

SECTION 1: NEW INFORMATION COLLECTED

Since the adoption of the Sierra Valley GSP in January 2022, the SVGMD has acquired significant new information and data through ongoing monitoring, technical studies, stakeholder coordination, and external resources that inform GSP implementation and adaptive management. This section describes the new information collected during the evaluation period assesses how this information has been applied to GSP implementation activities, and evaluates whether the new information warrants changes to any aspect of the Plan.

Table 1-1 summarizes the significant new information collected during the evaluation period, organized by type and source. For each item, the table describes the nature of the new information, identifies which aspects of the Plan are affected (such as Basin Setting, Sustainable Management Criteria, Projects and Management Actions, or Monitoring Networks), and evaluates whether the information warrants amendments to the Plan. The new information encompasses expanded monitoring networks and data collection efforts that address previously identified data gaps, technical studies and model updates that enhance understanding of basin hydrology and groundwater conditions, guidance documents and technical tools released by the California Department of Water Resources that support GSP implementation, and ongoing coordination and stakeholder engagement activities that facilitate collaborative management approaches.

The majority of new information represents enhancements to existing GSP implementation activities through adaptive management rather than fundamental changes requiring Plan amendments. Where new information has improved monitoring capabilities, refined technical analyses, or strengthened stakeholder engagement, these improvements have been integrated into ongoing implementation within the existing GSP framework. The table identifies specific instances where future integration of new information, such as comprehensive incorporation of Airborne Electromagnetic (AEM) data into the hydrogeologic conceptual model, may warrant Plan updates pending completion of planned technical work and funding availability.

This PE is not accompanied by a Plan Amendment. The Board formally directed the GSP consultant team to proceed on this basis at its April 21, 2025 meeting, concluding that none of the recommended corrective actions from DWR's determination require a Plan Amendment to resolve. New information collected during the evaluation period, including the expanded well inventory, monitoring network additions, hydrologic model updates, and MAR and irrigation efficiency project results, has been assessed and does not by itself warrant a Plan Amendment prior to the next PE cycle.

Table 1-1. New Information Collected

Significant New Information	Description	Aspects of Plan Affected	Warrant Change(s) to Any Aspects of the Plan
Airborne Electromagnetic (AEM) Data	DWR conducted airborne electromagnetic surveys in California's high- and medium-priority groundwater basins, with the Sierra Valley AEM survey completed in May 2022. AEM data provides detailed geophysical information about subsurface geology and aquifer characteristics. During the evaluation period, the AEM data has informed monitoring well site selection, avoiding thick clay layers in siting decisions for nested piezometers near the Easley Ditch and Staverville Creek recharge areas, and has been reviewed to help refine the Hydrogeologic Conceptual Model's understanding of the basin fill and bedrock units in response to DWR's RCA #1. The data has not, however, been formally incorporated into the calibrated Sierra Valley Hydrogeologic System Model (SVHSM); comprehensive integration is planned for a future model update that would recalibrate the model using AEM data along with other new datasets, based on funding availability, on the GSP's expected 3-5 year update cycle.	Basin Setting (Hydrogeologic Conceptual Model, aquifer geometry, subsurface geology); Groundwater Conditions Relative to Sustainable Management Criteria (principal aquifer determination, Recommended Corrective Action response); Monitoring Networks (well site selection); Projects and Management Actions (monitoring network expansion, model recalibration)	No - AEM data has informed monitoring well site selection and the Hydrogeologic Conceptual Model's principal aquifer determination in response to DWR's RCA #1, but neither use has required changes to the GSP during this evaluation period. Future comprehensive integration of AEM data into the calibrated SVHSM will require its own assessment of whether any aspects of the Plan warrant revision in the future.

Significant New Information	Description	Aspects of Plan Affected	Warrant Change(s) to Any Aspects of the Plan
Well Inventory Updates	The well inventory was significantly expanded during the evaluation period through two primary efforts. Of the 1,221 wells in the GSP inventory, 574 wells with locations estimated at township-range-section centroids were reviewed, and 258 of those wells had location accuracy improved through secondary review of well completion reports and related records. Additionally, 265 parcels were identified as likely to contain a well based on land use, and outreach to Sierra and Plumas Counties yielded 88 new well records added to the Data Management System, with geologic data added for 48 wells. The updated inventory supports improved parcel-level well identification and spatial analyses, including an updated well vulnerability assessment to evaluate the risk of domestic wells going dry. To support local monitoring participation, two Eno Well Sounder 2010 PRO field meters were purchased and made available to stakeholders, and a graphical user guide and outreach flier were developed to facilitate independent well monitoring by residents. The two portable well sounders are in the process of being transferred to the Sierra County and Plumas County Environmental Health Departments, who will handle distribution to domestic well owners and coordinate data sharing back to SVGMD; formal transfer agreements were being finalized as of spring 2026, and outreach flyers describing the program have already been distributed.	Basin Setting (Well Inventory); Monitoring Networks (domestic well monitoring, data gaps); Data Management System; Sustainable Management Criteria (well vulnerability assessment supporting evaluation of impacts to beneficial users); Projects and Management Actions (Well Inventory PMA)	No - inventory updates improve data quality and support GSP implementation but do not require Plan amendments. Enhanced location accuracy, expanded well records, and the updated well vulnerability assessment strengthen the foundation for monitoring and analysis within the existing GSP framework. The domestic well monitoring program addresses identified data gaps through adaptive management.

Significant New Information	Description	Aspects of Plan Affected	Warrant Change(s) to Any Aspects of the Plan
Additional Monitoring Network and Stream Gages	The monitoring network expanded significantly during the evaluation period. Four telemetered shallow monitoring wells were installed in the wetland complex area to monitor groundwater elevations, and three existing wells downgradient from Griffin Drainage were equipped with pressure transducers to support recharge monitoring. One nested monitoring well was installed near Griffin Drainage completed at variable depths. The planned nested well on the Easley property near Staverville Creek was abandoned due to clay-dominated lithology and limited drilling locations. An existing domestic well on the Griffin property is being used instead, and two existing wells on the Marsh property are candidates for near-term monitoring. Nested wells near Smithneck Creek are not currently planned, and the Little Last Chance Creek installation remains on hold pending evaluation of an existing well. Telemetered stream gages were installed on Smithneck Creek, Staverville Creek, Little Last Chance Creek, and Griffin Drainage to support interconnected surface water, GDE, and recharge permit compliance monitoring, with rating curves developed for Smithneck and Staverville Creek. Despite positive strides, data gaps remain, including InSAR coverage limitations, limited shallow groundwater monitoring near GDEs, and weak correlation between groundwater levels and GDE health indicators.	Monitoring Networks (groundwater elevation monitoring, surface water monitoring, GDE monitoring, data gap identification and resolution); Sustainable Management Criteria (data collection for all sustainability indicators); Projects and Management Actions (Monitoring Network Expansion, groundwater recharge projects)	No - network expansion implements planned monitoring improvements identified in the GSP and addresses data gaps through adaptive management. The February 2026 Monitoring Program and Data Gaps Analysis documents remaining gaps and recommended actions, which will inform future monitoring network adjustments within the existing GSP framework without requiring Plan amendments at this time.

Significant New Information	Description	Aspects of Plan Affected	Warrant Change(s) to Any Aspects of the Plan
New Supporting Documentation/Data from DWR	Since GSP implementation began, DWR has released significant new guidance documents and enhanced technical tools to support sustainable groundwater management. Key guidance includes the Draft Subsidence BMP providing comprehensive guidance on monitoring and managing land subsidence; a three-paper series on Interconnected Surface Water depletions with final sustainable management criteria guidance under development that provides technical approaches for identifying ISW, estimating depletions, and establishing management criteria; Groundwater Recharge Guidance Documents including on-farm recharge methods, district program guidance, and incentive strategies; the Periodic Evaluation Guidance used for this evaluation; and Funding SGMA Implementation guidance on self-funding mechanisms. DWR has significantly enhanced technical tools including California's Groundwater Live with new interactive dashboards for GSP evaluation status, monitoring networks, and annual report data including groundwater recharge, storage changes, and extractions; CalGW SubsurfaceViewer for visualizing statewide AEM survey electrical resistivity and lithology data; the Draft California Groundwater Update incorporating GSP and annual report data from the implementation period; and Semi-Annual Groundwater Conditions Updates providing timely information on groundwater levels, subsidence, and well infrastructure. SVGMD has reviewed relevant guidance documents and incorporated applicable BMPs and technical tools into GSP implementation activities, monitoring network design, data management practices, and reporting during the evaluation period.	Basin Setting (Hydrogeologic Conceptual Model, Groundwater Conditions); Sustainable Management Criteria (monitoring protocols, minimum thresholds, measurable objectives, URs for subsidence and ISW depletion); Projects and Management Actions (Monitoring Network Expansion, Data Management and Modeling Updates, groundwater recharge projects, subsidence monitoring); Monitoring Networks (assessment and improvement)	No - These guidance documents and tools provide enhanced technical resources and clarification for GSP implementation but do not require changes to the Plan itself. SVGMD has incorporated applicable guidance into implementation activities and can continue to utilize these resources to refine monitoring, data management, and project implementation practices within the existing GSP framework. The guidance supports adaptive management and informed decision-making during the implementation period without necessitating Plan amendments.

Significant New Information	Description	Aspects of Plan Affected	Warrant Change(s) to Any Aspects of the Plan
Groundwater Model Updates and Maintenance	The Sierra Valley Hydrogeologic System Model (SVHSM) has been updated during the evaluation period to improve simulation of watershed and groundwater processes. The Precipitation Runoff Modeling System (PRMS) component was recalibrated to better match observed data for solar radiation, evapotranspiration, snowpack depth, and streamflow timing. The method for calculating mountain front recharge was revised to represent net groundwater recharge entering the basin, resulting in rates that align more closely with calibration values. The updated PRMS streamflow output was integrated with MODFLOW, showing improved fit with streamflow observations. Integration of transient mountain front recharge rates demonstrated increased groundwater level variability near the basin boundary, indicating improved representation of interannual hydrologic variability. The updated model showed mixed results for groundwater elevations, with some wells showing improved fit and others showing reduced fit to observed conditions. The updated model is sufficiently representative of hydrologic dynamics to simulate historical conditions and run comparison scenarios. The model can be extended into future periods to assess long-term impacts of projects and management actions.	Basin Setting (Hydrogeologic Conceptual Model, mountain front recharge, surface water-groundwater interactions); Water Budget (recharge estimates, streamflow, groundwater storage); Projects and Management Actions (Data Management and Modeling Updates, scenario analysis capability for irrigation efficiency and recharge projects)	No - Model updates represent refinements and improvements to the existing modeling framework rather than fundamental changes requiring Plan amendment. The updated model provides enhanced capability to simulate basin conditions and evaluate PMA effectiveness within the existing GSP structure. Model improvements support adaptive management and informed decision-making during implementation.
Technical Coordination and Outcomes	SVGMD has conducted ongoing technical coordination and stakeholder engagement activities during the evaluation period to support GSP implementation. Public workshops were conducted to provide resources and training on water resource management practices, with particular focus on irrigation efficiency improvements. Outreach to ranches in Sierra Valley occurred in 2024, with stakeholder irrigation efficiency workshops held in 2024 and 2025. Information and updates continue to be posted on the SVGMD website and provided at Board meetings open to the public. SVGMD has initiated domestic well monitoring by purchasing two well sounders and developing user guides to enable stakeholder participation, with outreach materials prepared to inform residents of equipment availability and stakeholders identified near the basin boundary to address monitoring data gaps. These coordination efforts support collaborative implementation of PMAs and facilitate stakeholder involvement in monitoring and data collection activities.	Projects and Management Actions (Education and Outreach, Well Inventory - domestic well monitoring, irrigation efficiency projects); Monitoring Networks (stakeholder participation in data collection); Implementation (stakeholder engagement, public noticing, collaborative PMA implementation)	No - Technical coordination and stakeholder engagement activities represent ongoing implementation of existing GSP communication and engagement commitments rather than new requirements. These activities enhance GSP implementation effectiveness and stakeholder involvement as anticipated in the Plan. Continued outreach and coordination support adaptive management and collaborative approaches to achieving sustainability goals.

Significant New Information	Description	Aspects of Plan Affected	Warrant Change(s) to Any Aspects of the Plan
Recent Developments in Interconnected Surface Water Analysis	SVGMD expanded streamflow monitoring infrastructure during the evaluation period to support ISW and recharge monitoring. Telemetered stations were installed at Smithneck Creek, Staverville Creek, Little Last Chance Creek, and Griffin Drainage to provide continuous water level and flow data. Manual discharge measurements support rating curve development, completed for Smithneck Creek and Staverville Creek. Four new shallow monitoring wells in the Basin's western GDE area began recording groundwater levels in fall 2022, indicating groundwater is typically within 15 feet of the surface. At one well, vegetation greenness showed no significant relationship to groundwater depth, suggesting ISW is the dominant water source there. In parallel, recharge test projects are being conducted during the 2025-26 non-irrigation season on three properties near Smithneck and Staverville Creeks under Temporary Permit 21475, a 5-year temporary diversion permit issued by the State Water Resources Control Board in September 2025. The three recharge structures' design parameters were documented in a January 22, 2026 Technical Memorandum (J-U-B Engineers). The four recharge structures in the Smithneck and Staverville Creek areas recharged approximately 130 acre feet, with site infiltration rates approaching 1 cfs and a combined rate of approximately 2.5 cfs.	Sustainable Management Criteria (ISW depletion monitoring); Monitoring Networks (streamflow depletion monitoring network expansion); Projects and Management Actions (groundwater recharge projects, monitoring network expansion); Basin Setting (surface water-groundwater interactions)	No - streamflow monitoring expansion implements planned network improvements identified in the GSP, and the recharge projects are operating under duly issued temporary permits consistent with the recharge PMA described in the GSP. Neither the expanded monitoring nor the permitted recharge operations require Plan amendments at this time. Continued data collection under the 5-year permit will inform future assessments.
Subsidence Monitoring Network Installation and Initial Results	Eleven survey control points (four permanent survey monuments and seven non-permanent survey control points) were established in October 2022 by US Geomatics in areas of interest and areas of most-pronounced historical land subsidence as identified from InSAR data. Monuments were surveyed using real-time kinematic (RTK) methods providing vertical elevation resolution to within 0.01 feet. Monuments were re-surveyed in October 2023, October 2024, and October 2025 using the same methods. Survey results through October 2025 indicate no land subsidence outside the survey method's accuracy has occurred at any control point over the monitoring period. SVGMD continues to review InSAR data provided by DWR on a biennial basis, with more frequent monument surveys triggered if InSAR data indicates URs.	Monitoring Networks (Land Subsidence - representative monitoring network); Sustainable Management Criteria (subsidence minimum thresholds and measurable objectives validation); Basin Setting (historical subsidence areas)	No - survey results through October 2024 confirm no land subsidence outside the monitoring method accuracy of 0.05 feet, indicating conditions are within established sustainable management criteria. The subsidence monitoring network was not fully operational at GSP adoption and its installation during the evaluation period fulfills a planned monitoring commitment. Continued biennial review of InSAR data and periodic monument re-surveys support ongoing assessment without requiring Plan amendments at this time.

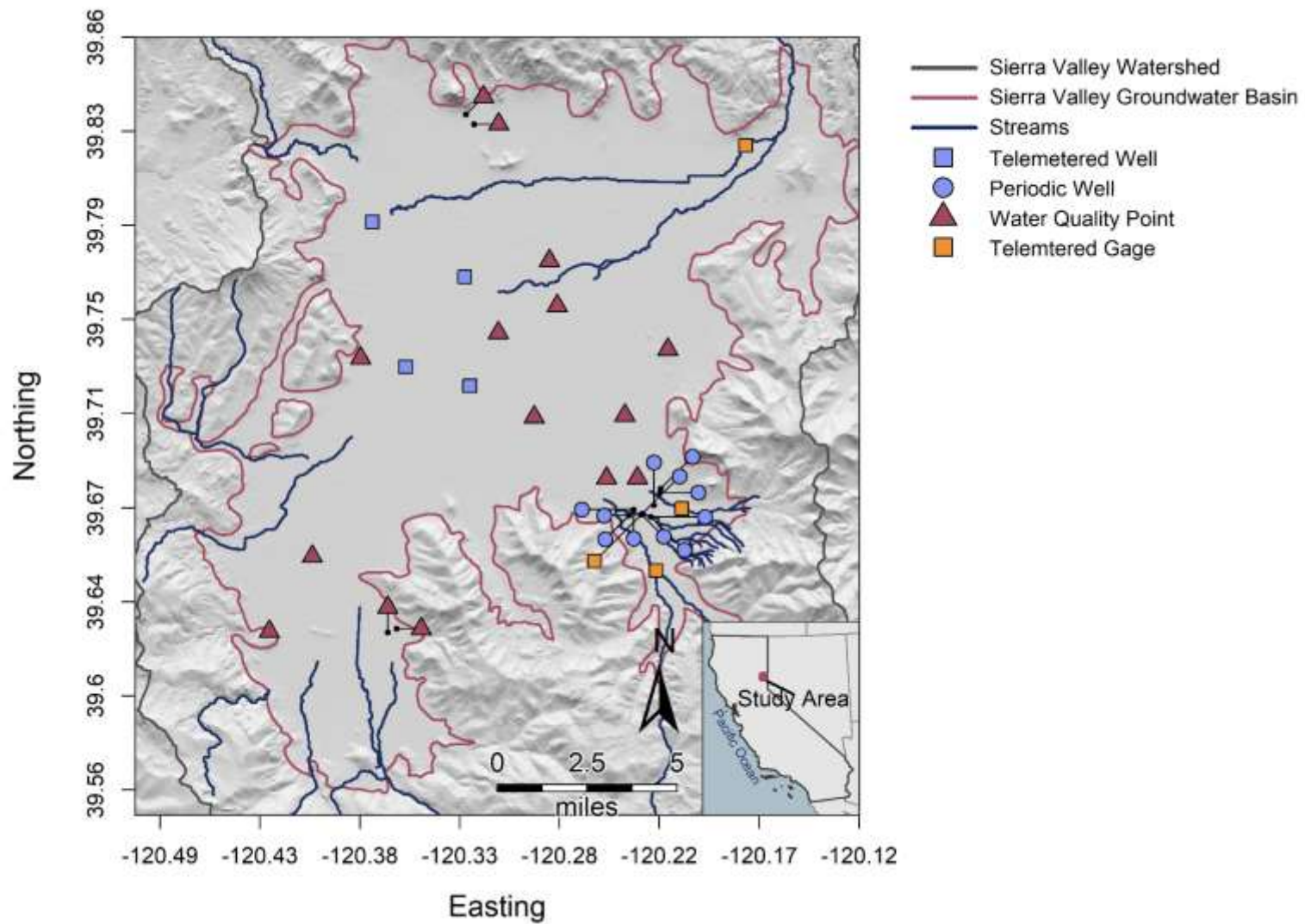


Figure 1-1: New monitoring points added during the evaluation cycle

SECTION 2: GW CONDITIONS RELATIVE TO SMC

This section evaluates GW conditions for each applicable sustainability indicator relative to the SMC established in the GSP. The section includes the status and specific resolution details of DWR-recommended corrective actions, an assessment of current basin conditions relative to MTs, interim milestones, and measurable objectives, and a determination of whether the basin is achieving interim milestones and progressing toward sustainability. It documents whether URs occurred during the evaluation cycle, including any minimum threshold exceedances that did not constitute URs as defined in the GSP, and describes any implementation challenges encountered, and adaptive management strategies employed to address threshold exceedances. The section evaluates the effectiveness of GSP implementation and its impacts on beneficial uses and users and confirms that no significant new information has emerged that would warrant changes to the established SMC or necessitate a GSP Plan Amendment. Additionally, it identifies any hydrologic or climatic extremes along with the management strategies used to maintain the basin's path to sustainability. These updates collectively provide the basis for evaluating progress toward achieving GW sustainability in the basin.

The beginning of the evaluation period (water years 2021 and 2022) was characterized by a critical lack of rainfall that reduced the availability of local streamflow for consumptive use. To make up for the shortfall of local streamflow, greater than half of the surface water used in the Basin during water year 2021 and 2022 was imported from the Little Truckee River (LTR) diversion. However, due to the fact that water years 2021 and 2022 were not just critical in the Basin but also in the whole of the state, supplementing local supplies with greater than average imports from the LTR was only enough to bring surface water usage to approximately 50 and 66 % of the total water demand in the Basin respectively. GW extractions then filled the remaining water demand gap. These large GW extraction volumes (15,702 AF in WY2021 and 11,484 AF in WY2022) drove a decline in GW storage and levels, causing many wells in the RMP network to be at or below their respective MTs.

Following this period of surface water scarcity water year 2023 was characterized by above normal precipitation (147% of the historical median) followed by a return to within 12% of the historical baseline in water years 2024 and 2025. This three-year period saw both a decrease in GW extractions and imported water diversions from the LTR as local surface water supplies could be tapped due to the newly available water. This shifting of demand from GW to surface water caused GW storage and levels to rapidly recover from the preceding dry period. Due to the recovery in GW storage and levels at present there is only one RMP well in the upper aquifer and one well in the lower aquifer at or below their MT, a marked improvement from 2022 which saw eight wells in the upper aquifer and four wells in the lower aquifer in this same category.

