggering conditions are resolved. If approved by the Committee, groundwater allocation backstop can be exited by the subjected GSA(s).

7.4 Additional Monitoring and Reporting Requirements

Monthly pumping measurements should be reported to the Committee within two weeks of collection. All data reported should also be imported into the Basin DMS by the respective GSA(s).

7.5 Enforcement

Enforcement of the groundwater allocation backstop is governed by the dispute resolution mechanisms in the MOA.

Appendix A

Selected Slides from Presentations to the Northern Delta Mendota Region Management Committee Outlining Technical Approach to Implementation of PRP Components

OVERDRAFT MITIGATION PLAN

eki

(2) OVERDRAFT MITIGATION PLAN

- Target:
  - Reduce ~9,000 AFY of Lower Aquifer groundwater pumping by 2030
- High-level plan:
  - Reduce the amount by 20% per year between 2025-2030

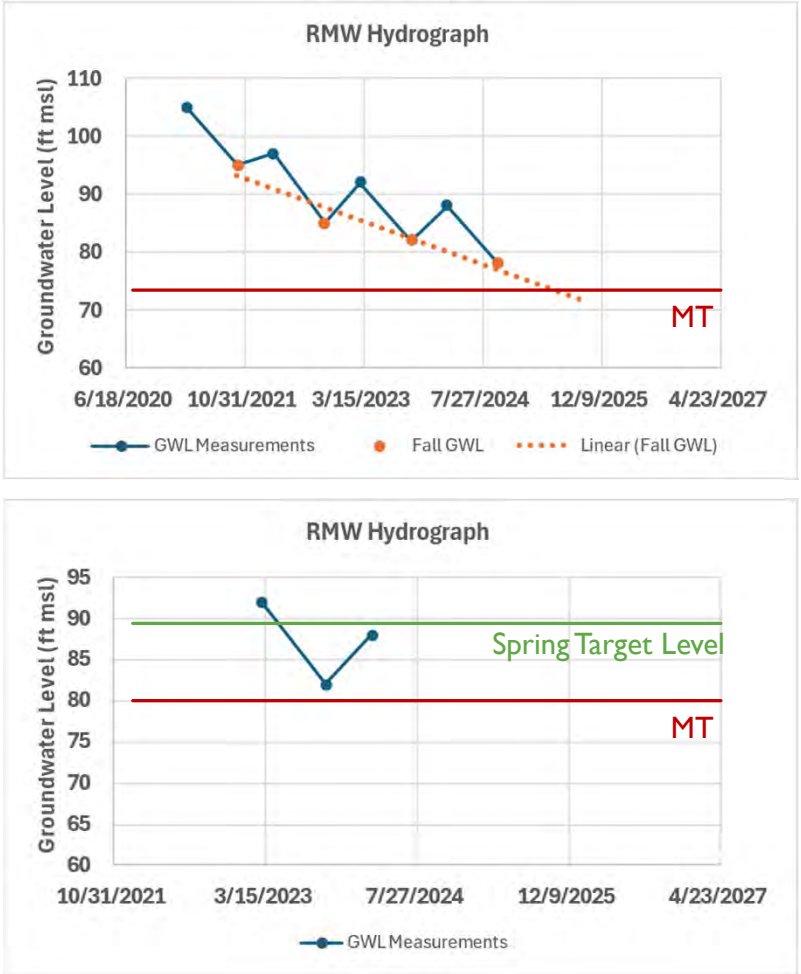
Member GSA	Annual Pumping Reduction Starting in 2025 (AFY)	Target Pumping Reduction by 2030 (AFY)
City GSA	92	460
DM-II GSA	1,100	5,498
NW-DM GSA	194	968
PID GSA	83	417
WSID GSA	336	1,680
Total	**1,805**	**9,023**