Management of the rapidly changing hydrologic conditions in the basin was done primarily by studying agricultural water use efficiency in the Basin and providing recommendations, standardizing flow metering to better understand usage patterns to target future PMAs, installing stream gaging stations to better estimate surface water usage in the Sierra Valley Hydrogeologic System Model (SVHSM) and therefore project GW usage, and the recharge of excess winter flows by MAR in high infiltration grassland and drainage ditches.

2.1 GW Levels

The Sierra Valley Subbasin has historically experienced GW level declines, particularly in the eastern portion of the basin where agricultural pumping is concentrated. Long-term GW level trends and model results indicate that GW extraction has exceeded sustainable yield under certain conditions, resulting in localized overdraft. SMC for chronic lowering of GW levels were established at 36 Representative Monitoring Points (RMPs) using Minimum Thresholds (MTs), Measurable Objectives (MOs), and Interim Milestones (IMs) distributed throughout the Subbasin to prevent significant and unreasonable impacts to beneficial uses and users.

Minimum Thresholds were set near historically low GW elevations, approximately at 2015 levels, to prevent significant and unreasonable impacts to beneficial users and uses of GW. Measurable Objectives are based on average GW elevations observed between January 2015 and October 2020 and represent the desired long-term GW level condition for each RMP location. Interim Milestones represent intermediate GW level targets established for 2027, 2032 and 2037 to track progress toward MOs over the GSP planning horizon.

The GSP defines an UR for this indicator as occurring when four or more of the 36 GW-level RMPs fall below their respective MTs for two consecutive years. In addition, the GSP established investigatory triggers under either of the following conditions: four or more wells fall below their MT in a single year, or two or more wells fall below their MT for two consecutive years. The various SMCs are shown in Table 2-1 below including a description of what each component is and what value or criteria defines the component.

Table 2-1 Summary of SMC for Groundwater Levels

SMC Component	Description	Values/Criteria
Minimum Threshold (MT)	Lowest acceptable groundwater elevation at each RMP before URs may occur	Range: 4,730 to 5,061 ft AMSL
2027 Interim Milestone (IM)	Five-year target to measure progress toward MO	$2027\ IM = MT + [(MO - MT) \div 4]$ When operational flexibility is <3 feet, one or more IMs may equal the MO
Measurable Objective (MO)	Long-term goal representing desired groundwater conditions by 2042	Range: 4,789 to 5,072 ft AMSL
Undesirable Results (UR)	Condition that constitutes significant and unreasonable impact	Definition: More than 10% of RMPs (4 or more of 36 wells) fall below their MT for two consecutive years

Table 2-2 Summary of Current GW Levels and Status for the RMPs with respect to Interim Milestone (IM) and Minimum Threshold (MT)

RMP ID	Site Code	Ground Surface (ft. AMSL)	Date of Last Measurement	Last Measure WL (ft. AMSL)	IM (ft. AMSL)	MO (ft. AMSL)	MT (ft. AMSL)	Last WL above IM (ft.) ¹	Last WL above MT (ft.) ¹
12	395808N1203851W001	5038.6	10/22/2025	5014.85	5014	5029	5009	0.85	5.85
31	396391N1203667W001	4938.6	10/22/2025	4916.8	4915	4921	4913	1.8	3.8
43	396970N1202916W001	4895.6	10/22/2025	4838.8	4811.25	4842	4801	27.55	37.8
56	396814N1202407W001	4945.7	10/24/2025	4887.7	4872	4893	4865	15.7	22.7
67	396934N1202234W001	4969.7	10/22/2025	4912.3	4903.25	4916	4899	9.05	13.3
70	396864N1202299W001	4963.7	10/20/2022	4879.2	4878.75	4902	4871	0.45	8.2
73	396744N1202282W001	4998.7	10/20/2022	4975	4973.75	4979	4972	1.25	3
78	396599N1202229W001	5093.8	10/16/2017	5069.35	5063.75	5072	5061	5.6	8.35
93	397667N1203238W001	4880.5	10/22/2025	4871.61	4874.25	4878	4873	-2.64	-1.39
94	397808N1202893W001	4894.3	10/24/2025	4773.26	4744.75	4789	4730	28.51	43.26
100	397529N1202568W001	4896.6	10/24/2025	4806.82	4776.75	4809	4766	30.07	40.82
112	397403N1202870W001	4884.5	10/23/2025	4861.87	4851.75	4860	4849	10.12	12.87
124	397106N1202878W001	4888.6	10/22/2025	4834.88	4797.75	4833	4786	37.13	48.88
130	397081N1202449W001	4911.6	10/24/2025	4869.79	4848.25	4873	4840	21.54	29.79
131	397927N1201294W001	5093.6	10/23/2025	5053.2	5041.5	5052	5038	11.7	15.2
132	397945N1201920W001	4935.6	10/23/2025	4913.9	4895.25	4908	4891	18.65	22.9
136	397831N1202245W001	4911.6	10/23/2025	4812.58	4759.75	4801	4746	52.83	66.58
148	397372N1202128W001	4938.2	10/23/2025	4937.72	4930.25	4934	4929	7.47	8.72
161	398020N1203815W001	4881	4/24/2025	4872.91	4866	4872	4864	6.91	8.91
176	398094N1202932W001	4891.8	10/23/2025	4874.38	4865.25	4872	4863	9.13	11.38
185	398107N1201653W001	4966.8	10/23/2025	4959.29	4955.75	4958	4955	3.54	4.29
187	398165N1201934W001	4942.1	10/23/2025	4929.28	4909	4921	4905	20.28	24.28
190	398098N1202211W001	4918.6	10/23/2025	4812.65	4773	4812	4760	39.65	52.65

RMP ID	Site Code	Ground Surface (ft. AMSL)	Date of Last Measurement	Last Measure WL (ft. AMSL)	IM (ft. AMSL)	MO (ft. AMSL)	MT (ft. AMSL)	Last WL above IM (ft.) ¹	Last WL above MT (ft.) ¹
194	398059N1201862W001	4943.6	10/23/2025	4922.68	4908.25	4921	4904	14.43	18.68
206	398024N1201371W001	5013.6	10/19/2023	5004.73	4990.75	5002	4987	13.98	17.73
209	397951N1201418W001	5013.6	10/23/2025	5000.33	4996.25	5003	4994	4.08	6.33
289	395951N1203910W003	4953.4	10/22/2025	4953.06	4951	4954	4950	2.06	3.06
291	395951N1203910W001	4953.3	10/22/2025	4944.94	4943.75	4946	4943	1.19	1.94
292	396444N1204137W003	4915.2	9/5/2025	4915.15	4897	4912	4892	18.15	23.15
294	396444N1204137W001	4915.2	10/3/2025	4911.43	4881.25	4912	4871	30.18	40.43
296	396722N1204095W002	4920.1	10/22/2025	4882.06	4877	4883	4875	5.06	7.06
297	396722N1204095W001	4919.4	10/22/2025	4891.09	4891	4897	4889	0.09	2.09
298	397956N1201417W001	5010.6	10/23/2025	5008.26	5000.25	5007	4998	8.01	10.26
300	397956N1201417W003	5010.6	10/23/2025	5001.32	4997.25	5001	4996	4.07	5.32
301	398170N1203478W001	4890.48	10/24/2025	4856.43	4841	4856	4836	15.43	20.43
302	398170N1203478W002	4890.48	10/24/2025	4867.3	4842.5	4865	4835	24.8	32.3

¹Negative values indicate a last measured WL below the designated criteria



2.1.1 Recommended Corrective Action 3

In its July 27, 2023 determination letter approving the Sierra Valley GSP, DWR issued the following Recommended Corrective Action (RCA) 3:

“Provide additional information on the chronic lowering of GW levels SMC, including the specific level(s) where effects that the GSA considers significant and unreasonable would constitute specific URs that the GSA seeks to avoid by managing GW levels to avoid these minimum thresholds. For example, the GSAs could incorporate the UR definition presented in the well impact analysis which states, “significant and undesirable results would occur when 5 percent or more of wells of any type (domestic, agricultural, public, and industrial) are impacted” into the Plan’s definition for an undesirable result.²⁷⁰ Currently, the 5% metric is for the “purpose of the study” and not stated in the SMC section of the Plan.”

2.1.1.1 Response to RCA 3

The Sierra Valley GSAs acknowledge DWR's concern regarding the clarity and specificity of the UR definition for chronic lowering of GW levels. Therefore, the Plan now formally adopts the following as the UR standard for chronic lowering of GW levels:

An UR occurs when 5% or more of active wells within any single well type category (domestic, agricultural, public supply, or industrial) are impacted due to GW levels declining to elevations that impair well functionality (e.g., GW elevations falling below pump intake depth, accounting for an operational margin).

This 5% threshold provides an objective, measurable criterion for determining when GW level declines have caused significant and unreasonable impacts to beneficial users. The threshold recognizes that isolated well impacts can occur for reasons unrelated to basin-wide GW management, including poor well construction, localized pumping patterns, maintenance issues, and natural hydrogeologic variability.

The 5% threshold is applied separately to each well type category (domestic, agricultural, public supply, and industrial). This approach ensures that impacts to any single beneficial user group will trigger appropriate management responses, even if other well types remain unaffected.

The 36 GW-level RMPs and their associated Minimum Thresholds (MTs) remain in place as basin wide monitoring tools.

The RMP MT framework serves as:

- A consistent GW level monitoring system
- An early warning indicator of potential well impacts
- A trigger mechanism for investigation and adaptive management

However, exceedance of MT at RMP locations does not, by itself, constitute an UR. The formal determination of an UR is based on the 5% well-impact threshold described above.

This clarification ensures that the Plan’s definition of “significant and unreasonable” impacts is directly tied to measurable effects on beneficial users, consistent with SGMA.

In response to the Department's request for specification of the GW levels at which significant and unreasonable effects occur, the GSA provides the following clarification. The site-specific MTs established at each of the 36 RMPs define the GW elevations at which well impacts begin to occur at a rate approaching the 5% UR threshold. The well impact analysis conducted during GSP preparation demonstrated that:

- MTs are protective of 98% of active domestic wells in the Subbasin;
- MTs are protective of 99% of active agricultural wells in the Subbasin;
- MTs are protective of 100% of active public supply wells in the Subbasin; and
- MTs are protective of 100% of active industrial wells in the Subbasin.

Therefore, as long as all RMPs remain above their respective MTs (4,730 ft MSL to 5,061 feet above mean sea level (AMSL)) the 5% well impact threshold cannot be exceeded for any well category. MT exceedances serve as an early warning indicator of approaching well impacts rather than a direct trigger of URs. When GW elevations at one or more RMPs fall below their MTs, the GSA will conduct a well impact assessment to determine whether the 5% threshold has been approached or exceeded for any well category.

The 5% threshold recognizes that isolated well impacts may occur due to localized pumping, poor construction, well maintenance issues, or natural hydrogeologic variability, and that these localized occurrences do not constitute a basin-wide management failure. A 5% impact rate within any single well category signals a systemic, basin-wide GW management problem requiring immediate management response under the GSP implementation framework. The threshold is applied separately to each well category so that impacts to any user type are not masked by aggregation.

To evaluate ongoing compliance with the clarified UR definition, the GSA employs a two-tiered monitoring approach:

- Tier 1: RMP Network: The GSA monitors GW levels at all 36 RMPs distributed throughout the Subbasin. MTs at each RMP are calibrated to ensure that when all RMPs remain above their respective thresholds, fewer than 5% of wells in any category experience pump intake impacts. RMP monitoring therefore provides a continuous proxy measure for compliance with the 5% UR definition.
- Tier 2: Direct Well Impact Tracking: The GSA tracks reported well impacts through coordination with Plumas County Environmental Health Department records, GSA stakeholder outreach and public engagement, coordination with well drillers and pump installers, and annual stakeholder surveys. Well impact data are compiled and reviewed on an annual basis and will be reported in future Annual Reports and Periodic Evaluations.

2.1.2 Amendments to SMC

No amendments to the GSP were identified during this review period.

2.1.3 Current Conditions Relative to SMC

The WY2021–WY2025 period captured a complete drought-to-recovery cycle across the Sierra Valley Subbasin. WY2021 was the most stressed year of the evaluation period. Four RMP wells (DMW 2S, DMW 2D, DMS 012, and 23N16E27R001M) fell below their respective MTs during fall measurements under critically dry conditions, meeting the single-year investigatory trigger of four or more wells below MT. The exceedances were attributed to drought conditions rather than chronic overdraft.

Table 2-2: Exceedances of Minimum Thresholds and occurrence of Undesirable Results (if any) by water year for the Sierra Valley Groundwater Basin.

Water Year	Wells Below MT	Investigatory Trigger Met	Undesirable Result	Hydrologic Conditions
WY2021	4 (DMW 2S, DMW 2D, DMS 012, 23N16E27R001M)	Yes, 4-well single-year trigger	No	Critically Dry

WY2022	2 (DMS 012, DMS 16)	No	No	Critically Dry
WY2023	1 (22N15E08Q001M)	No	No	Wet
WY2024	0, no wells below MT (DMW 4S approached but did not exceed MT)	No	No	Below Normal
WY2025	1 22N15E08Q001M	No	No	Above Normal

Dry conditions persisted into WY2022 but with measurable improvement; only two RMP wells (DMS 012 and DMS 16) were observed below MT, and the overlap with WY2021 exceedances was insufficient to meet the two-consecutive-year investigatory trigger. WY2023 brought improved precipitation and snowpack, with just one RMP well (22N15E08Q001M) remaining below MT which did not meet any trigger threshold. By WY2024, groundwater levels had largely recovered across the Subbasin; no RMP wells were observed below their respective MTs, and one well (DMW 4S) approached but did not exceed its MT. The four-year trend reflects a clear drought-response-and-recovery pattern, with no evidence of sustained or structural groundwater level decline. This trend persisted into 2025 where only one well (ID 93 in Appendix A) was not above its 2027 interim milestones. Well 93 (22N15E08Q001M) was previously below its MT in 2023 despite a return of precipitation and may indicate a response to local, rather than basin-wide, conditions in the central western portion of the basin. The GSA is currently investigating why this may be the case (Figure A-9).

2.1.4 Progress Toward Achieving Sustainability

GW elevations demonstrate recovery following drought-related declines, particularly in WY2023 and WY2024. Elevations continued to be stable into WY2025 with fall measurements, excepting a single well, above their 2027 IMs and most above their MOs. The absence of sustained MT exceedances and the well impact analysis confirming only one impacted well indicate that GW level management remains on track toward achieving sustainability by 2042. The RMP network continues to function effectively as an early-warning monitoring system, and no management adjustments are required at this time.

The GSA anticipates that given the observed recovery trends from previous drought periods and stabilization of water levels following active management of groundwater levels that the Basin is on track to achieve its 2027 water level interim milestones at all RMPs with the possible exception of well 93 (22N15E08Q001M). As discussed above (Section 2.1.3), this well has been below its MT multiple times prior to January 1st, 2015 and its MT exceedances in recent favorable hydrologic conditions follows no larger basin-wide pattern. Given these facts, the GSA is confident that well 93 does not indicate wider chronic groundwater decline and that the achievement of IMs at the remaining 35 RMP wells will remain unimpaired.

2.1.5 Impacts to Beneficial Uses and Users

No domestic, irrigation, public supply, or industrial supply wells were reported to have gone dry or experienced significant loss of yield attributable to sustained GW level declines during the WY2021–WY2024 portion of the evaluation period. The GSA tracked potential well impacts through coordination with Plumas County Environmental Health Department records and stakeholder outreach. No well impact reports were received through either mechanism during the evaluation period.

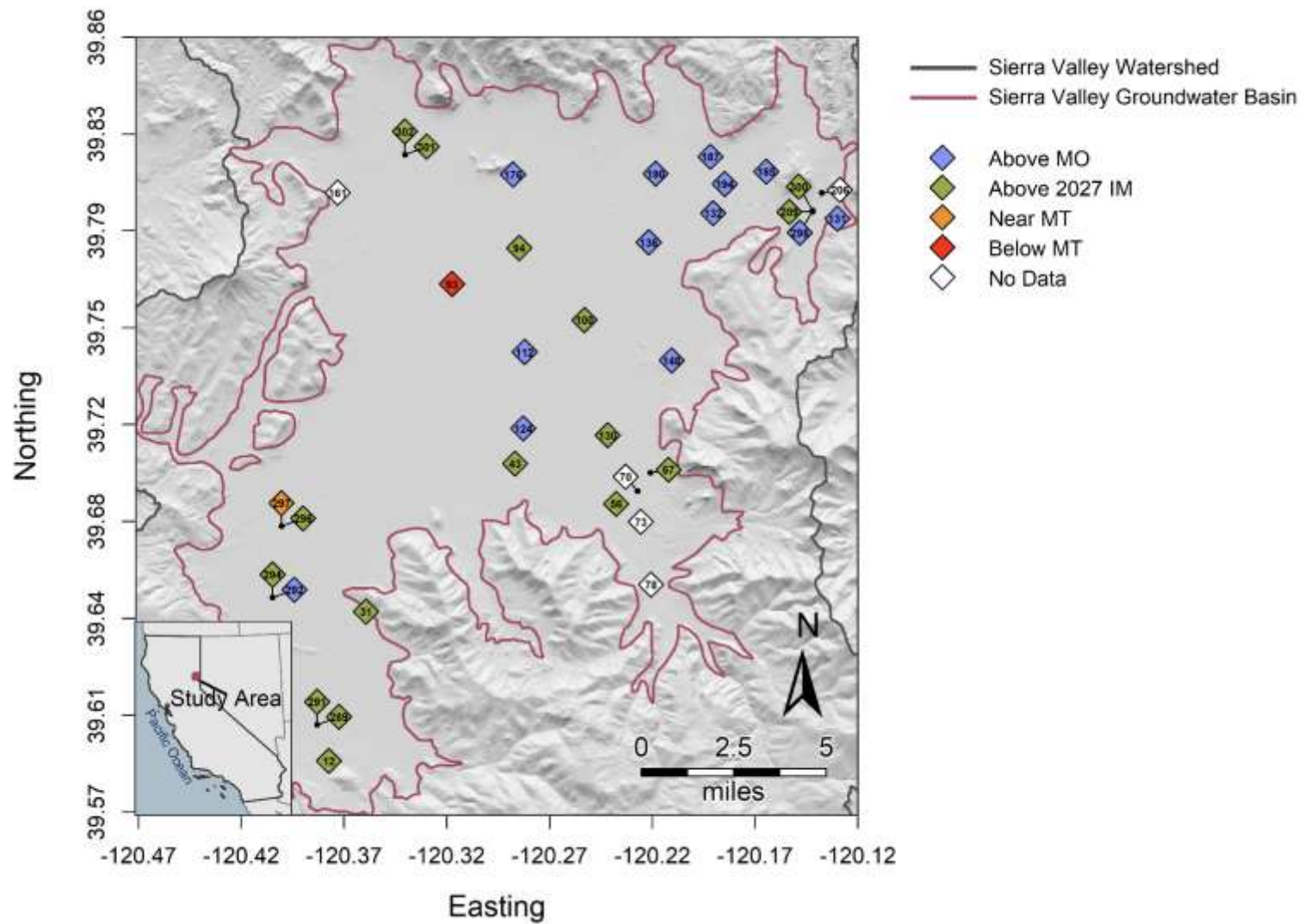


Figure 2-1: Most recent Fall 2025 water levels in the six-week period centered around October 1st compared to the respective MT, IM, and MO of wells with associated groundwater level SMCs in the Sierra Valley Groundwater Basin. Numbers on each well refer to the ID number.

2.2 GW Storage

GW storage in the Sierra Valley Subbasin reflects the cumulative balance between GW recharge and GW extraction. Historical analysis and the SVHSM indicate that long-term pumping has exceeded sustainable yield (i.e., 5500-6500 AF) under certain conditions, resulting in localized overdraft, particularly in the eastern portion of the basin.

Sustainable management of GW storage is achieved by limiting long-term average GW extraction to levels that prevent significant and unreasonable depletion of aquifer storage and associated impacts to beneficial users.

Estimated annual change in GW storage for the evaluation period:

- WY2021: -7,600 AF (overdraft during critically dry year)
- WY2022: -8,817 AF (overdraft during critically dry year)
- WY2023: +24,245 AF (largest single-year recovery on record)
- WY2024: -6,952 AF (modest overdraft during below-average year)
- WY2025: +6,229 AF (modest recovery during above-average year)
- Net change for evaluation period: +7,105 AF (overall recovery)

These storage changes were estimated using the updated SVHSM. The cumulative overdraft since January 1st 2015 was reversed from approximately -9,730 AF in water year 2022 to 16,087 AF immediately following the improved hydrologic conditions of water year 2023. This has remained steady, and through water year 2025 the estimated change in storage since January 1st 2015 remains positive at approximately +15,364 AF Table 2-3. Zooming in to the evaluation period (pos-2020), which contained three 'Below Normal' and 'Critical' years for water availability out of its 5 water years, an overall small storage decline is seen of 4,962 AF Table 2-3. This is improved from a low point of 30,056 AF of storage decline in 2022. Whether evaluating in the post-2015 period or the post-2020 period both the rapid reversal of groundwater storage in water year 2023 and its maintenance of said reversal demonstrated the basin's substantial recovery capacity when adequate precipitation and recharge occur. As such, the GSA retains its belief that the groundwater level minimum thresholds serve as a rapidly responding proxy for storage minimum thresholds, and that no URs related to groundwater storage reduction have occurred.

The recovery detailed above occurred in the face of known historical overdraft conditions, estimated to be between 1,500 to 2,500 AFY in the 2022 GSP, is demonstrative of the Basin's resilience to long-term dry conditions (SVGMD, 2022). These declines in GW storage were acknowledged in the GSP and used to craft the currently ongoing PMAs to ensure the Basin is being sustainably managed. These ongoing PMAs include the reuse of wastewater for crop irrigation, agricultural efficiency improvements to maintain production under lower water use scenarios, and MAR projects. There are additionally PMAs which have not yet started that also address the small but extant GW storage decline by creating voluntary water use reduction programs, managing and repurposing agricultural land, creating banks of off-stream storage, and implementing a GW trading system. The nature of ongoing PMAs along with the recovery of GW storage in both the post-SGMA and post-2020 period despite historical overdraft is evidence of the effective GW management executed by the GSA over the evaluation cycle.

2.2.1 Recommended Corrective Actions

DWR did not issue any recommended corrective actions related to the GW Storage sustainability indicator. No deficiencies in the definition of sustainable yield, storage accounting methodology, or storage-related URs were identified by DWR. Accordingly, no corrective actions are required for this indicator.

2.2.2 Amendments to SMC

No amendments to the SMC for GW storage are proposed at this time.

2.2.3 Current Conditions Relative to Sustainable Management

GW storage in the Sierra Valley Subbasin reflects the cumulative balance between recharge and extraction, tracked using the SVHSM. Storage changes are estimated on an annual basis and compared against the MT, Measurable Objective, and UR definitions established in the GSP.

Annual GW storage change was estimated for each water year of the evaluation period as follows:

Table 2-3: Tabulations of groundwater storage changes assessed by the SVHSM by water year. Units for storage are in AF.

Water Year	Hydrologic Condition	Annual Change in Storage	Cumulative Change Over Evaluation Period	Cumulative Change in Storage Since 2015
WY2016	Below Normal	5,586	-	5,586
WY2017	Wet	29,324	-	34,910
WY2018	Below Normal	-5,067	-	29,843
WY2019	Wet	6,378	-	36,221
WY2020	Dry	-15,895	0	20,326
WY2021	Critically Dry	-20,874	-20,874	-548
WY2022	Critically Dry	-9,182	-30,056	-9,730
WY2023	Wet	25,817	-4,239	16,087
WY2024	Below Normal	-6,952	-11,191	9,135
WY2025	Above Normal	6,229	-4,962	15,364

The critically dry WY 2022 resulted in a storage decline of approximately 9,182 AF, consistent with expected behavior during drought conditions and elevated extraction relative to recharge. WY 2023 produced the largest single-year storage recovery on record, with a gain of approximately 25,817 AF driven by above-normal precipitation and associated recharge. WY 2024 returned to modest overdraft conditions (-6,952 AF) reflecting below-average precipitation which then reversed following improved hydrologic conditions to a gain of 6,229 AF in WY 2025. On a net basis, the evaluation period resulted in a storage decline of approximately 4,962 AF. This number demonstrates a resilient drought recovery from the three out of five years during the evaluation period that recorded 'Below Normal' or 'Critically Dry' hydrologic conditions and is below what one would expect given the historic overdraft discussed in the 2022 GSP and Section 2.2.

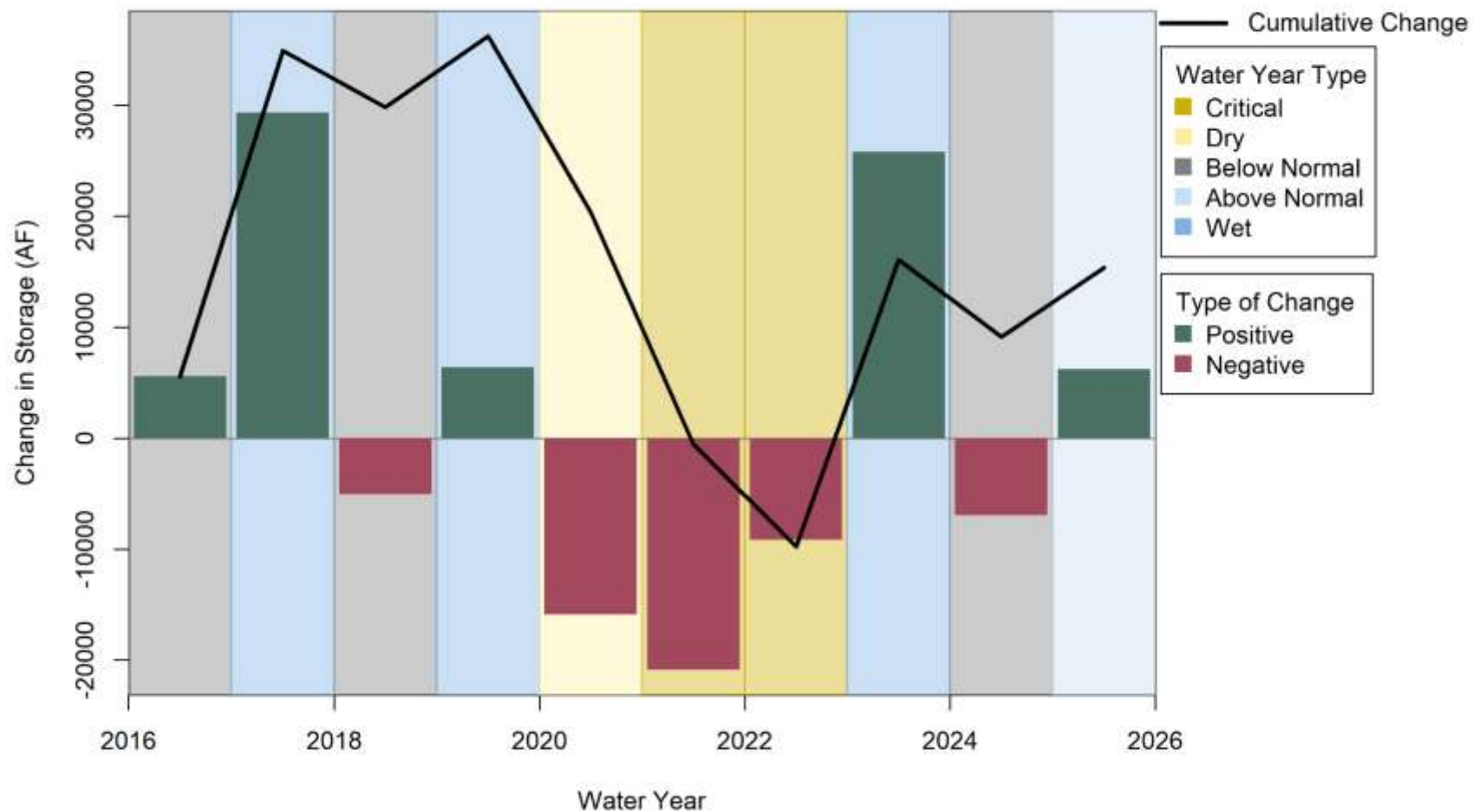


Figure 2-2: Annual and cumulative storage changes assessed by the Sierra Valley Hydrogeologic System Model (SVHSM) during the evaluation period. Annual changes are depicted as bars at their respective years while cumulative change is depicted as a line.

2.2.4 Progress Toward Achieving Sustainability

The GSP establishes a sustainability goal of limiting long-term average GW extraction to levels that prevent significant and unreasonable depletion of aquifer storage. Progress toward this goal is assessed by evaluating trends in annual storage change and cumulative deficit reduction over time.

The evaluation period demonstrates meaningful progress toward achieving sustainability: The reversal in cumulative deficit since WY2015 from approximately -23,612 AF through WY2022 to approximately +1,447 AF through WY2025 reflects a significant improvement in basin-wide storage conditions and that the basin possesses substantial recovery capacity when adequate precipitation and recharge occur. While single-year deficits occurred in WY2022 and WY2024 under dry conditions, these are consistent with expected behavior under the natural variability of the basin's precipitation-driven recharge cycle. Long-term sustainability requires managing extraction to ensure that multi-year average conditions trend toward balance or recovery, rather than eliminating year-to-year variability.

Extraction and recharge monitoring data for the evaluation period are summarized in Table 2-4.

The GSAs will continue to assess progress toward sustainability through annual reporting and model updates, including recalibration of the SVHSM with updated data.

Table 2-4: Groundwater extractions in the Sierra Valley Groundwater Basin by water year by sector. The extraction volume of domestic users in the basin was not assessed in WY 2021 and 2022 due to uncertainties, resolved later, regarding the total number and location of active domestic wells.

Water Year	Hydrologic Condition	Sector	GW Extraction Range (AF)
WY2021	Critically Dry	Agriculture	14,110 – 15,596
		Municipal and Industrial	807 – 892
		Total	14,917 – 16,488
WY2022	Critically Dry	Agriculture	10,228 – 11,305
		Municipal and Industrial	682 – 754
		Total	10,910 – 12,059
WY2023	Wet	Agriculture	5,250 – 5,803
		Municipal and Industrial	613 – 678
		Domestic	308 – 462
		Total	6,171 – 6,943
WY2024	Below Normal	Agriculture	7,422 – 8204
		Municipal and Industrial	546 – 603
		Domestic	303 – 455
		Total	8,271 – 9262
WY2025	Above Normal	Agriculture	6,667 – 7369
		Municipal and Industrial	581 – 643
		Domestic	342 – 514
		Total	7,590 – 8,526

2.2.5 Impacts to Beneficial Uses and Users

No URs for GW storage were identified during the evaluation period. As of Fall 2025, one of the 36 GW-level RMPs (22N15E08Q001M) was below its MT, the metric used as a proxy for storage depletion under the GSP. This exceedance is isolated to a single well and location and does not indicate a basin-wide pattern. Cumulative GW storage in the Subbasin has remained positive since 2015. Taken together, these facts indicate that storage depletion has not reached a level that significantly and unreasonably affects beneficial uses and users.

The primary beneficial uses dependent on GW storage in the Sierra Valley Subbasin include agricultural irrigation, domestic and municipal supply, livestock watering, and maintenance of GW-dependent ecosystems including wetland complexes in the western basin, riparian corridors along Smithneck Creek and Staverville Creek, and spring-fed meadows near the Middle Fork Feather River headwaters. The net storage recovery of +8,476 AF over the evaluation period, and the 41% reduction in cumulative deficit, are consistent with maintaining these uses without significant impairment.

No well failure reports or supply shortages attributable to storage depletion were received by the GSAs during the evaluation period.

The GSAs will continue to monitor storage conditions and evaluate potential impacts to beneficial users through annual reporting, stakeholder engagement, and ongoing SVHSM updates.

2.3 Seawater Intrusion

Not applicable to Sierra Valley Subbasin. The basin is located in northeastern California, over 100 miles from the nearest coastline

2.4 Water Quality

GW quality in the Sierra Valley Subbasin is generally good and remains suitable for municipal, domestic, agricultural, and environmental beneficial uses. During development of the GSP, nitrate, and total dissolved solids (TDS) were identified as the primary constituents of concern (COCs) for purposes of sustainable management and are the only constituents for which SMC have been established.

This section evaluates GW quality conditions for these primary COCs during the evaluation period, with a focus on assessing degraded water quality conditions relative to the established Minimum Thresholds and Measurable Objectives. The analysis is based primarily on GW quality data compiled from the State's GW Ambient Monitoring and Assessment (GAMA) Program, supplemented by other available datasets where applicable.

In addition, this section presents available data for other GW quality constituents analyzed during GSP development that do not have defined SMCs, to provide supporting context on overall GW quality conditions and trends within the Subbasin. The section also addresses the Department of Water Resources' (DWR) RCA 4 and documents progress toward achieving GW sustainability.

2.4.1 Arsenic

GW quality data indicate that arsenic concentrations remain generally low across the Sierra Valley Subbasin. A total of 97 samples collected from 38 wells were evaluated. Observed concentrations ranged from non-detect to approximately 327 µg/L. This high end of the concentration only appears at a singular well in the north of the basin, despite the median concentration of all other sampled wells being 2 µg/L. The two samples taken at this well were the only ones to exceed the Title 22 primary Maximum Contaminant Level (MCL) of 10 µg/L. Elevated arsenic concentrations in the Subbasin are consistent with

natural geochemical conditions associated with volcanic and alluvial sediments that compose the basin aquifer system. These naturally occurring conditions were identified in the GSP water quality assessment as the primary cause of arsenic occurrence. Because these conditions are not controllable through GW management actions, SMC were not established for arsenic in the GSP and the GSA considers the two observed exceedances of the 10 µg/L MCL to be indicative of only local conditions.

Comparison with historical data presented in the GSP water quality assessment indicates that arsenic concentrations observed after March 2020 remain within the historical range previously documented for the Subbasin and do not indicate basin-wide GW quality degradation associated with GW management activities.

2.4.2 Boron

GW quality monitoring data for boron includes 35 samples from 29 wells. Boron concentrations ranged from non-detect to approximately 1.9 mg/L, with a mean and median concentration of approximately 0.24 mg/L and 0.05 mg/L respectively. Three samples exceeded the California Notification Level of 1 mg/L.

Elevated boron concentrations are consistent with naturally occurring conditions within the Sierra Valley aquifer system and are commonly associated with volcanic geologic formations present in the basin. As discussed in the GSP water quality assessment, boron concentrations in GW are largely controlled by natural geochemical processes rather than anthropogenic sources.

Because boron exceedances are primarily associated with natural conditions that cannot be managed through GW management actions, SMC were not established for this constituent. Post-2020 monitoring results indicate that boron concentrations remain within the range of historical variability previously documented in the Subbasin.

2.4.3 Iron

A total of 56 GW samples from 21 wells were evaluated for iron concentrations during and after WY2021. Observed concentrations ranged from non-detect to approximately 0.6 mg/L, with several samples exceeding the Title 22 secondary MCL of 0.3 mg/L.

Elevated iron concentrations in GW are typically associated with reducing geochemical conditions and the dissolution of iron-bearing minerals present in basin sediments. These conditions are common in many alluvial GW systems and have been documented historically within the Sierra Valley Subbasin.

Because iron concentrations are largely influenced by natural geochemical conditions rather than GW management activities, SMC were not established for this constituent. Monitoring results since WY2021 indicate that iron concentrations remain consistent with historical conditions described in the GSP water quality assessment.

2.4.4 Manganese

Evaluation cycle GW monitoring data include 41 samples collected from 14 wells. Observed manganese concentrations ranged from non-detect to approximately 5,800 µg/L, with ten samples exceeding the Title 22 MCL standard of 50 µg/L.

Similar to iron, elevated manganese concentrations in GW are typically associated with naturally occurring geochemical processes under reducing conditions in the aquifer system. These conditions have been documented historically within the Sierra Valley Subbasin and are not associated with GW management activities.

Because manganese concentrations are primarily controlled by natural geologic and geochemical conditions, SMC were not established for this constituent in the GSP. Monitoring results collected since March 2020 indicate that manganese concentrations remain within the historical range documented in the GSP water quality assessment.

2.4.5 Methyl Tert-Butyl Ether (MTBE)

GW monitoring data collected during the evaluation period include 85 samples from 17 wells. Observed Methyl Tert-Butyl Ether (MTBE) concentrations ranged from non-detect to approximately 3 µg/L, which is below the Title 22 primary MCL of 13 µg/L.

Historically, MTBE has been associated with localized petroleum release sites, such as leaking underground storage tanks (LUST). However, the GSP water quality assessment indicated that MTBE concentrations in the Subbasin have declined substantially over the past decade and are primarily associated with site-specific contamination sources that are managed through existing regulatory cleanup programs.

The absence of MTBE exceedances in post-2020 monitoring data indicates that GW quality conditions related to MTBE remain stable and consistent with the improving trends identified in the GSP.

2.4.6 Nitrate

The first constituent of concern for which SMCs were defined, nitrate, is primarily sourced from applications of inorganic fertilizer and animal manure in agricultural areas¹. As the rate of fertilizer application has doubled since the invention of the Haber-Bosch process in the 1920's and approximately half of applied fertilizers run off into surface and groundwater¹, nitrate contamination of water resources has been of concern throughout agricultural regions of California. Prolonged exposure to high levels of nitrate in drinking water is associated with infant methemoglobinemia and the formation of N-nitroso compounds in the body, which are considered teratogens¹. Counteracting these risks is the fact that nitrate has historically been low in the Sierra Valley, with only occasional excursions above the 10 mg/L standard primarily occurring in the 1960s. In recent decades (1990-2020), over which data was used to develop SMCs, most potential water quality RMPs listed in the GSP had non-detectable levels of nitrate (SVGMD, 2022). As a result, the URs for the basin was determined to be if any RMP wells were to exceed the Title 22 MCL each year. This highly conservative number was considered protective of beneficial groundwater uses under both the low historical concentrations and the fact that at the time of GSP development (2021-09-01) no wells exceeded the Title 22 MCL.

During the evaluation period 169 measurements of nitrate were taken from 36 wells. These measurements recorded a mean, median, and maximum nitrate concentration of approximately 1.1, 0.4, and 4.1 mg/L respectively. There were no measurements above the Title 22 primary MCL of 10 mg/L, keeping with the general trend observed in the historical record and demonstrating the effectiveness of the GSA's GW management.

2.4.7 pH

Evaluation cycle GW monitoring data include 68 samples from 16 wells. Observed pH values ranged from approximately 6.8 to 7.9, with an average value of approximately 7.38. All observed pH values fall within the Title 22 secondary MCL range of 6.5 to 8.5.

¹ Ward, M. H. et al. (2018). Drinking Water Nitrate and Human Health: An Updated Review. *International Journal of Environmental Research and Public Health*, 15(7). <https://doi.org/10.3390/ijerph15071557>.

GW pH conditions in the Sierra Valley Subbasin are influenced primarily by natural geochemical processes within the aquifer system. Because pH variations are typically controlled by natural conditions rather than GW management activities, SMC were not established for this constituent in the GSP.

Monitoring results collected since March 2020 indicate that pH conditions remain stable and within the acceptable regulatory range, consistent with historical GW quality conditions documented in the GSP water quality assessment.

2.4.8 TDS

The second Constituent of Concern (COC) for which SMCs were defined, TDS, is an ensemble measurement of the inorganic ions that make up GW. These ions, which can come from both natural and anthropogenic sources, include calcium (Ca^{2+}), magnesium (Mg^{2+}), sodium (Na^+), sulfate (SO_4^{2-}) (SVGMD, 2022). High levels of TDS in GW is generally of concern in drinking water for aesthetic and taste purposes rather than for human health. As a result, TDS has a secondary, rather than primary, Title 22 MCL associated with it. This standard defines a recommended bound of 500 mg/L, below which water is considered to have no taste concerns, and an upper bound of 1000 mg/L, above which consumers are considered to have an aversion to the water even if it would not be harmful. Historically the Sierra Valley has numerous exceedances of the recommended 500 mg/L bound of the Title 22 standard while exceedances of the upper 1000 mg/L bound are generally, like nitrate, confined to the 1960's. Given the naturally elevated TDS concentration observed in the historical record, URs were set for the Basin at greater than three (i.e., the number of wells with elevated TDS concentrations at the time of GSP writing) RMP wells exceeding the recommended 500 mg/L Title 22 secondary MCL in a year (SVGMD, 2022). This was considered protective of beneficial uses of GW while respecting the fact that TDS may be naturally elevated in the Sierra Valley due to geochemical processes in GW.

During the evaluation period 113 measurements of TDS were taken from 38 wells. These measurements recorded a mean, median, and maximum TDS concentration of approximately 215, 190, and 670 mg/L respectively. No measurements were recorded above the upper bound of 1000 mg/L during the evaluation period. There were five measurements above the Title 22 secondary MCL recommended bound of 500 mg/L and a maximum measurement of 670 mg/L. No more than three of these excursions above 500 mg/L occurred in the same water year. Therefore, were water quality RMPs instated, there would have been no URs with regards to TDS in the Basin. Measurements of TDS conform to the historical trends and are consistent with GW management by the GSA that is protective of beneficial uses of GW.

2.4.9 Recommended Corrective Action 4

In its July 27, 2023 determination letter approving the Sierra Valley GSP, DWR issued the following RCA 4:

"Provide the rationale for using 2021 concentration data instead of 2015 concentration data as the baseline for setting minimum thresholds for degraded water quality."

2.4.9.1 Response to Recommended Corrective Action 4

To address this comment, the GSAs reviewed the historical GW quality dataset used during GSP preparation and evaluated GW quality conditions in both 2015 and 2021. The purpose of this analysis was to confirm whether GW quality conditions near the SGMA enactment year (2015) differed from those at the time of GSP development (2021), and to clarify the basis for the network Maximum Threshold for TDS.

GW quality data used during development of the Sierra Valley GSP were compiled from multiple sources, including state monitoring programs and other publicly available datasets. The compiled dataset contains

historical sampling records extending back to 1950; however, consistent monitoring coverage primarily occurs after approximately 1990. During GSP development, the GSAs evaluated available GW quality data through approximately 2020 when establishing SMC for GW quality.