By Year End	City of Patterson GSA	DM-II GSA	NW-DM GSA	Patterson/Twin Oaks GSA	WSID GSA	Total
2026	92	1,100	194	83	336	1,805
2027	184	2,199	387	167	672	3,609
2028	276	3,299	581	250	1,008	5,414
2029	368	4,399	774	334	1,344	7,218
2030	460	5,498	968	417	1,680	9,023

GWL-MT AVOIDANCE PLAN

GWL-MT AVOIDANCE INVESTIGATION TRIGGER

- As described in Section 16.1.1.3 of Single GSP, exceedance of GWL MT or projected exceedance of GWL MT in a year following a four-year declining trend in Fall GWLs.
- Linear trend will be calculated based on the previous four Fall GWLs and extended for a year to assess the likelihood of MT exceedance.
- Compare the spring/winter level (February measurement) of the current year with established Spring target levels at each RMW.
  - Spring Target Level= MT + Average Seasonal Variation
  - If insufficient data to calculate average seasonal variation, the February level of last year will be substituted as the target level to be maintained.



Example investigation trigger illustration based on data availability

ESTABLISH CURTAILMENTS

- Curtailments will be established based on target GWL recovery and current February GWLs.
  - Target GWL Recovery

$$(GWLx)=Max\begin{cases}\text{Spring Target} - \text{Most Recent Spring Measurment}\\ \text{MT} - \text{Projected Fall Measurement Based on four year Trend}\end{cases}$$

- Zones of Impact and their respective sensitivities will be used to achieve the cumulative GWL recovery at the RMW, assuming superposition.
- This will lead to allocation/pumping reduction for each Zone of Impact.