Appendix 2-6 of the GSP summarized GW quality conditions using two recent monitoring periods (2011–2015 and 2016–2020). Within those datasets, only one well exceeded the secondary drinking water standard for TDS (500 mg/L) in each period. Nitrate concentrations did not exceed the primary drinking water standard during either period.

2.4.10 Comparison of 2015 and 2021 GW Quality Conditions

To directly address the Department's comment, GW quality data were evaluated for sampling events occurring in 2015 and 2021. This comparison indicates that no monitoring wells reported TDS concentrations exceeding 500 mg/L in either of those years. Therefore, GW quality conditions in 2015 and 2021 were comparable with respect to TDS exceedances. Furthermore, 2015 sampling coverage was spatially limited (approximately 18% coverage for TDS and 40% for nitrate relative to 1990–2020 coverage), it would not have been technically defensible to establish a January 1, 2015 baseline. The 2015 dataset did not reflect the full spatial extent of known exceedances and would have artificially established a baseline of zero exceedances for both constituents. Additionally, the water quality RMP network was not finalized in 2015, making it impossible to identify which wells would have constituted the baseline monitoring network at that time.

Because the number of exceedance wells was the same in both years (zero), the selection of 2021 as the reference date for the network MT does not mask GW quality degradation that may have occurred between 2015 and the time of GSP preparation.

2.4.11 Additional Observations from Expanded Dataset

Additional GW quality measurements collected in 2020 and 2022 identified several wells with TDS concentrations exceeding the recommended MCL of 500 mg/L. During the evaluation period, no wells exceeded the upper limit for TDS of 1000 mg/L. Three of the wells exceeding the recommended MCL were newly introduced monitoring locations sampled during a single sampling event in 2020 and were not subsequently resampled. Because these wells lack historical measurements or repeat sampling data, they do not provide sufficient information to evaluate GW quality trends or basin-wide changes in water quality conditions. As such, these observations are interpreted as localized measurements rather than indicators of widespread GW quality degradation.

One additional exceedance was observed in a well sampled in 2022. This well is not currently part of the RMP network used for evaluation of GW quality SMC.

2.4.12 Representative Monitoring Network Considerations

At the time of GSP development, the GW quality monitoring network was considered provisional due to limited well construction information and spatial coverage of GW quality data. Subsequent monitoring efforts and improvements to the basin DMS have provided additional GW quality information that will support refinement of the GW quality monitoring network in future updates to the GSP.

As the monitoring network is finalized and additional GW quality data are collected, the GSAs will further evaluate GW quality conditions and refine the monitoring network and SMC as appropriate.

Also, observed exceedances in subsequent data are limited and associated with newly sampled wells lacking historical or repeat monitoring data. Based on the best available information, these observations do not indicate basin-wide degradation of GW quality. The GSAs will continue to refine the GW quality monitoring network and evaluate GW quality conditions in future Annual Reports and GSP updates.

2.4.13 Amendments to SMC

No amendment to SMC in this evaluation cycle.

2.4.14 Current Conditions Relative to Sustainable Management

During the WY2022–WY2025 evaluation period, water quality monitoring was conducted in accordance with the established triennial schedule. Monitoring included nitrate, TDS, arsenic, boron, and pH with additional assessments for iron, manganese, and MTBE. Evaluation of monitoring results indicates that the number of RMPs exceeding concentration-based MTs during the evaluation period remained below the corrected UR thresholds.

Accordingly, no URs for degraded water quality occurred during the evaluation period.

2.4.15 Progress Toward Achieving Sustainability

Water quality conditions during the evaluation period reflect stable and sustainable GW quality throughout the Subbasin. Concentrations of nitrate and TDS at monitored RMPs remained consistent with historical patterns and did not show evidence of widespread degradation.

The corrected historical baseline and revised UR thresholds provide a technically defensible framework for tracking long-term trends. The implementation of triennial monitoring improved well inventory data, and eventual formal RMP designation strengthen the monitoring network and enhance the GSAs' ability to detect changes over time.

GSP implementation relative to the degraded water quality sustainability indicator has been effective. No MT exceedances occurred that would trigger adaptive management, and no upward basin wide trends were identified that would indicate movement toward URs.

The Subbasin remains on a sustainable trajectory with respect to GW quality.

2.4.16 Impacts to Beneficial Uses and Users

No adverse impacts to beneficial uses and users attributable to degraded GW quality were reported during the evaluation period.

No public water systems reported treatment modifications, well closures, or compliance violations related to nitrate or TDS. No domestic well complaints related to these constituents were reported to the GSAs. Agricultural users reported no crop production or soil health impacts attributable to elevated TDS. No impacts to GW-dependent ecosystems or ISW beneficial uses related to nitrate or TDS were observed.

The GSAs maintain a two-tiered monitoring approach that includes coordination with the Plumas County Environmental Health Department, stakeholder outreach, and ongoing monitoring. Should future monitoring indicate that UR thresholds are being approached, the GSAs will implement adaptive management measures, including increased monitoring frequency, coordination with regulatory agencies, and evaluation of potential causal relationships with GW management activities.

Based on evaluation of available data, GW quality conditions remain protective of beneficial uses and users, and no URs occurred during the evaluation cycle.

Table 2-5: Table of sampled water quality analytes in the Sierra Valley Groundwater Basin. Table only depicts those analytes with recent samples (on or after January 1st 2015). The presented statistics reflect the entire historical record of all samples for that analyte, and not just samples after January 1st 2015.

Analyte	Units	Min	1st. Quart.	Median	3rd. Quart.	Max	N	Last Sampled
Acetone	ug/L	17	17	17	17	17	1	10/12/2017
Aluminium	mg/L	0.001	0.005	0.02	0.065	0.75	23	3/4/2020
Antimony	ug/L	4	4	7	10	10	2	4/25/2018
Arsenic	ug/L	0	0	2.5	10	700	448	7/29/2025
Bicarbonate Alkalinity (CaCO ₃)	mg/L	62	110	130	170	570	258	2/27/2024
Barium	mg/L	0.001	0.099	0.12	0.14	0.76	151	2/27/2024
Benzene	ug/L	0.5	2	12.5	460	3300	68	1/23/2020
Boron	mg/L	0	0.05	0.2	1.2	9.1	803	6/17/2025
Bromide	mg/L	0.29	0.29	0.29	0.29	0.29	1	3/3/2026
Bromobenzene	ug/L	0.39	2.6	16.5	210	9200	38	10/21/2019
Calcium	mg/L	1.8	18.5	23	33.5	140	267	2/27/2024
Chloride	mg/L	0.3	2.3	4.45	22.5	610	668	2/27/2024
Chromium (Total)	mg/L	0.002	0.006	0.225	1	6.1	32	11/30/2022
Chromium, Hexavalent	ug/L	0.4	0.4	1.05	1.7	1.7	2	3/4/2020
Cobalt	ug/L	2	4.5	10.3	31.5	120	16	4/24/2020
Copper	mg/L	0	0.002	0.004	0.023	0.1	43	4/23/2020
Dichlorodifluoromethane	mg/L	0	0	0	0	0	16	4/29/2019
Ethylbenzene	ug/L	0.27	1.7	9.05	97	1000	50	1/23/2020
Fluoride	mg/L	0.1	0.1	0.2	0.8	4.1	272	11/4/2019
Gross Alpha	pCi/L	0.035	0.971	1.3	2.88	5.82	53	3/4/2020
Iron	mg/L	0	0	0.034	0.15	10	412	3/12/2026
Lead	ug/L	0.002	0.607	10	19	130	42	2/27/2024
Magnesium	mg/L	0.06	5.1	9.6	14	230	643	2/27/2024
Manganese	ug/L	0	1.3	30	150	5800	286	3/12/2026

Analyte	Units	Min	1st. Quart.	Median	3rd. Quart.	Max	N	Last Sampled
Mercury	ug/L	0.23	0.27	0.63	1.4	6.2	10	4/27/2017
Methyl Tert-Butyl Ether (MTBE)	ug/L	0	0	0.75	11	44000	894	3/11/2025
Molybdenum	ug/L	0.159	3.5	7.25	23	50	18	2/27/2024
Naphthalene	ug/L	2	3.7	31.5	270	450	10	1/23/2020
Nickel	ug/L	0.23	1	3	6	17	46	6/12/2019
Nitrate + Nitrite As N	mg/L	0	0	0.089	0.355	4.68	48	6/17/2025
Nitrate As N	mg/L	0	0.25	0.52	2	19	1361	5/26/2026
Nitrite As N	mg/L	0	0	0.4	0.4	0.4	169	5/7/2026
Field pH	ph units	6.03	7.3	7.63	8	9.4	680	2/27/2024
Laboratory pH	ph units	6.3	7.5	7.9	8.1	9.4	461	4/24/2020
Potassium	mg/L	0.1	1.4	3.5	5.1	53	577	3/12/2026
Radium 228	pCi/L	0.011	0.09	0.175	0.336	0.668	36	7/26/2017
Selenium	ug/L	0.3	0.48	0.77	1.67	10	5	6/12/2019
Sodium	mg/L	1.3	11	13	16.8	150	257	3/12/2026
Specific Conductance	umhos/cm	105	250	375	479	400000	215	2/27/2024
Sulfate	mg/L	0.12	1.7	3.8	15	777	493	2/27/2024
Total Alkalinity (CaCO ₃)	mg/L	27	94	112	141	588	677	2/27/2024
Total Hardness (CaCO ₃)	ug/L	7	85.7	110	170	540	199	2/27/2024
Total Dissolved Solids	mg/L	64	170	200	281	1620	972	3/17/2026
Uranium	pCi/L	1.09	1.11	1.325	1.33	1.97	6	10/10/2017
Vanadium	mg/L	0.002	0.009	0.011	0.015	0.025	97	2/27/2024
Xylenes, Total	mg/L	0.005	0.005	0.005	0.005	0.005	1	4/29/2019
Zinc	mg/L	0.002	0.01	0.024	0.049	0.71	48	11/30/2022

2.5 Land Subsidence

The Sierra Valley GSP evaluated subsidence conditions using satellite-based Interferometric Synthetic Aperture Radar (InSAR) datasets covering the period from 2015 through 2019. These datasets indicated that subsidence within the Sierra Valley Subbasin was generally minimal, with most areas showing little to no measurable land surface deformation. Localized areas of minor subsidence were identified; however, the magnitude of observed displacement was generally less than a few centimeters, and time-series analysis suggested that these changes were within the measurement uncertainty of the InSAR datasets. The GSP concluded that no widespread regional subsidence patterns indicative of aquifer compaction were occurring within the Subbasin.

To supplement the satellite-based analysis and improve long-term monitoring of subsidence conditions, the SVGMD installed a network of ground-based survey monuments (control points) across the Subbasin in October 2022. These monuments provide direct measurements of land surface elevation and allow the GSA to track potential changes in elevation over time through periodic resurveys.

2.5.1 Recommended Corrective Action 5

In its July 27, 2023 determination letter approving the Sierra Valley GSP, DWR issued the following RCA 5:

“Provide additional information on the land subsidence SMC, including:

- a. Provide a clear, quantitative definition of when undesirable results for land subsidence may occur or has occurred in the basin, as required by the GSP regulations, to support the selection of land subsidence minimum thresholds that demonstrate avoidance of undesirable results.*
- b. Establish SMC for land subsidence for the Subbasin utilizing a monitoring network that directly measures land elevation change such as remote sensing data, survey monuments, or global positioning system stations.”*

2.5.1.1 Response to Recommended Corrective Action 5

The GSA has taken substantive steps to address both of the Department's Recommended Corrective Actions, as described below.

In October 2022, the GSA contracted US Geomatics to install a network of 11 Subsidence Monitoring Control Points (SCPs) across the Subbasin (Figure 2-3). The network includes four permanent survey monuments and seven non-permanent locations, providing spatial coverage necessary to detect both localized and basin-wide subsidence trends. Baseline elevations were established during the initial survey in October 2022, with subsequent annual resurveys conducted in October 2023, October 2024, and October 2025.

Survey results for all 11 control points are summarized in Table 2-6 below. Observed net elevation changes from 2022 through 2025 range from approximately -0.13 feet to $+0.13$ feet across the monitoring network, with no consistent directional trend or spatial pattern indicative of widespread subsidence.

The magnitude and spatial variability of the recorded elevation changes are consistent with elastic aquifer system responses, seasonal soil moisture fluctuations, and inherent survey measurement uncertainty. These values do not exhibit the persistent, spatially coherent downward trends characteristic of inelastic aquifer compaction or permanent land subsidence. Based on monitoring data collected through 2025, the GSA finds no evidence of widespread or significant land subsidence occurring within the Sierra Valley Subbasin.

Table 2-6: Annual Monument Survey Elevations and Net Change (2022-2025)

Control Point	Oct 27, 2022 Elevation (ft)	Oct 23, 2023 Elevation (ft)	Oct 28, 2024 Elevation (ft)	Oct 28, 2025 Elevation (ft)	Net Change 2022–2025 (ft)
SCP 1	5015.06	*	5015.01	5015.02	-0.04
SCP 2	5025.62	5025.60	5025.61	5025.60	-0.02
SCP 4	4906.35	4906.37	4906.39	4906.31	-0.04
SCP 6	4938.72	4938.67	4938.78	4938.70	-0.02
SCP 10	5014.42	5014.42	5014.42	5014.42	0.00
SCP 11	4937.81	4937.91	4937.98	4937.94	+0.13
SCP 12	4889.08	4889.08	4889.04	4888.95	-0.13
SCP 13	4895.43	4895.45	4895.44	4895.48	+0.05
SCP 14	4876.95	4876.96	4876.91	4876.83	-0.12
SCP 15	4886.23	4886.32	4886.23	4886.25	+0.02
SCP 16	4900.31	4900.29	4900.27	4900.31	0.00

* Monument not surveyed during the 2023 annual survey campaign

In addition to the monument survey network, the GSA continues to evaluate InSAR datasets to assess basin-wide land surface deformation patterns.

Figure 2-4 presents the spatial distribution of InSAR-derived cumulative vertical displacement across the Sierra Valley Groundwater Subbasin, compiled from California Department of Water Resources satellite-based datasets. The figure depicts total vertical land surface displacement from October 1, 2020, through October 1, 2025².

The mapped displacement values indicate that the vast majority of the Subbasin experienced minimal net change in land surface elevation over the approximately 10-year monitoring period, with most observations falling within -0.5 to $+0.5$ feet of cumulative vertical displacement. These results are consistent with the monument survey findings described above.

Localized areas of slightly larger displacement magnitude are present in limited portions of the Subbasin; however, these anomalies remain small in absolute terms and do not define a pattern indicative of systematic, ongoing subsidence. The InSAR feature in the north central portion of the Basin depicted in Figure 2-4 furthermore corresponds to significant surface water features where radar coherence may be diminished. The theory that InSAR in this area may be inaccurate is corroborated by the nearest SCP, SCP 14, showing a much smaller decline (Table 2-6).

Collectively, the InSAR analysis and monument survey monitoring indicate that no significant or widespread land subsidence is occurring within the Sierra Valley Subbasin at this time.

2.5.2 Amendments to SMC

No amendments to the SMC for land subsidence were made during this evaluation cycle. The GSA is currently collecting additional monitoring data to support the development of a quantitative definition of

² InSAR subsidence estimated using data supplied by TRE Altamira by subtracting the subsidence between July 13th 2015 and September 1st 2020 from that between July 13th 2015 and October 1st 2025.

URs and associated Minimum Thresholds consistent with DWR guidance amendment for this evaluation cycle.

The GSA is currently reviewing Department guidance, including the Land Subsidence Best Management Practices (BMP), to support the development of a quantitative definition of URs and associated SMC for land subsidence. Refinement of these criteria is anticipated during the next evaluation cycle, as additional monitoring data become available.

2.5.3 Current Conditions Relative to Sustainable Management

Current monitoring results indicate that subsidence conditions within the Sierra Valley Subbasin remain stable. Monument survey data collected between 2022 and 2025 document only minor, non-directional elevation variations across the monitoring network, with net changes remaining within approximately ± 0.13 feet over the three-year record. These variations fall within ranges commonly associated with reversible (elastic) deformation of the aquifer system and do not reflect the irreversible compaction of fine-grained sediments indicative of permanent land subsidence.

In the absence of formally adopted quantitative Minimum Thresholds for land subsidence, the GSA has applied a qualitative assessment of current conditions based on available monitoring data. The monitoring results, evaluated in conjunction with the InSAR analyses presented in the GSP, indicate that subsidence conditions are currently within acceptable limits and do not constitute an UR under the SGMA.

2.5.4 Progress Toward Achieving Sustainability

Since adoption of the GSP, the GSA has made measurable progress in strengthening the land subsidence monitoring framework for the Subbasin. Key accomplishments during this evaluation cycle include:

- Installation of 11 monument survey control points in October 2022, establishing the first direct, ground-truth measurement network for land surface elevation change within the Subbasin.
- Collection of four annual survey campaigns (2022, 2023, 2024, and 2025), providing a multi-year baseline record for trend analysis.
- Compilation and review of updated InSAR datasets through October 2025, extending the remote sensing record and improving spatial characterization of subsidence conditions.
- Initiation of review of Department Land Subsidence BMP to guide development of quantitative UR definitions and Minimum Thresholds.

Continued annual resurveys, combined with ongoing evaluation of InSAR datasets, will support the identification of any emerging subsidence trends and provide the data foundation necessary to develop quantitative SMC during the next evaluation cycle. These efforts are consistent with the adaptive management approach established under SGMA and reflect the GSA's commitment to ensuring that subsidence conditions within the Subbasin are proactively monitored and managed.

2.5.5 Impacts to Beneficial Uses and Users

Based on the monitoring results available to date, no impacts to beneficial uses and users related to land subsidence have been identified within the Subbasin. Observed elevation changes remain small and do not indicate permanent aquifer compaction or subsidence rates that could damage infrastructure, alter surface water conveyance systems, or reduce aquifer storage capacity.

The GSA will continue monitoring land surface elevation through the monument survey network and evaluation of InSAR datasets to ensure that any potential changes in subsidence conditions are detected and addressed through adaptive management.

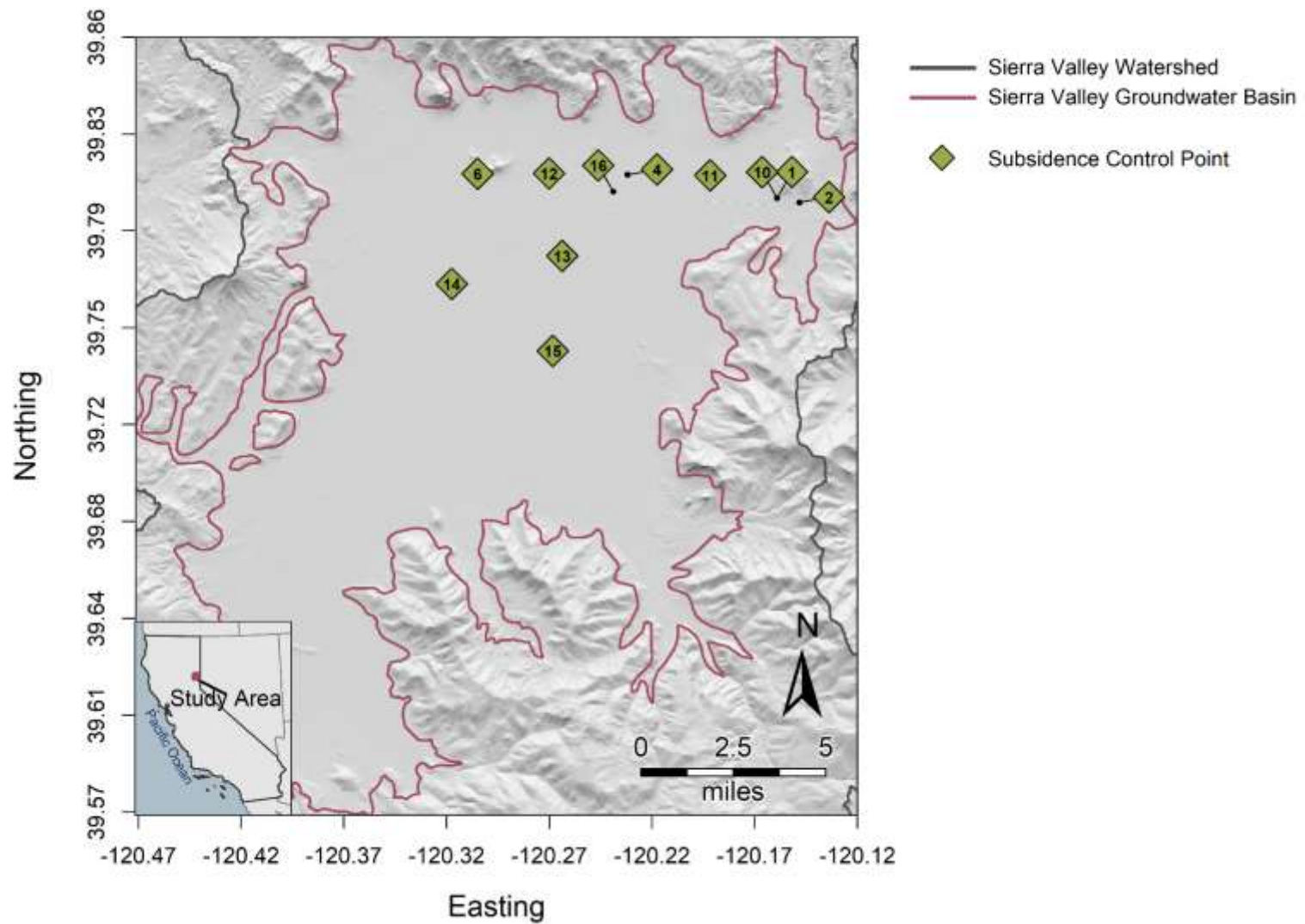


Figure 2-3: Subsidence control point “Annual Monument Survey” monitoring network. Numbers within each point refer to the subsidence control point number in Table 2-6.

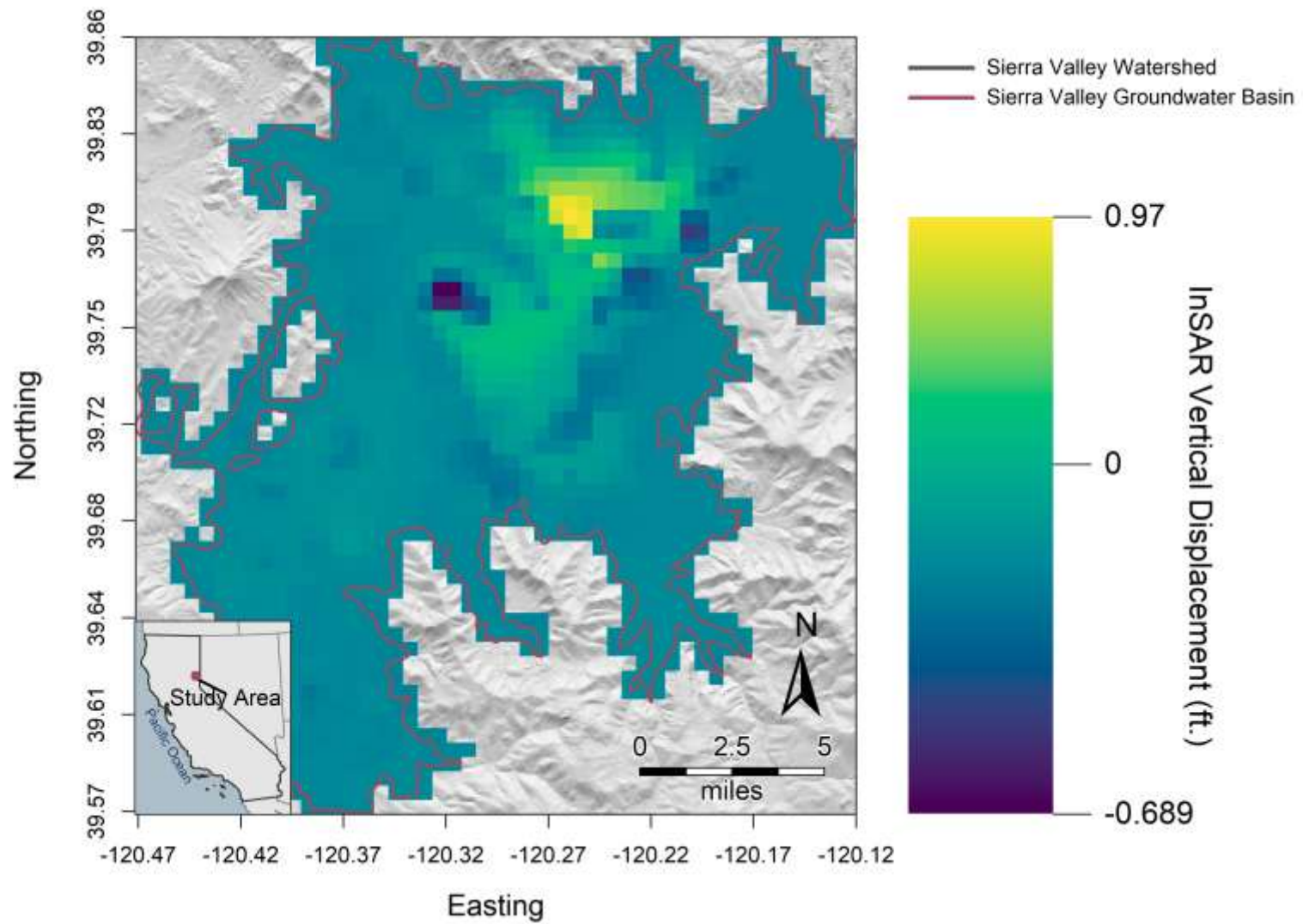


Figure 2-4: Cumulative In-SAR subsidence in the Sierra Valley Groundwater Basin between October 1st 2020 and October 1st 2025.

2.6 Interconnected Surface Water

Depletions of ISW refer to reductions in streamflow, spring flow, or groundwater-supported wetland and riparian conditions caused by groundwater extraction in areas where surface water and the underlying aquifer are hydraulically connected. In the Sierra Valley Subbasin, groundwater dependent ecosystems (GDEs) include wetlands, meadow systems, and riparian vegetation communities that rely on shallow groundwater or groundwater-supported surface water.

Unlike the Basin's other sustainability indicators, quantitative minimum thresholds and measurable objectives have not yet been established for ISW, consistent with DWR's acknowledgment that statewide guidance for evaluating streamflow depletion is still under development. In the interim, the GSA evaluates ISW conditions using groundwater elevations near identified ISW reaches and GDE condition as proxy indicators.

This section presents current conditions for both proxy indicators, documents the GSA's response to DWR's Recommended Corrective Action 6, and describes the monitoring network improvements made during the evaluation period to address data gaps identified in the GSP.

2.6.1 Recommended Corrective Action 6

In its July 27, 2023 determination letter approving the Sierra Valley GSP, DWR issued the following RCA 6:

"Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable GW management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of ISW and support for establishing specific SMC in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of ISW.

In addition, the GSA should work to address the following items by the first periodic update:

- a. Consider utilizing the ISW guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.*
- b. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of ISW and define segments of interconnectivity and timing.*
- c. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSA's jurisdictional area."*

2.6.1.1 Response to Recommended Corrective Action 6

The GSA has addressed the items of RCA 6 through the ISW monitoring, modeling, and coordination activities described throughout Section 2.6, Section 5.3, and Section 7.3.2, and elsewhere in this Periodic Evaluation.

For item (a), DWR has not yet finalized the interconnected surface water guidance referenced in RCA 6. As described in Section 1:, the Department has released a three-paper series addressing identification of ISW, estimation of depletions, and establishment of management criteria, but final sustainable management criteria guidance remains under development. Consistent with RCA 6's own framing, the GSA will apply this guidance to establish quantifiable minimum thresholds, measurable objectives, and management actions for ISW once it is issued. No amendments to sustainable management criteria for

this indicator were made during the evaluation period, as noted in Section 2.6.2, since the Department's guidance was not yet available to inform them.

For item (b), the GSA has substantially expanded ISW monitoring infrastructure and continued to fill the data gaps identified in the 2022 GSP. As described in Section 5.3.1, the District's continuous streamflow network grew from zero District-operated gauges at GSP adoption to four telemetered stations, at Smithneck Creek, Staverville Creek, Griffin Drainage, and Little Last Chance Creek (North Branch), with rating curves completed for Smithneck and Staverville Creeks and still under development for Griffin Drainage. Four telemetered shallow monitoring wells were also installed in the northwest wetland meadow complex to monitor groundwater conditions near ISW features, discussed in Section 2.6.4 and Section 5.3.1. Together these additions have substantially filled the temporal data gap the 2022 GSP identified for surface water conditions, as discussed in Section 5.3.2, by enabling continuous evaluation of streamflow alongside groundwater levels and pumping patterns rather than relying on infrequent manual measurement. The GSA is also updating the SVHSM, described in Section 4.4, to support future quantitative estimates of groundwater-induced surface water depletion. Delineation of connected, disconnected, and data-gap stream segments and their seasonal timing remains ongoing, as noted in Section 2.6.4, and is identified as a remaining data gap in Section 5.3.2, to be addressed through the continued multi-year data collection and analysis described there.

For item (c), the GSA has coordinated with local and state regulatory agencies and interested parties to identify beneficial uses and users potentially affected by surface water depletion. As described in Section 7.3.2, the LCCWD participates in coordination related to MAR projects along Little Last Chance Creek, including evaluation of flow conditions and protection of its adjudicated water rights during diversion seasons. The GSA also coordinated with the California Department of Fish and Wildlife and the State Water Resources Control Board on temporary diversion permit applications for the Little Last Chance Creek and Staverville Creek MAR projects. This included working directly with State Water Resources Control Board staff and regional water masters to ensure permit conditions were protective of downstream water rights, including those tied to Oroville Dam operations. This coordination produced specific protective permit terms, described in Section 7.1, including a requirement to confirm Little Last Chance Lake is at full conditions before diversion and a minimum bypass flow of 2 cfs at the point of diversion. The four objections LCCWD raised during the public notice period for Temporary Permit 21468 were resolved through this coordination prior to permit issuance, as discussed in Section 8.3.

Collectively, these monitoring, modeling, and coordination activities substantially address RCA 6. The items still outstanding are application of DWR's ISW guidance once it is finalized, full basin-wide quantification of the relationship between streamflow depletion and GW pumping, and completion of the Griffin Drainage rating curve, each of which depends on continued data collection, model development, or DWR's own guidance timeline, rather than on further action available to the GSA alone.

2.6.2 Amendments to SMC

No amendment to SMC in this evaluation cycle

2.6.3 Current Conditions Relative to Sustainable Management

2.6.3.1 GW Levels Near ISW Reaches

GW levels at the monitoring wells located near ISW reaches have generally remained within the range of historic conditions during the evaluation period.

Groundwater elevations at 12 shallow monitoring wells located near identified ISW reaches (

Figure 2-5) have remained at or above the historic minimum groundwater elevations used as minimum thresholds (Appendix A). These thresholds represent the lowest groundwater levels observed between January 2000 and 2021.

During WY2022, which was classified as critically dry, GW levels near ISW reaches declined in response to reduced recharge and increased GW demand. However, GW elevations remained above or near historic minimum levels.

Subsequent hydrologic conditions improved significantly during WY2023, when above-average precipitation resulted in increased recharge and rising GW levels across the Subbasin, including areas near ISW reaches. GW conditions remained relatively stable through WY2024.

These observations indicate that GW levels near ISW reaches have remained within the range of historical variability during the evaluation period. GW elevations near ISW reaches have generally remained within the SMC during the evaluation period.

GW levels at the 13 shallow monitoring wells located near identified ISW reaches have been maintained at or above historical minimum GW elevations used as minimum thresholds. These historical low GW elevations represent the lowest conditions observed between January 2000 and 2021.

During WY2022, which was classified as critically dry, GW levels near ISW reaches declined in response to reduced recharge and increased GW demand. However, GW elevations remained above or near the historical minimum thresholds, indicating that GW conditions did not exceed the established SMC.

Hydrologic conditions improved substantially in WY2023, when above-average precipitation resulted in increased recharge and rising GW levels across the basin, including areas near ISW reaches. GW levels remained relatively stable during WY2024.

These observations indicate that GW levels near ISW reaches have remained within the range of historical variability during the evaluation period.

2.6.3.2 GW Dependent Ecosystems

GDEs represent an important component of the ISW sustainability indicator. In the Subbasin, GDEs include wetlands, riparian vegetation, meadow systems, and other vegetation communities that depend on shallow GW availability or GW-supported surface water.

In the GSP, GDEs were identified as areas where GW is typically within approximately 30 feet of the land surface, indicating that vegetation may rely on shallow GW resources.

Since completion of the GSP, additional datasets have been incorporated to improve characterization of GW dependent ecosystems. Updated vegetation mapping developed by the CDFW in 2023 was used to refine the spatial extent and classification of vegetation communities that may depend on GW.

Vegetation health and GW availability relationships were evaluated using satellite-derived Normalized Difference Vegetation Index (NDVI) data and GW level observations from nearby monitoring wells. Analysis of NDVI trends indicates that vegetation greenness responds to changes in GW availability in some areas. In particular, NDVI values decrease when GW depths increase, suggesting that vegetation experiences water stress during periods when GW becomes less accessible.

Monitoring results also indicate that vegetation conditions tend to recover following periods of increased recharge and rising GW levels.

2.6.4 Progress Toward Achieving Sustainability

The GSAs have made measurable progress toward improving monitoring and understanding of GW–surface water interactions in the Subbasin since adoption of the GSP.

2.6.4.1 Expanded Monitoring Networks

The monitoring network supporting evaluation of the ISW sustainability indicator has been expanded through installation of additional monitoring infrastructure.

Additional shallow GW monitoring wells have been installed to improve characterization of GW conditions near areas where GW-surface water interactions or GW dependent ecosystems occur.

In addition, monitoring data related to GW dependent ecosystems are being collected to support evaluation of ecological responses to GW conditions.

Vegetation monitoring, updated vegetation mapping, and NDVI analysis are being used to better characterize GW dependent vegetation and identify potential relationships between vegetation health and GW levels

2.6.4.2 Streamflow Monitoring

The District now operates four continuous streamflow gaging stations within the basin, including stations on:

- Little Last Chance Creek (North Branch)
- Staverville Creek
- Griffin Drainage
- Smithneck Creek

These stations measure water levels within the channel and convert stage measurements to flow rates using rating curves developed through manual flow measurement campaigns.

The continuous transducer datasets provide high-resolution streamflow records that support evaluation of GW recharge conditions and GW-surface water interactions

The GSAs are currently updating the Subbasin GW flow model (SVHSM). Once completed, the updated model will allow quantitative estimates of GW-induced surface water depletion to be developed.

These modeling efforts will improve the ability to evaluate GW pumping impacts on ISW and will support potential refinement of SMC in future GSP updates

Refining the delineation of connected, disconnected, and data-gap stream segments and their seasonal timing remains ongoing, with the associated data gaps described in Section 5.3.

2.6.5 Impacts to Beneficial Uses and Users

No adverse impacts to beneficial uses or users of ISW have been identified during the evaluation period.

Beneficial uses potentially associated with ISW in the Subbasin include:

- wetlands and meadow habitats
- riparian vegetation communities
- GW dependent ecosystems
- agricultural surface water diversions
- ecological and habitat resources associated with surface water systems

GW monitoring results indicate that GW levels near ISW reaches have remained above the established minimum thresholds and within historically observed ranges.

Similarly, evaluation of GW dependent ecosystems using vegetation monitoring and NDVI analysis has not identified basin-wide ecological stress attributable to GW level declines.

Based on available monitoring data, GW management actions implemented during the evaluation period have not resulted in significant and unreasonable depletions of ISW or impacts to associated beneficial uses and users.

The GSAs will continue implementing and expanding the monitoring program to ensure that GW management actions remain protective of ISW resources and GW dependent ecosystems.

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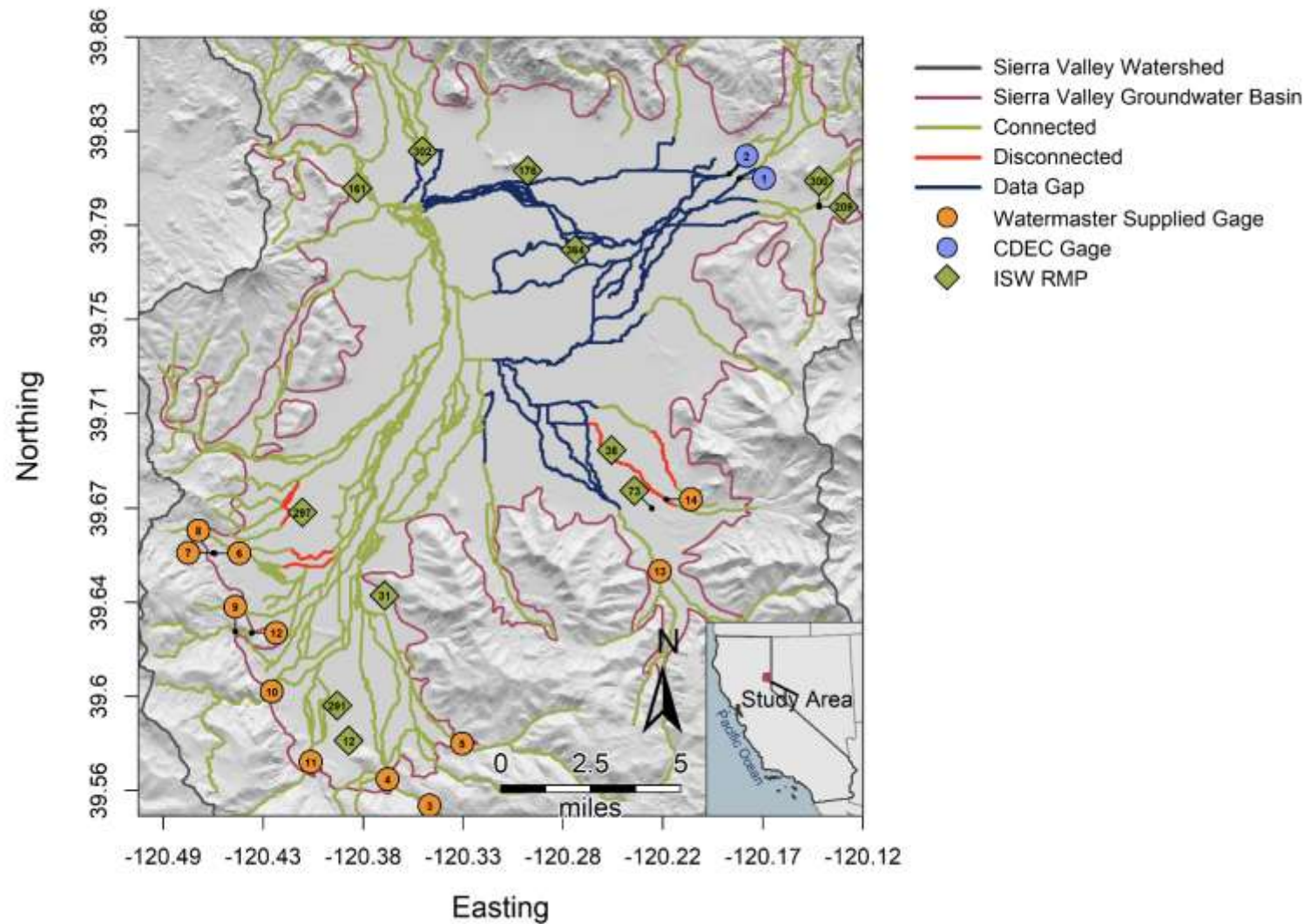


Figure 2-5: Designation of interconnected surface waters as well as their RMP points, water master supplied gaging points, and CDEC gaging points.

SECTION 3: STATUS OF PROJECTS AND MANAGEMENT ACTIONS

The Sierra Valley GSP identified multiple Projects and Management Actions (PMAs) organized into two tiers to achieve the basin's sustainability goal by 2042. Tier I PMAs are existing or ongoing activities that were already being implemented at the time of GSP adoption, while Tier II PMAs are potential projects identified for consideration within the first five years of GSP implementation. This section evaluates the status of both Tier I and Tier II PMAs during the evaluation period including implementation progress, benefits realized, challenges encountered, and modifications made to project priorities or approaches.

Table 3-1 summarizes the status of each Project and Management Action (PMA) during the evaluation period. More detailed descriptions of implementation activities, benefits, and challenges for each PMA are provided throughout the remainder of this section. All PMAs identified in the GSP remain relevant and feasible as of this evaluation period. Three PMAs warrant specific note regarding feasibility. For Voluntary Managed Land Repurposing, the limited range of alternative crops and land uses viable in the basin constrains the practical applicability of this approach. For the Groundwater Trading and Allocation System, existing water rights may constrain the development of a trading or allocation framework. For Off-Stream Storage, the primary concept currently under consideration faces potential water rights and habitat or environmental impediments. Despite these feasibility questions, SVGMD continues to pursue these PMAs as potential management tools and will further evaluate their relevance and feasibility during the next evaluation period. No PMA implemented during the evaluation period has resulted in adverse impacts to nearby beneficial users.