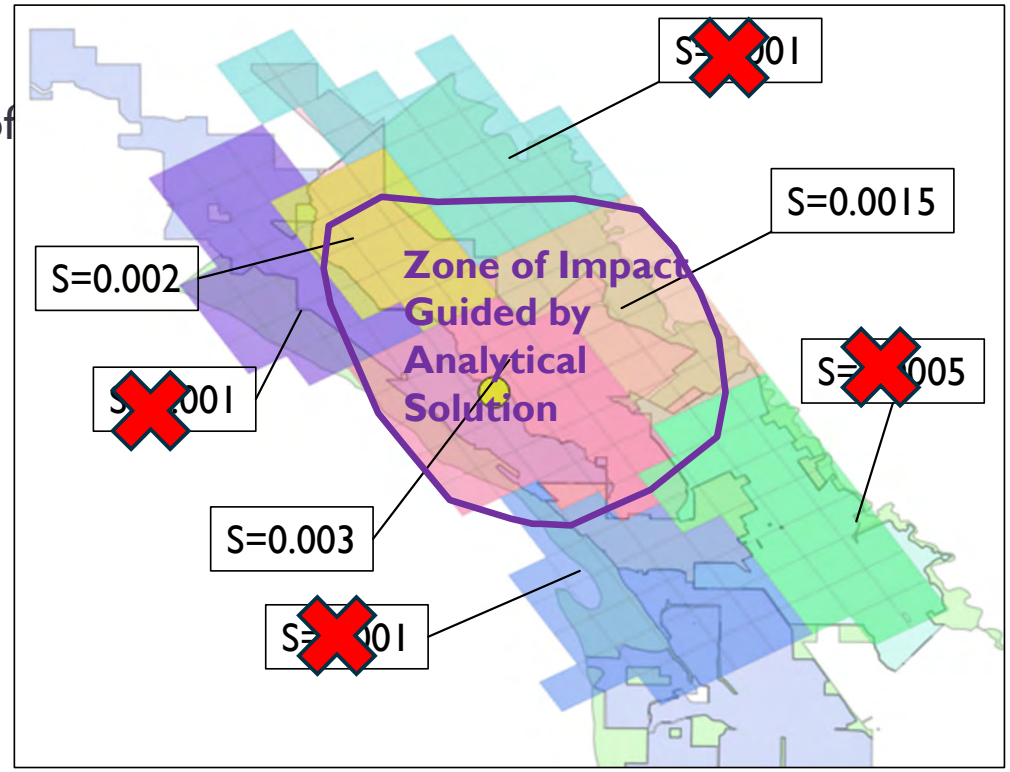
ESTABLISH CURTAILMENTS: EXAMPLE

- Sensitivities are defined for predefined clusters of cells:
  - Sensitivity: change in GWL at a specific RMW due to an incremental change in pumping at predefined clusters.
- Zone of Impact is defined based on a sensitivity threshold (ex. S>0.001), guided by analytical estimation.
- To achieve predefined GWL increase (GWLx):
  - $GWLx=PRP_{Zone\,1}*S_{Zone\,1}+\ldots+PRP_{Zone\,n}*S_{zone\,n}$

Subject to: Minimize (sum of PRP or AF/acre reduction)

Example:

2 (ft)=0.002*100+ 0.0015*100+550*0.003



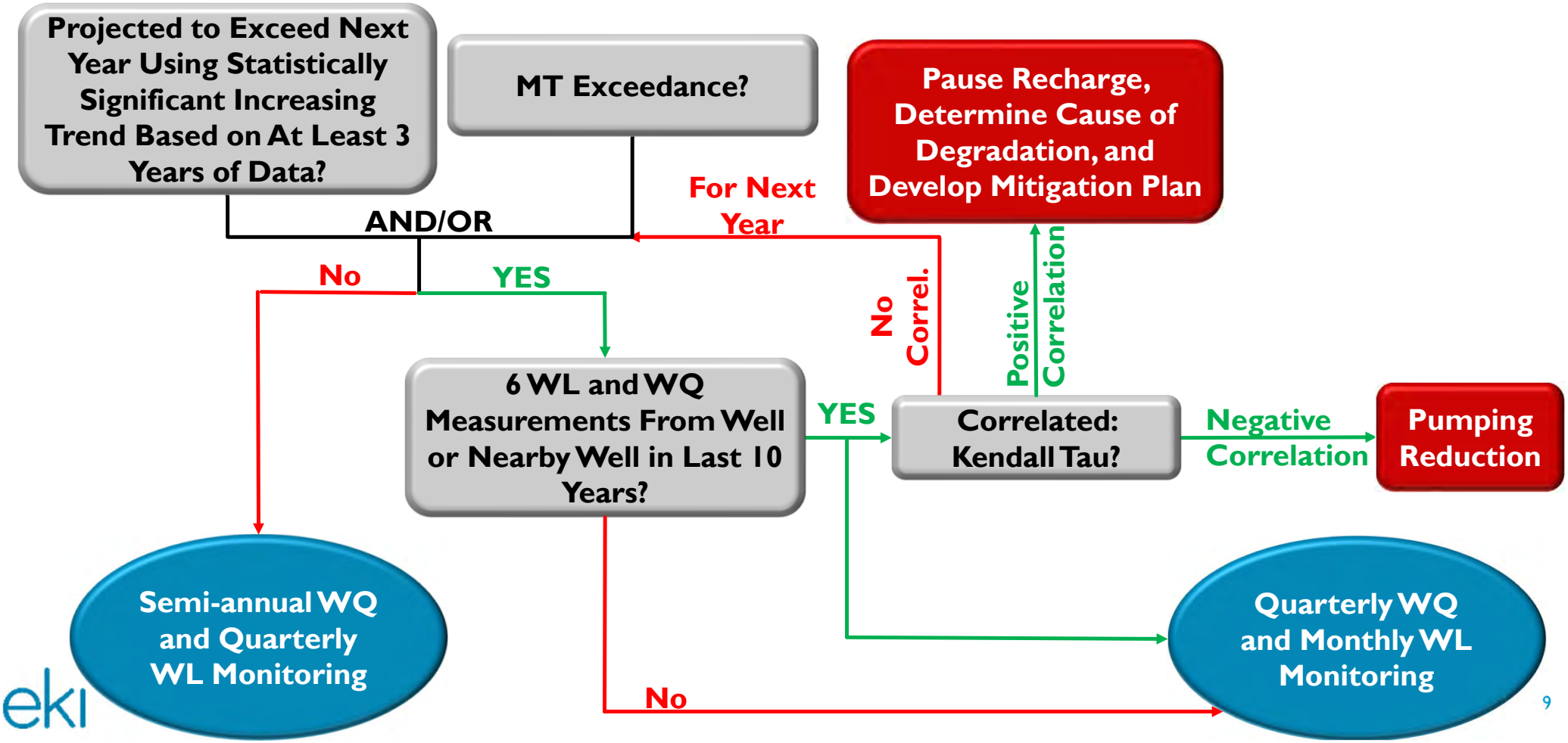
** Zones, selections, thresholds, and sensitivities are completely arbitrary and for illustration purposes.*

WQ-MT EXCEEDANCE PLAN

WQ-MT INVESTIGATION STEPS

- If at least 6 water level and concentration measurements have been taken within the last 10 years that can be used as pairs, including one in the current year:
  - Kendall Tau $|\tau| \geq 0.6$ and $p \leq 0.05$
  - Note that groundwater level and concentration measurements must occur in the same season as one another to serve as a data pair.
  - If correlation is not determined as significant, or there is not enough samples to conduct the test, continue more frequent sampling until re-evaluation is possible
  - To cover WQ impacts due to recharge projects under PRP, all recharge projects should include comprehensive monitoring at least as frequent as required under triggered PRP.
    - Data from upstream and downstream wells for the recharge project will be used to establish its impact on WQ degradation in nearby monitoring wells and the need for a mitigation plan.
- Check for declining water levels, increasing concentrations, or correlation in at least one upgradient and one downgradient well

PUMPING REDUCTION FOR WQ EXCEEDANCE



ESTABLISH ZONE OF IMPACTS AND CURTAILMENTS

- If caused by GWL declines due to pumping:
  - Deliver mitigation plan to Coordination Committee within 90 days:
    - Establish a temporary GWL MT hotspot at the well or a nearby well with similar construction
    - Temporary GWL trigger equals the previous year's seasonal high
    - Target GWL recovery in the first year
  - This will allow a re-evaluation of GWL/GWQ correlation at the well