[[[Map showing the location(s) of all ongoing PMAs in the basin]]]

Table 3-1. Status of Projects and Management Actions

Name	Description	Targeted Sustainability Indicator	Status	Schedule	Benefits Observed/Anticipated	Estimated Accrued Benefits at Completion
High Capacity Wells Metering	Enhance metering of high-capacity wells; maintain inventory, repair/replace/calibrate meters, evaluate telemetry	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage	Ongoing	Ongoing; no identified end date	More precise extraction data; improved understanding of spatial use patterns; supports model calibration	Enhanced water budget accuracy and informed management decisions
Monitoring and Reporting	Optimize/implement networks for GW levels/quality, surface flows, subsidence, and GDEs/ISW; develop streamlined reporting	• Chronic Lowering of Groundwater Levels • Degraded Water Quality • Land Subsidence • Depletions of Interconnected Surface Water	Ongoing	Ongoing; no identified end date	Better compliance and decision support; earlier detection of trends/exceedances across indicators	Comprehensive basin monitoring enabling proactive management
Data Management and Modeling	Maintain/optimize data collection; implement Data Management System; periodically update integrated hydrogeologic model	All	Ongoing	Ongoing; no identified end date	Scenario testing; better forecast of PMA benefits	Improved forecasting capability and adaptive management

Name	Description	Targeted Sustainability Indicator	Status	Schedule	Benefits Observed/Anticipated	Estimated Accrued Benefits at Completion
Education and Outreach	Expand workshops and materials (BMPs for landowners, domestic well owner education, water conservation) in partnership with agencies/organizations	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Depletions of Interconnected Surface Water	Ongoing	Ongoing; no identified end date	Increased stakeholder capacity; potential reduced pumping/non-beneficial evapotranspiration	Community-wide adoption of water conservation practices
Well Permit Ordinances	Ordinances requiring meters, water availability reviews, and restrictions on new high-capacity wells in sensitive areas	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage	Ongoing	Ongoing; no identified end date	Prevents new high-capacity wells in sensitive areas; reduces risks to domestic wells and GDEs	Prevention of new impacts to sensitive beneficial users
Reuse	Reuse of treated wastewater for crop irrigation; explore fixing sewer leaks and other infrastructure improvements	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Degraded Water Quality	Not yet started	No official timeline for completion	Offsets groundwater pumping; potential water quality co-benefits	Reduced reliance on groundwater extraction
Sierra Brooks-Smithneck Wildland Urban Interface Fuels Reduction Project	Forest fuels reduction (mastication, thinning, brush abatement) to improve water retention/quality, forest resilience, and protect local water supply	• Reduction of Groundwater Storage • Degraded Water Quality	Not yet started	Ongoing coordination; no identified timeline	Improved watershed health, increased local retention, reduced wildfire risk to supplies	Enhanced watershed recharge and water quality protection

Name	Description	Targeted Sustainability Indicator	Status	Schedule	Benefits Observed/Anticipated	Estimated Accrued Benefits at Completion
Agricultural Efficiency Improvements	Equipment/operational improvements (soil-moisture sensors, fixing leaks, crop rotation, LEPA/LESA) to reduce demand. High-efficiency sprinkler systems, intake screens, pipelines, and related equipment have been installed at 14 ranches basin-wide.	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Depletions of Interconnected Surface Water	Ongoing	Plan development 2022-2024 Implementation ongoing	Reduced pumping helping to maintain GW levels/storage; better matching of supply to demand	Measurable reduction in agricultural water demand
Well Inventory Expansion	Expand inventory/metering to all well types (including domestic); outreach; telemetry evaluation	All	Complete	2022-2025	Better protection of domestic wells and water quality; improved datasets	Comprehensive understanding of all groundwater extractions
Reoperation/Adjustments to Surface-Water Supplies	Improve use of surface-water supplies to reduce long-term pumping	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Depletions of Interconnected Surface Water	Ongoing	Feasibility review complete (Oct 2025) Pending LCCWD consultation, implementation schedule TBD	Offsets pumping; improves water-budget estimates; may enable recharge	Sustainable balance between surface and groundwater use

Name	Description	Targeted Sustainability Indicator	Status	Schedule	Benefits Observed/Anticipated	Estimated Accrued Benefits at Completion
Off-Stream Storage	Develop on-farm/off-stream surface-water storage for dry-period supply	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Degraded Water Quality • Depletions of Interconnected Surface Water	Not yet started	Confirm interest within first 5 years; surveys within 1 year of confirmation	Stored water replaces pumping and reduces dry-season diversions	Increased water supply reliability during dry season and/or drought
Drought Mitigation & Planning	Develop drought triggers and coordinated response actions	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Degraded Water Quality • Depletions of Interconnected Surface Water	Not yet started	Contingency linked to release of state drought-planning funds	Conserves water; defines triggers and actions to reduce vulnerability	Enhanced drought resilience and coordinated response
Water Conservation Program	Voluntary program (seasonal reductions, earlier irrigation, efficiency pilots)	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Depletions of Interconnected Surface Water	Not yet started	Contingent upon funding develop within first 2 years; implement within 3 years of GSP implementation	Reduced extractions; increased stakeholder engagement	Voluntary demand reduction achieving sustainability goals

Name	Description	Targeted Sustainability Indicator	Status	Schedule	Benefits Observed/Anticipated	Estimated Accrued Benefits at Completion
Groundwater Trading & Allocation System	Develop allocations; enable trading/transfer if other actions don't achieve reductions	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Depletions of Interconnected Surface Water	Not yet started	Consider in second 5-year period if still needed	Demand management flexibility; optimized water use	Market-based efficiency in groundwater allocation
Watershed & Upland Management/Restoration	Restoration projects (meadows, wetlands, uplands) to promote recharge, improve water quality, and reduce peak flows	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Degraded Water Quality	Not yet started	Planning study and pilot program; no identified implementation timeline	Increased infiltration, enhanced baseflows; co-benefits for fire prevention	Enhanced natural recharge and ecosystem function
Voluntary Managed Land Repurposing	Crop/land-use shifts (alternative crops, margins reduction) to reduce consumptive use	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage	Not yet started	Develop terms/contracts; pilot rotations with partners; no identified implementation timeline	Reduced consumptive use; habitat co-benefits on marginal lands	Strategic land use changes reducing water demand

Name	Description	Targeted Sustainability Indicator	Status	Schedule	Benefits Observed/Anticipated	Estimated Accrued Benefits at Completion
Groundwater Recharge / MAR	Recharge projects (spreading, canals, injection, stormwater)	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage	Ongoing	MAR pilots built at three locations; in-lieu recharge active at three sites; pursuing funding for expansion	Increased recharge to support supplies	Direct augmentation of groundwater storage
Assessment of Post-Fire Hydrology – Water Supply Augmentation	Monitor hydrologic response and supply opportunities after fuels treatments/wildfire protection projects	• Chronic Lowering of Groundwater Levels • Reduction of Groundwater Storage • Degraded Water Quality	Not yet started	Initial implementation targeted early in first Periodic Evaluation cycle; no identified implementation timeline	Potential increased recharge/baseflow; protects supplies from wildfire risk	Maintained or enhanced recharge following fuels management
Climate Change Impact Assessment	Add climate scenarios to basin model to assess impacts and prioritize PMAs	All	Not yet started	Model recalibration complete 2025 Climate-scenario analysis pending additional funding; no timeline identified.	Better foresight for climate change scenarios; prioritization that stays on track under future climate	Climate-informed adaptive management strategy

3.1 Tier I: Existing and Ongoing Projects and Management Actions

3.1.1 High Capacity Well Metering

SVGMD has continued its long-standing program of requiring flow meters on all active large-capacity agricultural wells capable of pumping 100 gallons per minute or more or with casing diameters of 6 inches or greater. As of a 2024 District well registry review, 65 large-capacity wells were registered as active and subject to this metering requirement, with an additional 24 registered as inactive. During the evaluation period, all large-capacity agricultural well meters were evaluated for conformance to operating specifications. Through this quality control effort, the District identified that 18 flow meters required replacement due to non-conformance with meter specifications. These replacements were completed in WY2022. In WY2023, two flow meters were found to provide inaccurate readings and were replaced under warranty, while a third required reprogramming. Minimal pumping data was lost as a result of these activities. The benefits of this metering program include more precise measurement of groundwater extractions, improved understanding of groundwater use geographically, and better data to support water use efficiency programs and model calibration efforts. All metered extraction data continues to be reported in aggregate to maintain confidentiality while providing necessary data for sustainable management. Metered extraction volumes by water year, along with associated trends in water use, are presented in Section 4's water use and water budget discussion. No CEQA or permitting requirements apply to this PMA beyond SVGMD's standard administrative procedures for maintaining and replacing meters on existing wells. The costs for ongoing meter maintenance and replacement are included in SVGMD's operating budget.

3.1.2 Monitoring and Reporting

SVGMD has significantly expanded its monitoring networks during the evaluation period across groundwater elevations, groundwater quality, surface water flow, land subsidence, and groundwater dependent ecosystems (GDEs), building out the network described in the GSP and addressing identified data gaps. The full technical description of the network, well and gage locations, telemetry, survey methods, and data is provided in Section 5. This discussion summarizes the PMA's implementation status and progress.

In the southeast Subbasin, one nested piezometer (Griffin Monitoring Well, GD MW-1) was installed near the Griffin Drainage and Staverville Creek. A second planned piezometer on the Easley property was not installed. An exploratory borehole completed at that location in October 2025 encountered predominantly clay, and monitoring there is instead being conducted using an existing Griffin domestic well. Two existing wells on the Marsh property have gained formal monitoring access under a Land Access Agreement approved by the Board in January 2026, though these wells are not yet instrumented. In the northeast Subbasin near Little Last Chance Creek, SVGMD has not yet decided whether to utilize an existing well or drill a new one, and no well has been installed at this location to date. Piezometers along the tributary to Smithneck Creek are not currently being pursued.

As part of recharge-related geotechnical investigation, the deeper test borings planned for early 2025 near Staverville Creek and Little Last Chance Creek (Dotta Ranch) have been completed. Falling-head infiltration testing conducted in May 2025 at Dotta Ranch returned an estimated infiltration rate of 4.12 inches per hour.

Groundwater quality monitoring draws on data from various programs outside SVGMD's purview that report publicly available data. Additional detail on these data sources is provided in the water quality discussion of Section 2.4. As part of the pilot MAR projects described in Section 3.2.3, six wells near the Staverville Creek and Smithneck Creek recharge sites were sampled for an expanded list of water quality analytes, with particular focus on nitrate, TDS, arsenic, boron, iron, manganese, and pH, in January and

February 2026. This sampling served both to monitor groundwater response to recharge and as an initial, exploratory look at basin water quality conditions beyond the basin's two established constituents of concern. Continued sampling of these six wells with the expanded analyte list is anticipated every other year. SVGMD has expressed interest in eventually expanding this analyte list to additional wells basin-wide to build a broader basis for evaluating these constituents, though no concrete plans for that expansion currently exist. Full detail on network configuration and sampling results is provided in Section 5.2.

The benefits of this expanded monitoring include improved spatial and temporal coverage of GW and surface water conditions, better characterization of surface water-GW interactions, and enhanced ability to track progress toward measurable objectives. No CEQA or permitting requirements applied to monitoring network expansion completed during the evaluation period. Should future network expansion require installation of new wells or infrastructure, SVGMD will adhere to applicable permitting and CEQA procedures at that time. The costs for ongoing monitoring are included in SVGMD's operating budget and are estimated, per the GSP, at \$43,000 to \$65,000 annually for annual reporting and monitoring activities, plus approximately \$3,000 annually for subsidence monument surveys.

3.1.3 Data Management and Modeling

SVGMD's ongoing Data Management and Modeling PMA maintains the District's DMS and periodically updates the SVHSM. During the evaluation period, SVGMD undertook a substantial recalibration of the SVHSM's PRMS and MODFLOW components, improving the model's fit to observed climate and streamflow conditions and its representation of mountain front recharge. Full technical detail on these model updates is provided in Section 4.4. The DMS continues to be maintained and regularly updated with data from the District's expanding monitoring networks. A full description of the DMS, including its data sources, update cadence, and public access interface, is provided in Section 0. The benefits of this PMA include improved forecasting and scenario-testing capability to support adaptive management and more accurate evaluation of PMA effectiveness. The annual cost to update the DMS is approximately \$3,000. Updates to the model to reflect changing conditions are estimated to cost approximately \$21,000 per update, while a more comprehensive recalibration could cost up to \$85,000. This more comprehensive level of effort is not required annually and can be spread over 3 to 5 years, funded through grants and other capital projects as available. No CEQA or permitting requirements apply to this PMA.

3.1.4 Education and Outreach

SVGMD has continued its education and outreach program during the evaluation period through various mechanisms, including public workshops, informational materials, and community events. Information and documents continue to be posted on the District's website, and updates are provided at SVGMD Board meetings, which are open to the public. Outreach to ranches in Sierra Valley was performed in May and November of 2024 to provide information to the community on available methods to improve irrigation efficiency, including both improved application and on-farm efficiencies.

Stakeholder irrigation efficiency workshop #1 occurred in November 2024, and workshop #2 was held in March 2025, prior to the season's irrigation diversion and pumping start-up, covering irrigation scheduling, soil moisture monitoring, and available equipment upgrade opportunities under the DWR grant. The costs for education and outreach programs based on size, scale, and participation typically range from \$7,000 to \$18,000 per year based on similar basins. Additional funding sources continue to be identified to support these activities. No permitting or CEQA requirements apply to this PMA. See Section 7: for further discussion of District communications and public engagement activities during the evaluation period.

3.1.5 Well Permit Ordinances

SVGMD manages and enforces a framework of well-permitting ordinances. Ordinance 82-03 requires meters on all high-capacity wells, Ordinance 83-01 requires review of water availability for new development applications, and Ordinance 18-01 governs permit approval for newly constructed wells, ensuring new wells are used for accepted purposes and do not adversely impact GW within the basin, and restricts installation of new high-capacity agricultural wells within the designated restricted area. High-capacity wells may not be located within one-quarter mile of another high-capacity well to limit localized impacts. These ordinances are reviewed on an annual basis to ensure they remain effective tools to support sustainable management of GW resources, with the costs of implementing, updating, and enforcing them included in the District's current annual budget. Because this PMA consists of the District's own permitting ordinances, no additional external permitting or CEQA review is required to implement it from the GSA's perspective. This Project and Management Action (PMA)'s benefits include protection of areas with declining GW levels from additional pumping stress, prevention of localized impacts from well clustering, and ensuring adequate review of proposed wells to assess potential impacts to sustainability before permits are issued.

SVGMD amended Ordinance 18-01 twice during the evaluation period. In May 2021, the Board expanded the moratorium area on new large-capacity wells, extending the previous 90.4-square-mile eastern-basin moratorium zone to the north and east for a total of 152.4 square miles, with 101.7 square miles overlying the basin, to better protect areas experiencing declining GW levels from additional pumping stress. In March 2024, the Board again amended Ordinance 18-01. The amendment aligned the ordinance's well review threshold with EO N-7-22's de minimis extraction definition of two AFY and established a review requirement for reactivation of inactive wells. It also adopted a formal Well Evaluation Technical Guidelines and Procedures document, requiring a 24-hour pumping test and drawdown analysis for new or reactivated wells above that threshold.

During the evaluation period, the Board reviewed well permit applications at nearly every regular meeting under a standing Plumas/Sierra County well permit application review agenda item. In total, the Board considered 20 well permit applications: 15 domestic well applications and five large-capacity well applications, including a new municipal well for the Sierraville Public Utility District. All well permit applications were approved with no outright denials through the evaluation period. All 15 domestic well approvals fall outside Ordinance 18-01's high-capacity well provisions entirely and are not subject to the restricted-area moratorium. Of the five large-capacity applications, four were replacement wells, which Ordinance 18-01 exempts from the new-well prohibition provided the replacement does not exceed the prior well's pumping capacity, regardless of location. The Sierraville Public Utility District's well is the only new, non-replacement high-capacity well approved during the evaluation period. This well falls outside the restricted-area moratorium. No new high-capacity well has been confirmed as drilled within the Ordinance 18-01 restricted area during the evaluation period.

During the evaluation period, the Board acted on several well permit related applications. The Meadow Edge Park mobile home development's Special Use Permit expansion originated as a November 2023 concept, was subsequently restructured to proceed under Plumas County rather than State jurisdiction and underwent Board-directed technical review before the Board acted on it. In January 2026, the City of Loyalton formally requested clarification on whether a proposed new municipal well would qualify for the municipal water agency exemption in Ordinance 18-01, citing both the ordinance's own exemption language and EO N-3-23. As of the end of WY2026, the City had not yet submitted a formal well application and the matter remains open.

3.1.6 Water Reuse

The GSP identifies water reuse as a Tier I PMA to offset GW pumping through reuse of treated wastewater from the City of Loyalton's wastewater treatment plant for crop irrigation. When in operation, discharges from the former Loyalton Mill/Co-gen plant could also be used for crop irrigation. The amount of reuse would be tracked to quantify the GW supply conserved as a result of using recycled water for approved applications. Opportunities to increase recycled water volumes through repairing leaking pipes or making other infrastructure improvements in the City's collection system could be evaluated. Other potential reuse opportunities such as reusing process or wash water at commercial or industrial facilities for dust control or landscape irrigation could be explored. Recycled water use is regulated by the SWRCB and Central Valley Regional Board under the Statewide Water Reclamation Requirements for Recycled Water Use (Order WQ 2016-0068-DWQ). Because no new reuse activity occurred during the evaluation period, no permitting or CEQA review was triggered under this PMA. Implementation of this PMA would involve coordination with the City of Loyalton to assess infrastructure conditions and reuse opportunities, with costs associated with tracking benefits and coordinating implementation activities. This PMA was not pursued during the evaluation period but remains a viable option for offsetting GW extractions in future implementation periods.

3.1.7 Sierra Brooks – Smithneck Wildland Urban Interface Fuels Reduction

The GSP identifies coordination with the Sierra Brooks – Smithneck Wildland Urban Interface Fuels Reduction Project as a Tier I PMA. This PMA involves coordinating with the Sierra Valley Resource Conservation District (SVRCD) on a fuels reduction project funded by the Sierra Nevada Conservancy. The project would reduce heavy fuel loads on 723 acres of U.S. Forest Service and CDFW lands adjacent to the Sierra Brooks Subdivision and one mile southeast of Loyalton through mastication, manual forest thinning, and brush abatement. The project aims to increase forest resilience and resistance to destructive wildfire, disease, and insect infestation while protecting the community and water supply for Sierra Brooks. The long-term goal is to return the landscape to a condition within the range of natural variability of forest density, allowing for prescribed underburns that maintain healthy forest conditions. The project furthers the Integrated Regional Water Management Plan for the Upper Feather River Watershed and meets goals of improving local water retention and water quality. Reducing vegetation in overstocked forests may increase the amount of water that infiltrates into the aquifer, both from interconnected surface waters and from precipitation, providing potential benefits to GW recharge. The project is funded by the Sierra Nevada Conservancy at an estimated total cost of \$1,100,000, with support from Tahoe National Forest's Sierraville Ranger District and CDFW. SVGMD's own costs to coordinate with the project have not been determined. Any permitting or regulatory requirements for the project are the responsibility of SVRCD, with SVGMD providing support as needed. Coordination activities were not initiated during the evaluation period but this PMA remains relevant for future implementation if opportunities arise to monitor or assess water supply benefits associated with fuels reduction activities.

3.2 Tier II: Potential Projects and Management Actions

3.2.1 Agricultural Efficiency Improvements

SVGMD made substantial progress implementing agricultural irrigation efficiency improvements during the evaluation period, funded primarily through the DWR SGMA Implementation Grant and the Plumas Watershed Forum grant. A Low Energy Precision Application (LEPA) irrigation efficiency demonstration project was initially planned for Spring 2023 to compare water use between conventional mid-height sprinklers and LEPA systems, but extensive winter crop damage on the pivot equipped with LEPA required replanting and prevented a 2023 comparison. The demonstration was restructured for the 2024

and 2025 irrigation seasons using a reference-and-comparison design across three ranch locations, with soil moisture sensors and flow meters installed alongside high efficiency sprinkler upgrades.

Farm assessments identifying irrigation infrastructure improvement opportunities were completed for 15 of the District's 17 local irrigators. One irrigator chose not to participate and one was determined too small to warrant an assessment. By March 2026, the following equipment had been installed under the program: 37 high efficiency sprinkler packages, 17 wheel line upgrades, 11 soil moisture monitoring stations, 6 pipeline replacements or new pipeline construction projects, 3 sand separators and 6 ditch pump intake screens to reduce clogging, 2 variable frequency drive pump controls, and 3 weather stations. No permitting or external regulatory approval was required to implement this PMA.

Calculations based on field data collected through the program indicate an estimated GW savings of approximately 400 to 470 acre feet per year during a year of average precipitation, with higher savings expected in dry years and lower savings in wet years. Approximately 90 percent of the estimated savings are attributable to high efficiency sprinkler upgrades, which reduce water use by up to 15 percent compared to the conventional center pivot systems they replaced. Soil moisture monitoring stations, installed at a rate of at least one per irrigation site, provide data on soil saturation at multiple depths to help irrigators time applications more precisely and avoid both over and under watering.

This first round of irrigation efficiency improvements concluded with the end of DWR SGMA Implementation Grant funding on March 31, 2026. Improving irrigation efficiency basin-wide remains a District priority, and further implementation will be evaluated as additional funding becomes available. Because no concrete future phases have been identified at this time, no estimate of the funding needed to implement additional improvements, or to reach any specific efficiency goal, is currently available. Continued data collection and reporting on realized water savings from the completed installations will occur through future Annual Reports as additional pumping and monitoring data become available.

3.2.2 Well Inventory

The well inventory has been significantly expanded during the evaluation period. The initial task involved reviewing the existing well data that was compiled during GSP development as part of the geologic model development. Of the 1,221 wells in the GSP inventory, 574 wells had locations estimated at the centroid of township range section blocks because they lacked usable geolocation and geologic data. During the evaluation period, these 574 wells were reviewed for information to improve well locations and update well construction information. The secondary review found that 258 of the 574 wells had locations that could be improved, which assists in identifying parcels with GW wells and improves analyses dependent on well location and depth. Additionally, the review found 163 wells with insufficient information to improve the location, 145 wells without a Well Completion Report (WCR), and 8 duplicate records.