DEGRADED WATER QUALITY DUE TO RECHARGE

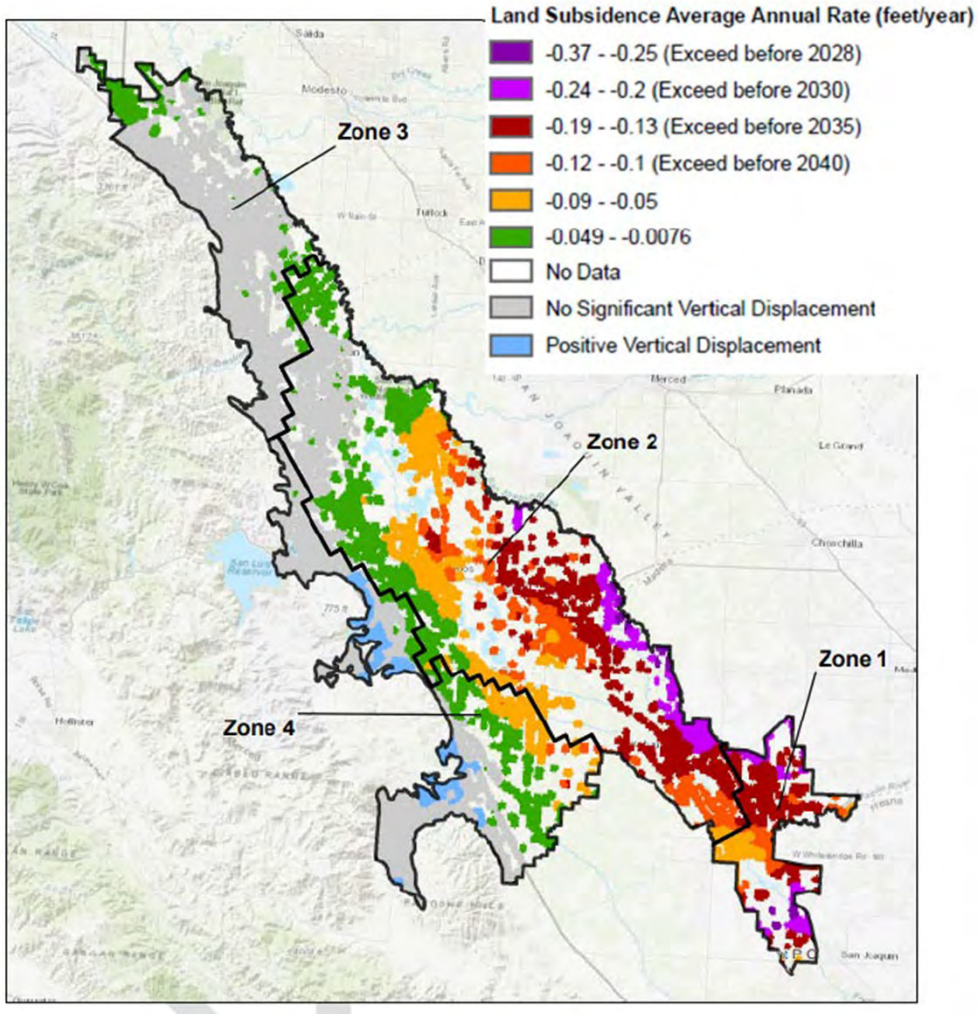
- Pause recharge
- Deliver mitigation plan to Coordination Committee within 90 days:
  - Determines why recharge was degrading water quality
    - Poor quality recharge water (Recharge project monitoring data)
    - Flushing of constituents in soil (Recharge project monitoring data)
    - Geochemical reactions
    - Altered gradients
  - Mitigate impacts and/or provide sufficient additional data to reject the causality previously established.
- WQ quarterly monitoring should be conducted near the recharge site regardless of trigger as part of P/MA.

SUBSIDENCE MITIGATION POLICY

CUTBACK ENTRY TRIGGER

Triggers set in Section 16.1.1.5 of Single GSP:

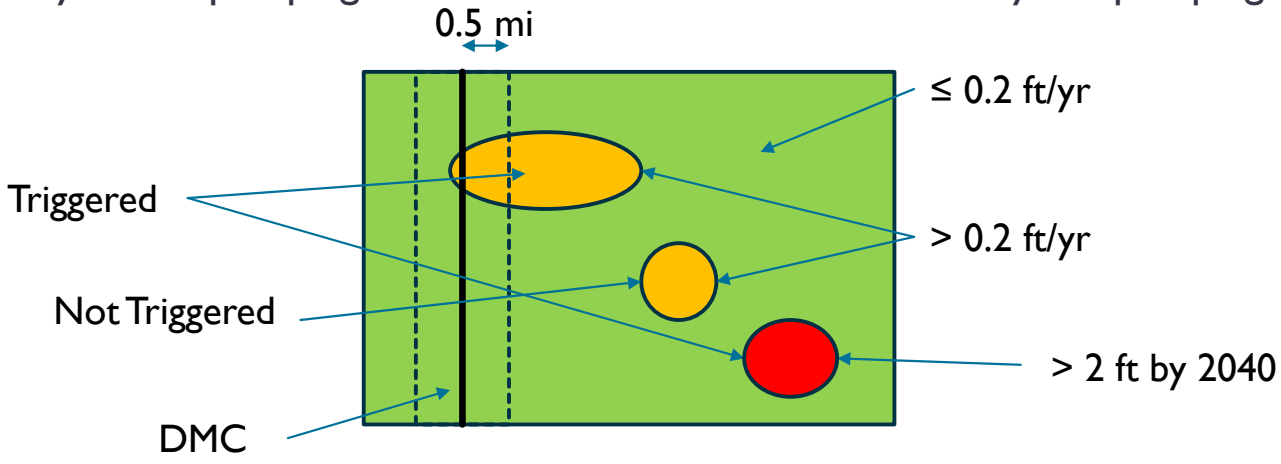
- Critical Infrastructure
  - 3-year average rate > 0.2 ft/year within 0.5 miles of critical infrastructure
- Hotspot
  - 5-year trend indicates > 2 ft by 2040 (MT) or > 0.5 ft by 2030 (IM)



CUTBACK EXIT TRIGGER

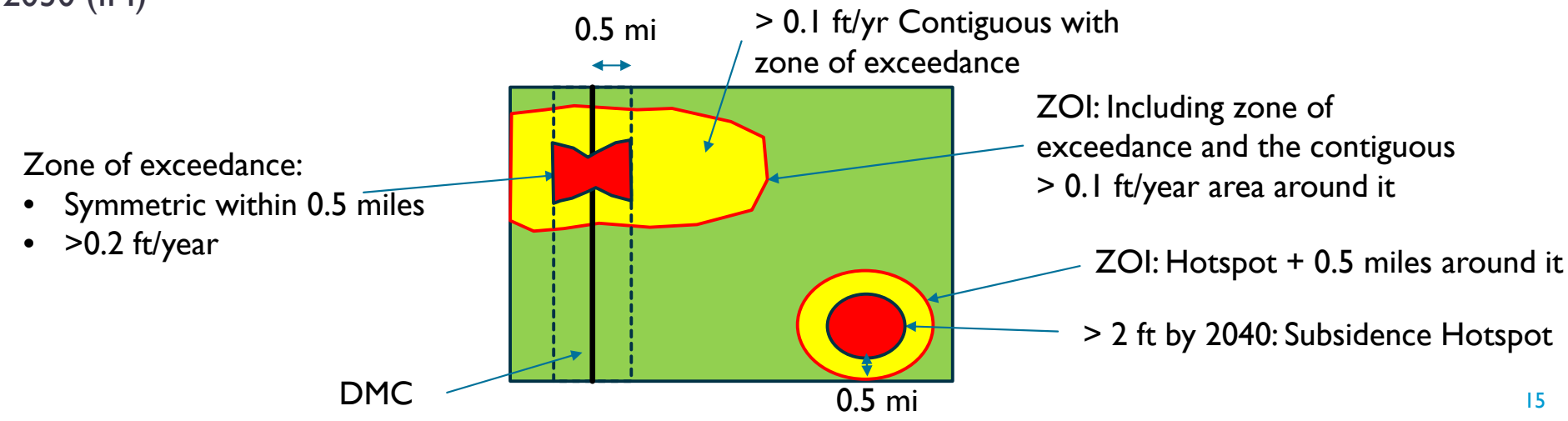
- Critical Infrastructure
  - 4-year average rate < 0.1 ft/year
  - GSAs can justify with multiple years of pumping data that subsidence is not caused by the pumping within ZOI.
- Hotspot Mitigation
  - Subsidence due to Lower Aquifer Pumping attributable to Basin is eliminated (PRP).
  - 5-year trend no longer indicates exceedance of cumulative 2 ft (MT) or 2030 IM.
  - GSAs can justify with multiple years of pumping data that subsidence is not caused by the pumping within ZOI.