Because the state WCR database did not appear to include all wells in the basin, parcels were identified that were likely to have a well based on land use. There are 265 parcels in the basin identified as likely to contain a well based on land use that do not have a well record in the database. Lists of Assessor's Parcel Numbers for these parcels were submitted to both Sierra County and Plumas County to request any available records. In response, Plumas County provided 31 well driller reports and 41 well permits for new wells, while Sierra County provided 23 well driller reports. Out of 95 shared records, 88 records were added to the DMS, with the remaining 7 records including 6 duplicates and 1 well outside the basin boundary. Additional geologic data was added to the DMS for 48 wells based on county records.

The well inventory work has demonstrated that there remain parcels without identified wells in the database. Despite outreach to both counties, 265 parcels remain without a well record, and Plumas County staff noted that a previous effort to identify and seal old wells demonstrated that additional wells exist in the basin without any official records. This suggests that the well inventory still has a data gap for wells without official records and would require further local outreach to residents, such as a mailing list survey, to request information on wells. However, well owners may be reticent to share information on their private wells, so the return rate of such a survey may be low.

The benefits of well inventory expansion include improved spatial accuracy of well locations, enhanced understanding of well construction throughout the basin, identification of parcels that may have unrecorded wells for targeted outreach, and addition of geologic data to support model refinement. The updated inventory supports better assessment of beneficial users, particularly domestic well users who may be vulnerable to declining GW levels. This PMA's well inventory expansion effort is complete, though certain elements will continue to require SVGMD attention, including adding well completion reports to the DMS as they become available, a potential future mailing survey to property owners, and continued engagement with residents through the domestic well monitoring program to build trust and encourage information sharing. To support local monitoring participation, two Eno Well Sounder 2010 PRO field meters were purchased and made available to stakeholders, and a graphical user guide and outreach flier were developed to facilitate independent well monitoring by basin residents. No CEQA or permitting requirements apply to this PMA.

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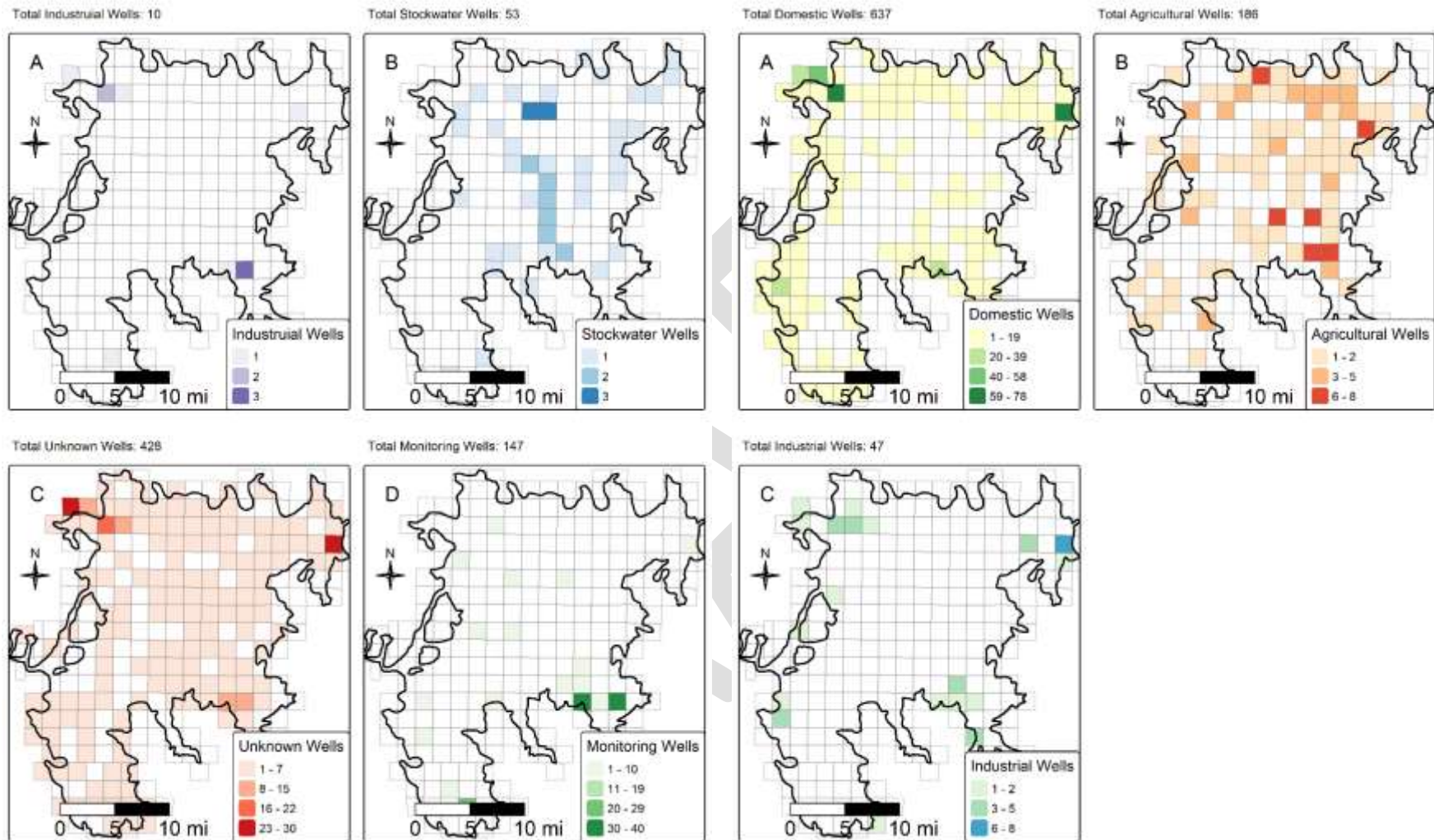


Figure 3-2 Resultant well inventory organized by well category following well inventory PMA efforts.

3.2.3 GW Recharge / MAR

SVGMD has pursued two distinct approaches to augmenting GW supply during the evaluation period: direct MAR, in which surface water is diverted and infiltrated at dedicated recharge sites, and an in-lieu recharge program, in which participating landowners substitute surface water for GW pumping to indirectly reduce extraction.

For MAR, SVGMD constructed and operated pilot recharge infrastructure at two locations: a diversion into an existing irrigation ditch off Staverville Creek (Point of Diversion (POD) #2), and check structures along an ephemeral drainage tributary to Smithneck Creek on the Griffin and Potter properties (PODs #3-5). At Staverville Creek, check structures and an 8-inch headgate were installed in January 2025, and the project was retrofitted in fall 2025 with an impervious liner, a flume, and a telemetry system to enable controlled, remotely monitored diversions. At the Smithneck Creek drainage, a proof-of-concept diversion in spring 2024 recharged approximately 20 acre-feet, followed by construction of three permanent check structures in fall 2025 on the Griffin and Potter properties. Diversions at both sites are authorized under Temporary Permits issued by the State Water Resources Control Board's Division of Water Rights. SVGMD initially obtained individual 180-day temporary permits for each recharge season (Permit 21461 for 2023-24, Permit 21468 for 2024-25), then in September 2025 consolidated ongoing authorization into a single 5-year temporary permit (21475) covering the 2025-26 through 2029-30 winter diversion seasons, eliminating the need to reapply annually through 2030. During the 2025-26 season, the Staverville Creek project recharged approximately 99.8 acre-feet and the Griffin/Potter structures recharged approximately 23 to 29 acre-feet combined, for a total of approximately 130 acre-feet across all four PODs. Full detail on the monitoring network supporting these sites, including well-by-well groundwater level data, is provided in Section 5, and water quality sampling results are discussed in Section 2.4. Groundwater level monitoring to date has not shown a clear response attributable to recharge, consistent with the modest volumes recharged during this first full pilot season.

A third MAR concept, direct diversion and infiltration along Little Last Chance Creek (POD #1), was evaluated but not constructed. Test pits and exploratory borings found some areas with good infiltration potential, but those areas were located too far from the existing Point of Diversion (POD) to be cost-effective without substantial additional conveyance infrastructure. A separate cost estimate presented to the Board in May 2025, approximately \$400,000 for the first year alone, confirmed that the direct diversion concept as originally scoped was not sustainable for the District, and SVGMD elected not to pursue direct MAR at this location.

Separately, SVGMD developed an in-lieu recharge program near Little Last Chance Creek. Rather than diverting surface water to a recharge site, participating landowners use surface water conveyed by pipeline in place of GW pumping, indirectly reducing extraction. Several properties in the area were evaluated for suitability, and three sites were ultimately selected for the program: Williams-Dotta Ranch, and two locations at DS Ranches (Pump/Pivot 11 and Pump 1). Pipeline installation at all three sites was completed in January and February 2026, and water meters were installed to measure the GW pumping offset achieved. All three projects began operation during the 2026 irrigation season. Once fully operational, the in-lieu program is anticipated to provide an average of approximately 400 AF annually; combined with the approximately 130 AF recharged through the MAR pilot projects, SVGMD estimates future annual recharge contributions of 400 to 500 AF. No benefits have been observed yet, as the program only recently began operating, but monitoring and analysis are ongoing and are expected to help quantify realized GW offsets going forward.

These projects were funded through the DWR SGMA Implementation Grant (Grant Agreement Number 4600015875), CDFW grants, and Plumas County Watershed Forum funding. Going forward, SVGMD does not anticipate needing to fund additional recharge infrastructure, but will need to fund continued permit compliance, monitoring and analysis, and land lease obligations. Land lease payments for the Griffin and Potter properties are each made under a 15-year, \$60,000 lease agreement executed in early 2026, resulting in payments of approximately \$3,000 per year per agreement, or about \$6,000 per year combined. Continued monitoring, data analysis, and reporting for the recharge program is estimated at

roughly \$10,000 to \$20,000 per year, scaled down from the GSP's basin-wide annual monitoring and reporting cost estimate of \$43,000 to \$65,000 per year, since recharge monitoring represents a subset of that broader network. Permitting costs in the near term are expected to be minimal, since the 5-year temporary permit obtained in 2025 covers the MAR PODs through the 2029-30 season. Future costs will be incurred to renew or replace that permit around 2030, though no estimate for that renewal is available at this time. CEQA review for these projects is suspended pursuant to EO N-7-22, which suspends CEQA requirements for qualifying flood-MAR and DWR grant-funded recharge projects on working lands during drought conditions; Notices of Exemption were filed for the Sierra Valley projects on this basis.

Benefits realized to date include enhanced groundwater storage to support beneficial uses during drought, improved understanding of recharge feasibility across different geologic settings in the basin, and established monitoring protocols to track future performance. Coordination with Sierra County regarding a groundwater concern near the Loyaltan Landfill is discussed in Section 7.3.2. Challenges during the evaluation period included product shipment delays, storm-related overflow and minor repairs, and the discovery that direct MAR was not cost-effective at Little Last Chance Creek. Continued uncertainty around funding for further construction also remains a challenge, as a second phase of CDFW recharge funding was not available as of mid-2026. SVGMD applied for WaterSMART grant funding from the Bureau of Reclamation in 2026 to support continued recharge project development.

3.2.4 Reoperation/Adjustments to Surface-Water Supplies

This PMA involves improving the use of existing surface-water supplies to reduce long-term reliance on GW pumping. During the evaluation period, SVGMD completed a feasibility-level investigation of one specific opportunity identified in the GSP: modifying the delivery point of Plumas County Flood Control and Water Conservation District (FCWCD)'s State Water Project Table A contract rights to increase surface-water availability along Little Last Chance Creek. Stetson Engineers completed a technical memorandum in October 2025 evaluating this concept. FCWCD holds 2,700 AF of Table A rights but uses less than 250 AF annually within the county. Under the State Water Project's Plumas Amendment, up to 1,190 AF could be made available for transfer from Lake Davis to Frenchman Lake for subsequent delivery to decreed water-right holders in the LCCWD, who hold senior rights on the creek. No new diversion or physical movement of water would occur, only the point of release would change.

A reservoir operations model built from 24 years of historical data (WY2001–WY2024) found that an additional release of 488 AF during the irrigation season, timed to periods when Frenchman Lake storage exceeds 28,000 AF, would yield a 24-year average of 375 AF of additional water availability with minimal or no impact to reservoir storage or existing deliveries to decreed lands. The estimated cost of the transferred water is approximately \$143 per acre-foot after conveyance losses. No additional infrastructure costs were identified. Because no new facilities would be required, environmental documentation would likely be limited to a Notice of Exemption under CEQA.

The memorandum found the transfer feasible with little or no impact to existing water-right holders, but recommended that SVGMD consult with LCCWD, as the senior rights holder, before pursuing further steps. This would be followed by discussions with FCWCD and DWR to determine SVGMD's actual cost. Basin GW storage conditions were generally stable to improving during the evaluation period, so this PMA is not an urgent near-term need, but the completed feasibility analysis represents real progress toward implementation readiness.

3.3 Tier II PMAs Not Yet Initiated

Several Tier II PMAs identified in the GSP have not been initiated during the evaluation period. These PMAs remain available as potential future management tools if basin conditions warrant their implementation or if opportunities arise to advance them.

3.3.1 Off-Stream Storage

The Off-Stream Storage PMA was identified as a potential approach to capture and store water during wet periods for use during dry periods, through surface storage, aquifer storage and recovery, or other mechanisms. During the evaluation period, SVGMD has focused on managed aquifer recharge projects that inherently provide a form of storage by capturing winter runoff for later beneficial use (see Section 3.2.3). More formalized off-stream storage programs have not been developed. Basin groundwater storage has been generally stable to improving during the evaluation period, so this PMA is not a near-term priority; SVGMD would revisit it if future drought conditions or storage declines warrant additional supply reliability measures. No specific timeline or triggering condition for advancing this PMA has been established. Costs would be highly project-specific depending on infrastructure type and scale.

3.3.2 Drought Mitigation & Planning

This PMA involves developing drought response protocols and contingency plans, including drought triggers tied to precipitation, runoff, and other factors. During the evaluation period, groundwater conditions have generally been stable or improving, with adequate precipitation reducing immediate drought concerns. SVGMD has continued to monitor conditions through its expanded monitoring network and maintains well permit ordinances that restrict new wells in areas with declining groundwater levels, providing some baseline protection. Formalized drought contingency planning remains contingent on the release of state drought-planning funding, consistent with Table 3-1's identified trigger. No independent SVGMD timeline has been established. If multi-year drought conditions develop, SVGMD may pursue more detailed planning.

3.3.3 Water Conservation Program

This PMA involves promoting water conservation practices among agricultural, municipal, and domestic users through a formal program with defined targets or incentives. During the evaluation period, SVGMD has conducted education and outreach and pursued agricultural efficiency improvements (see Section 3.2.1), which contribute toward conservation goals, but a dedicated conservation program has not been developed. The GSP's original schedule called for program development within the first two years and implementation within three. That timeline has not been met and no revised timeline has been established. SVGMD will need to reassess this PMA's priority against basin conditions if it is advanced in a future implementation period. Program costs would depend on scope, with education-based approaches requiring lower investment than incentive or rebate programs.

3.3.4 GW Trading & Allocation System

This PMA would develop an approach for establishing groundwater pumping allocations, with ramped-down permitted amounts and a trading or transfer mechanism. This PMA would be developed only if other management actions do not achieve needed reductions and therefore it has not been initiated during the evaluation period. The in-lieu recharge program implemented under Section 3.2.3 shares some conceptual elements with this PMA, in that both aim to offset groundwater extraction and could inform future allocation or accounting approaches. However, the in-lieu program was designed and implemented as a recharge project, not as a step toward groundwater trading or allocation development, and the two should not be conflated. This PMA is to be consideration in the second five-year GSP implementation period if still needed, consistent with current basin conditions not requiring extraction limits at this time. Implementation would require significant stakeholder engagement and legal and technical analysis to develop allocation and trading frameworks, with costs dependent on program complexity.

3.3.5 Watershed & Upland Management/Restoration

This PMA involves restoration projects in meadows, wetlands, and upland forest areas to promote GW recharge, improve water quality, and reduce peak flows. Potential actions include forest and meadow restoration, decompaction of degraded soils, and reduction of fuel loads to improve infiltration and reduce runoff, potentially in partnership with agencies such as the U.S. Forest Service or Natural Resources Conservation Service. This PMA has not been initiated during the evaluation period, and no planning study or pilot program has been developed. No specific timeline for implementation has been established. SVGMD would need to identify specific project sites and partnership opportunities before this PMA could advance toward implementation.

3.3.6 Voluntary Managed Land Repurposing

This PMA involves voluntary, managed changes to land use or crop type on specific parcels to reduce consumptive water use. It has not been initiated during the evaluation period. Determining the need for this PMA depends on the effectiveness of other demand-management and supply-augmentation efforts already underway, including agricultural efficiency improvements and in-lieu recharge (Sections 3.2.1 and 3.2.3). No implementation timeline has been established. Costs would depend on the terms of any land-use agreements developed with participating landowners.

3.3.7 Assessment of Post-Fire Hydrology – Water Supply Augmentation

This PMA involves exploring opportunities to support wildfire risk-reduction projects and monitoring associated impacts to streamflow and GW recharge. The Plumas County Fire Safe Council is developing the Eastern Plumas Wildfire Protection Project to reduce fuel conditions contributing to catastrophic wildfire and SVGMD would explore opportunities to support this project and monitor hydrologic changes. The GSP's original schedule targeted initial implementation of this PMA early in the first PE cycle. That has not occurred, as SVGMD has not yet coordinated with the Fire Safe Council during the evaluation period. SVGMD may pursue coordination if the wildfire protection project advances and hydrologic monitoring would benefit sustainable GW management.

3.3.8 Climate Change Impact Assessment

This PMA involves evaluating potential impacts of climate change on basin hydrology, water supply, and demand to inform adaptive management. Climate considerations are already inherently built into SVGMD's adaptive management approach, since monitoring data and PMA performance are continually reviewed and adjusted based on observed hydrologic trends. During the evaluation period, SVGMD substantially recalibrated the basin's Precipitation-Runoff Modeling System (PRMS) hydrologic model, correcting climate-forcing parameters and converting MFR from a static long-term average to a transient, climate-responsive input. This work was undertaken specifically to allow the model to respond dynamically to changing conditions, and the updated model is now capable of running future climate change scenarios by substituting projected precipitation and temperature inputs for historical values. A dedicated climate change scenario analysis has not yet been performed and would require identifying funding to carry it out, but the technical groundwork is in place, and SVGMD is positioned to conduct a formal assessment once that funding and priority align.

SECTION 4: BASIN SETTING BASED ON NEW INFORMATION OR CHANGES IN WATER USE

4.1 Hydrogeologic Conceptual Model

During the evaluation cycle, the GSA initiated the necessary work to address RCA 1, which directed the GSA to, among other things, investigate the basin fill and bedrock units and identify the principal aquifer(s) of the basin. The GSA's efforts to address RCA 1 is discussed at length in Section 4.1.1. In summary, the GSA re-examined DWRs AEM survey line data and updated the Hydrogeologic Conceptual Model (HCM) accordingly. This update involved clarifying the extent of bedrock deposits underlying the Basin, which was found to be overestimated initially in some areas. From this clarification it was found that the bedrock unit is lithologically distinct but a conclusion whether it warrants a separate principal aquifer designation is still under evaluation. The GSA finds it important to note that this is an ongoing topic of research and that understanding of the principal aquifer unit(s) could be updated following future analysis of vertical hydraulic gradients, cross-unit pumping tests, and the collection of additional bedrock monitoring data.

The data gaps related to RCA 1 and addressed by the GSA were the only ones submitted by the Department relevant to the HCM. They have been substantially reviewed and re-examined as described above and in Section 4.1.1, though geologic modeling and the closure of related data gaps (such as improved monitoring network coverage in certain portions of basin fill deposits) remains ongoing.

4.1.1 Recommended Corrective Action 1

In its July 27, 2023 determination letter approving the Sierra Valley GSP, DWR issued the following RCA 1:

"Investigate the basin fill and bedrock units and identify the appropriate principal aquifer(s) for the Subbasin."

4.1.1.1 Response to Recommended Corrective Action 1

In response to the Department's RCA regarding clarification of the principal aquifer(s) for the Sierra Valley Subbasin, the GSAs have reviewed the hydrogeologic conceptual model presented in the GSP, evaluated available hydraulic and lithologic data, and considered the results of the Department's AEM Survey (Survey Area 7: Sierra Valley GW Subbasin)³. The Department noted that the GSP contains potentially conflicting information regarding whether the basin fill unit and the underlying bedrock unit should be categorized as a single aquifer system or as distinct hydrogeologic units. Clarifying this distinction is important because principal aquifer delineation directly informs monitoring network design, SMC, water budget accounting, and long-term adaptive management.

The current understanding of the Subbasin indicates that the basin fill deposits constitute the primary water-bearing formation and supply the majority of agricultural, municipal, and domestic GW production. These deposits consist of heterogeneous Quaternary alluvial and lacustrine sediments characterized by interbedded coarse (sand and gravel) and fine (silt and clay) materials. Available hydraulic testing indicates that basin fill deposits exhibit substantially higher hydraulic conductivity than the underlying bedrock. The bedrock unit consists of consolidated volcanic, granitic, and sedimentary formations and is expected to exhibit fracture-controlled permeability that is spatially variable and generally lower than that of the basin fill. Monitoring wells and production wells are predominantly screened within the basin fill

³ AEM Report on Sierra Valley Basin

deposits, and GW storage and seasonal water-level dynamics are primarily associated with the basin fill system.