Trigger Example



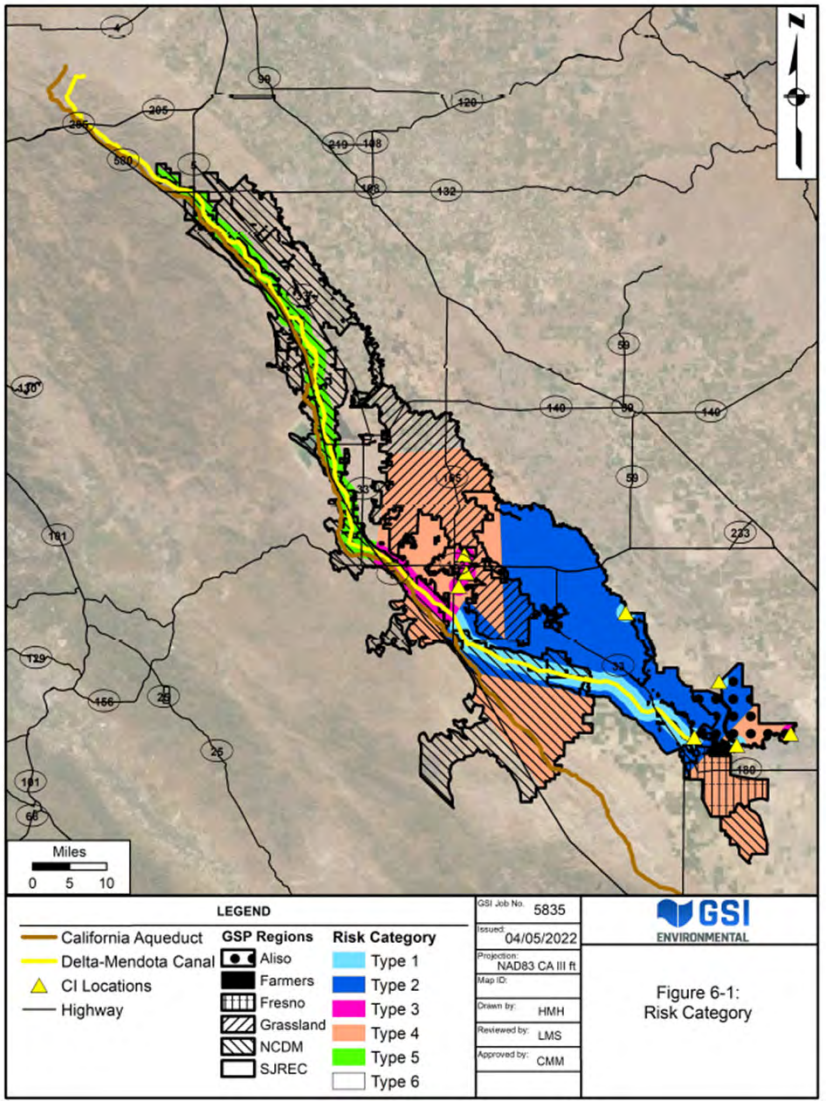
ESTABLISH ZONES OF IMPACT

- Critical Infrastructure
  - Zone of exceedance defined as anywhere with a 3-year average rate > 0.2 ft/year; symmetrically defined within 0.5 miles of critical infrastructure; and,
  - Areas with a 3-year average rate > 0.1 ft/year contiguous with the defined zone of exceedance above.
- Hotspot
  - Radius of 0.5 miles around any points that 5-year trend indicates > 2 ft by 2040 (MT) or > 0.5 ft by 2030 (IM)



ESTABLISH CURTAILMENTS

- NDM only includes zones 5 and 6 of the GSI masterplan.
- Critical Infrastructure
  - Start pumping reduction at 0.35 AFY/acre (Approximate SY for LA) within the Zone
  - Decrease pumping allocation based on rolling annual average rates.
  - Relieve pumping reduction only annually based on rates calculated over the same period as the trigger.
  - No new Lower Aquifer Wells within the zone until exit trigger is met.
- Hotspot Mitigation
  - Start pumping reduction at 0.35 AFY/acre within the Zone
  - Reduce or relieve based on annual rates
- Composite wells will be considered Lower Aquifer wells unless detailed data is provided on the well that facilitates dividing their pumping between the aquifers



Questions?

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