The Department's AEM survey provides additional insight into subsurface variability by mapping resistivity along flight lines spaced approximately 2 by 8 miles across the valley. The AEM results improve understanding of basin fill thickness, distribution of coarse and fine materials, and the extent of consolidated rock beneath portions of the Subbasin. Resistivity data support the interpretation that the basin fill is laterally heterogeneous and interbedded, and that consolidated rock units are distinguishable from unconsolidated sediments. However, important limitations of the AEM dataset must be acknowledged when considering principal aquifer delineation. The flight line spacing is too wide to reliably interpolate into a basin-wide three-dimensional hydrostratigraphic model, and the report notes that results are representative primarily along the flight lines. In addition, resistivity reflects lithology, saturation, and water chemistry but does not directly measure hydraulic conductivity, vertical leakage, or hydraulic connectivity. The resistivity-to-lithology transform relies on a limited number of high-quality lithologic logs distributed across the Subbasin, and hydraulic data from wells completed in bedrock are sparse. Consequently, while the AEM dataset substantially refines the conceptual model, it does not independently resolve whether the basin fill and bedrock function as a hydraulically integrated system at the Subbasin scale.

Based on currently available information, the basin fill clearly functions as the primary GW storage and production unit and therefore represents the principal managed aquifer for purposes of SGMA implementation at this time. The bedrock unit is lithologically distinct and likely hydraulically different; however, the degree of hydraulic communication between deeper basin fill intervals and fractured bedrock has not been fully characterized. Vertical hydraulic gradients, cross-unit pumping responses, and bedrock monitoring data remain limited. Accordingly, the GSAs have not yet reached a final determination as to whether the basin fill and bedrock should ultimately be designated as a single integrated principal aquifer system or as hydraulically distinct aquifer systems for long-term management purposes.

The GSAs acknowledge this uncertainty and consider further evaluation of aquifer delineation to be part of ongoing adaptive management. Future work during GSP implementation will include continued evaluation of vertical gradients using multi-depth monitoring data where available, review of pumping response information, integration of structural geology and fault mapping with AEM results, and refinement of GW flow modeling assumptions to assess sensitivity to aquifer separation. Additional monitoring in deeper intervals may be considered if warranted. Until that analysis is complete, SMC and monitoring network evaluations will continue to focus on basin fill GW conditions, while recognizing the need to improve characterization of the bedrock system.

In summary, the available data indicate that the basin fill constitutes the primary managed aquifer of the Sierra Valley Subbasin, while the bedrock unit is hydrogeologically distinct but not yet sufficiently characterized to support a definitive principal aquifer designation. The GSAs have not reached a final conclusion regarding full hydraulic integration between units and commit to further technical evaluation prior to the next plan update. This approach reflects a transparent, data-driven application of SGMA's adaptive management framework and directly addresses the Department's RCA.

4.2 GW Conditions

4.2.1 GW Levels and Storage

Groundwater levels and storage are discussed in detail in Section 2.1 and Section 2.2 respectively. In summary, groundwater levels in the Basin were resilient to fluctuating hydrologic conditions throughout the evaluation cycle. Despite three of the five water years in the evaluation cycle recording 'Below Normal' or 'Critically Dry' precipitation levels URs did not occur. At present, there is only one well recorded below its MT (22N15E08Q001M) despite improved water availability. This well was also below its MT in 2023 in similar hydrologic conditions. As no other wells show this pattern this well is considered to

represent local-scale rather than Basin conditions. Groundwater storage demonstrates a similar resilience, with groundwater storage recording only a small decline of 4,962 AF despite the unfavorable hydrologic conditions of the evaluation cycle. This decline in storage is furthermore lower than expected given the historic overdraft discussed in the 2022 GSP and Section 2.2, pointing to established groundwater level management criteria and PMAs arresting and reversing longer-term groundwater storage declines. Given the above facts, as of WY 2025 the Basin is not determined to be experiencing overdraft conditions.

4.2.2 GW Quality

Groundwater quality conditions during the evaluation period are discussed in detail in section 2.4. In summary, though no RMPs have been formally established the total water quality information available for the Basin indicates that no URs have occurred with respect to nitrate and TDS, the two constituents of concern with established SMCs. Nitrate at all measured wells remains well below the primary drinking water standard of 10 mg/L and is in line with the historical conditions in Sierra Valley. And while there have been a limited number of exceedances of the Maximum Threshold for TDS of 500 mg/L, these have been spread through the evaluation cycle with a concentration in no one year and reflect the ambient and naturally elevated TDS of groundwater in the Sierra Valley as described in the 2022 GSP (SVGMD, 2022). It should be noted that these exceedances do not pose a risk to human health, and the drinking water standards for TDS, which also correspond to the Maximum Threshold set forth in the 2022 GSP, were established by Title 22 for aesthetic and taste reasons.

There have been neither regulatory changes affecting water quality SMCs nor the emergence of new constituents of concern since GSP submittal. The GSA remains committed to cataloguing long term patterns of water quality in the Basin so that it remains adaptable to future regulation, new evidence of GW usage impact by natural and anthropogenic substances, and changes in GW quality.

4.2.3 Land Subsidence

Land subsidence conditions during the evaluation cycle are discussed in detail in Section 2.5. In summary, the mapped displacement values by InSAR data supplied by TRE Altamira agree with newly installed monument survey sites. Collectively these two assessment methods indicate that the Sierra Valley experienced minimal land subsidence over the evaluation period with no spatial pattern. Spatial patterns depicted in InSAR data are theorized to result from either decreased radar coherence over surface water features present in the basin or changing agricultural practices affecting plant height, which are not corrected for. Collectively, the InSAR analysis and monument survey monitoring indicate that no significant or widespread land subsidence is occurring within the Sierra Valley Subbasin at this time.

4.2.4 ISW

ISW conditions during the evaluation cycle are discussed in detail in Section 2.6, and the associated monitoring network in Section 5.3.

The evaluation period saw substantial expansion of ISW monitoring relative to GSP adoption, when no District-operated continuous stream gauges existed. Telemetered gauging stations were installed at Smithneck Creek, Staverville Creek, Griffin Drainage, and Little Last Chance Creek (North Branch), bringing the continuous flow network to four stations. Rating curves are complete for Smithneck and Staverville Creeks while Griffin Drainage's remains under development.

The GSP-identified data gap for continuous GW-level monitoring near GW dependent ecosystems (GDEs) has been filled, with four shallow wells near the previously unmonitored northwest wetland meadow complex equipped with continuous pressure transducers. Additional wells near Griffin Drainage were equipped with transducers, while a planned well near Staverville Creek was abandoned due to clay-dominated lithology and is being replaced with nearby existing wells.

Updated 2023 CDFW vegetation mapping and satellite-derived NDVI data were applied against GW-level observations to refine understanding of Groundwater Dependent Ecosystem (GDE) conditions. However, a statistically established relationship between GW levels, NDVI, and GDE health has not yet been developed. The GSAs are also updating the SVHSM to support quantitative estimates of GW-induced surface water depletion.

Data gaps remain: the relationship between streamflow and shallow groundwater pumping is not yet fully quantified, and characterizing seasonal ISW variation will require additional years of monitoring data. The WY 2024 Annual Report identified seven additional proposed monitoring wells, and Table 5-1 (Section 5.6) names four candidate locations, Berry Creek, Cold Stream, Antelope Creek, and East Fork Carman Creek, for future stream gauges.

4.2.5 Recommended Corrective Action 2

In its July 27, 2023 determination letter approving the Sierra Valley GSP, DWR issued the following RCA 2:

“Provide more information about how data from the adjacent Chilcoot Subbasin will be utilized during GSP implementation and [an] explanation as to whether the inclusion of this data into the GW conditions analysis for the Sierra Valley Subbasin may impact the results.”

4.2.5.1 Response to Recommended Corrective Action 2

The SVGMD recognizes DWR’s concern regarding the use of GW data from the adjacent Chilcoot Subbasin in analyses prepared for the Sierra Valley Subbasin. The original GSP incorporated information from the broader Sierra Valley Basin, including the Chilcoot Subbasin, because available hydrogeologic information indicated the two areas are hydraulically connected. The Chilcoot Subbasin is the only adjacent basin believed to have a significant hydrogeologic connection to the Sierra Valley Subbasin, and no hydrogeologic flow barrier was identified during GSP development. For that reason, information from Chilcoot was included during development of the basin conceptual model and regional GW interpretation.

At the same time, the District acknowledges DWR’s observation that inclusion of Chilcoot monitoring wells within GW-condition analyses for the Sierra Valley Subbasin may affect the interpretation of results. DWR noted that GW level trends shown in the GSP indicated little to no change in GW levels in the Chilcoot Subbasin, whereas some wells within the Sierra Valley Subbasin showed decline, and further noted that at least four of the 36 GW-level monitoring wells were located in Chilcoot. As a result, combining Chilcoot and Sierra Valley wells within a single set of trend analyses or monitoring summaries may dampen or obscure localized declines occurring within the Sierra Valley Subbasin itself.

Accordingly, during GSP implementation the District will use Chilcoot Subbasin data in a more targeted manner. Data from Chilcoot wells will continue to be used for basin-scale hydrogeologic purposes, including refinement of GW contour mapping near the northeastern basin boundary, evaluation of regional GW gradients and boundary conditions, and calibration and refinement of the regional GW flow model. These uses are appropriate because they rely on the broader hydraulic setting of the Sierra Valley Basin and benefit from the additional spatial control provided by Chilcoot monitoring points.

However, for purposes of evaluating GW conditions and sustainability performance within the Sierra Valley Subbasin, the District will distinguish between monitoring points located within Sierra Valley and those located within Chilcoot. In future GW condition summaries, trend evaluations, and updates to the monitoring network, the District will identify which RMPs are within the Sierra Valley Subbasin and which are within Chilcoot and will evaluate whether Chilcoot wells should remain in the RMP network for Sierra Valley sustainability assessment or instead be retained as supplemental basin-boundary and model-calibration wells. This approach will preserve the hydrogeologic value of Chilcoot data while reducing the potential for Chilcoot water-level stability to mask GW declines or other changing conditions within the Sierra Valley Subbasin.

In summary, inclusion of Chilcoot data remains useful and appropriate for understanding the regional GW system, but the District agrees that these data should be applied carefully in subbasin-specific GW-condition analyses. The District will therefore use Chilcoot data primarily to support conceptual model refinement, basin-boundary evaluation, and model calibration, while separately evaluating Sierra Valley Subbasin monitoring results to ensure that GW conditions and sustainability performance within the Sierra Valley Subbasin are accurately represented.

4.3 Water Use Changes and Associated Water Budget

4.3.1 Water Use During the Evaluation Cycle

The SVGMD meters all active large-capacity non-municipal wells (those producing 100 or more gallons per minute or those with a casing diameter of 6 inches or greater) in the Basin. Municipal wells not included in this requirement report pumping on a monthly basis to SVGMD, which for the Sierra Valley includes the town of Calpine despite it lying slightly outside of the Basin boundary. Due to these reporting requirements water usage is relatively certain in the Basin and agricultural, municipal, and industrial uses are estimated to be accurate within a five percent range Table 4-1. The water usage of domestic wells, owing to the lack of similar reporting requirements, is less certain. However, using assumptions as to the useful life of domestic wells and 1 AFY of water usage, approximately twice the statewide average per capita water use, estimates of domestic water use can be obtained Table 4-1. The accuracy of these measurements, estimated at ± 20 percent, are constrained by both these and the assumption of one residential well per residential parcel outside a public water supply system boundary as supplied by Plumas and Sierra counties.

Table 4-1: Groundwater extractions by water year as totaled from reporting requirements to the SVGMD and estimated from one well per domestic parcel within the basin boundary and outside of public water supply system areas. Units are in AF.

Water Year	Agricultural	Municipal & Industrial	Domestic	Total
2021	27,933 – 31,081	807 – 892	0 ¹	28,740 – 31,973
2022	10,228 – 11,305	682 – 754	0 ¹	10,910 – 12,059
2023	5,250 – 5,803	613 – 678	308 – 462	6,171 – 6,943
2024	7,422 – 8,204	546 – 603	303 – 455	8,271 – 9,262
2025	6,667 – 7,369	581 – 643	342 – 514	7,590 – 8,526

¹Domestic use was not reported for WY2021 or WY2022

4.3.2 Overdraft Assessment

Water levels above Measurable Objectives at a majority of RMPs indicate no overdraft and no long-term decline in water levels. The only exception to this conclusion would be the water levels at well 22N15E08Q001M, which did not improve following increased precipitation. However, as noted in Section 2.1 this condition was also seen in WY2023 despite far above average precipitation and therefore it is likely that this well indicates local scale, and not basin-wide, groundwater levels. Furthermore, as detailed in Section 2.2, using the SVHSM it is shown that, in the post-SGMA (post-2015) period, the basin has increased storage by approximately 15,364 AF. When considering just the evaluation period (i.e., 2021-2025) similar recovery can be seen, as storage recovered from a low point of 30,056 AF of storage decline to just 4,962 AF of storage decline. Given that three out of the five years of the evaluation cycle were hydrologically unfavorable (i.e. precipitation totals below, and in some cases far below, the historical average) this recovery, and important maintenance of storage decline reversal, indicates that the basin is resilient to prolonged dry conditions. These declines are furthermore below what would be expected given

the historically estimated storage declines in the basin and the water use shown in Table 4-1 compared to the sustainable yield estimated in the 2022 GSP (SVGMD, 2022). For the above reasons, the GSA believes that the known groundwater storage declines in the Basin are being effectively addressed by ongoing PMAs and will continue to improve over the planning horizon. As a result, no assessment of overdraft mitigation measures is required at this time.

4.3.3 Changes to Land Use and Cropping Patterns

Since 2020 there have not been any significant changes in irrigated acreage within the basin, nor have there been any significant changes to crop acreages. During GSP development, a land use survey was conducted with growers to determine irrigated acreages by crop within the basin to support modeling efforts. These are summarized in Table 5-4 of Appendix 2-7 of the GSP which include 49,826 acres of native vegetation and 33,464 acres of pasture that are both non-irrigated. For irrigated acres, there were 24,738 acres of pasture, 11,102 acres of alfalfa/grain, and 8 acres of native vegetation.

Although this land use survey has not been updated, GW pumping data reported through the SVGMD well metering program show no significant long-term (5–10 year) shifts in water demand. Pumping does vary from year to year, as wetter and drier conditions reduce or increase irrigation needs, but the absence of a long-term trend indicates that irrigated acreage has remained fairly consistent. LandIQ data, which reports land use by crop type but does not distinguish between irrigated and non-irrigated land, show total crop acreage in the basin increasing from 44,150 acres in 2020 to 47,875 acres in 2023. However, most of this increase falls within the mixed pasture category, which is largely non-irrigated in the basin. The apparent growth may therefore reflect higher precipitation, which can make non-irrigated land appear irrigated in satellite imagery. Taken together, the stable GW pumping record and the LandIQ data indicate that irrigated acreage in the basin has not changed significantly over the past five years.

4.3.4 Updated and Projected Water Budget

No changes to surface water supply reliability affecting water budget assumptions have been identified during the evaluation period. Variability in Little Truckee River imports and in Frenchman Reservoir and Lake Davis releases reported in the WY2021–WY2025 Annual Reports reflects normal year-to-year hydrologic variability rather than a change in supply reliability. A potential future adjustment to surface water operations, the transfer of Plumas County FCWCD's State Water Project Table A allocation from Lake Davis to Frenchman Lake, has been evaluated for feasibility and is discussed under the Reoperation/Adjustments to Surface-Water Supplies project and management action in Section 3.2.4. That potential change has not been implemented and does not presently affect water budget assumptions.

The 2022 GSP's projected water budget remains the Basin's current projection, as this analysis has not yet been rerun using the recalibrated SVHSM discussed in Model Updates below. The GSP's projected water budget used a 50-year simulation (WY2021–2070) of historical hydrology incorporating four DWR climate change scenarios, including 2030 and 2070 central tendency scenarios. It projected agricultural groundwater pumping to increase by 200 to 2,500 acre-feet per year above the historical average of 8,500 AFY, surface water use held near the historical level of approximately 30,000 AFY, and long-term groundwater storage change improving to a range of -500 to +100 acre-feet per year, compared to the -1,300 acre-feet per year simulated for WY2001–2020. The GSP estimates the Basin's sustainable yield at approximately 5,500 to 6,500 acre-feet per year, the figure used consistently in the GSAs' Annual Reports. The GSP also presents a second sustainable yield estimate of approximately 6,000 to 7,000 acre-feet per year, based on a sensitivity analysis of the historical water budget that reduces agricultural pumping to the point of zero cumulative groundwater storage change. As discussed in Section 4.4 below, the SVHSM's PRMS and MODFLOW components were substantially recalibrated during the evaluation period, but a climate change scenario analysis using the recalibrated model has not yet been performed. This analysis is identified in Section 3.3.8 and is pending identification of funding.

4.4 Model Updates

The PRMS component of the SVHSM was reviewed and recalibrated during the evaluation period using a structured comparison of simulated and observed climate and hydrologic data, including solar radiation, potential evapotranspiration (PET), precipitation, air temperature, snowpack, and streamflow. The review found that solar radiation and PET were underestimated and that snowpack persisted too long into the dry season. The cause was identified as temperature thresholds controlling rain and snow partitioning that fell outside physically realistic ranges, causing most precipitation to be classified as snow. Solar radiation and PET parameters were manually calibrated using National Hydrologic Model (NHM) guidance. The rain and snow partitioning thresholds were revised using NHM values, which reduced unrealistic snowpack accumulation and improved snowmelt timing.

These climate corrections shifted simulated peak streamflow from summer to spring, matching observed patterns, and improved the timing and magnitude of simulated flow at 10 of the basin's 12 stream gages, based on the Nash-Sutcliffe Efficiency coefficient and comparison of simulated to observed hydrographs. When the updated PRMS output was passed through to MODFLOW Groundwater-Flow Model (MODFLOW), simulated streamflow at the Middle Fork Feather River, the basin's primary outflow gage, also improved, with Nash-Sutcliffe Efficiency rising from 0.4 in the baseline model to 0.7. The updated streamflow input did not have a significant effect on simulated GW levels at most monitoring wells, though a few wells showed slight shifts.

The method for calculating MFR, the recharge entering the basin from the upper watershed, was also revised. The GW sink parameter, which had been removing water from the model rather than routing it to streamflow, was set to zero, and the baseflow parameter was adjusted accordingly. MFR was then recalculated as total recharge minus baseflow, rather than total recharge alone, to represent only the recharge that actually reaches the GW basin in the subsurface. The revised MFR values align more closely with the rates independently estimated during MODFLOW calibration for the GSP.

A transient, or time-varying, MFR input was tested in MODFLOW in place of the long-term average value used in the original GSP model. The transient input increased simulated GW level variability near the basin boundary, with improved fit at some wells and reduced fit at others. Per the WY2025 GSP Annual Report, this transient MFR input will be incorporated into future versions of the SVHSM once additional testing confirms that it improves the model's representation of interannual recharge variability, and it is not part of the model version used for this PE.

These updates point to a need for improved monitoring of climate inputs to reduce uncertainty in water budget estimates. Only two climate stations within the watershed and one adjacent station currently have available data, and both datasets contain gaps, so the model relies heavily on interpolation and on PRISM, which is itself a modeled rather than observed data source. Installing additional climate stations or upgrading existing ones for continuous temperature and precipitation measurement, would reduce this reliance. Expanded high-elevation monitoring of precipitation, snowfall, and snow water equivalent is also needed to improve rain and snow partitioning and snowmelt simulation.

Streamflow monitoring should be strengthened with additional gaging sites and longer, more continuous data records, since existing records are short and discontinuous. A gage closer to the basin's total outflow point would be more representative than relying solely on the Middle Fork Feather River gage, which sits outside the basin. Expanded GW level monitoring near the boundary between the upper watershed and the GW basin would also help constrain MFR estimates and better represent GW response to climate variability and management actions.

SECTION 5: MONITORING NETWORKS

This section assesses the functionality of the monitoring network and evaluates whether data gaps exist that could affect the ability of the Plan to achieve the sustainability goal for the Basin. The assessment includes identification of data gaps, local issues limiting monitoring, and steps planned to fill data gaps before the next five-year assessment.

The GSP established monitoring networks for GW levels, GW quality, land subsidence, and ISW. The District has developed four primary monitoring networks capable of providing sustainability indicator data of sufficient accuracy and quantity to demonstrate that the basin is being sustainably managed: GW monitoring (levels and quality), surface water monitoring, land subsidence monitoring, and soil moisture monitoring. During the evaluation period, SVGMD has worked to expand and improve these networks while addressing data gaps identified in the original GSP and in DWR's July 27, 2023 determination letter.

Taken together, monitoring network changes made since GSP submittal include the installation of four telemetered groundwater monitoring wells in the northwest wetland meadow complex, one nested piezometer near Griffin Drainage, high frequency pressure transducers at three existing wells downgradient of Griffin Drainage, four telemetered stream gaging stations at Smithneck Creek, Staverville Creek, Little Last Chance Creek, and Griffin Drainage, and the establishment of eleven subsidence survey control points. Soil moisture monitoring stations were installed at twelve locations under the agricultural irrigation efficiency program, with an additional eleven installed for use by individual landowners. Beginning in early 2026, SVGMD also began installing water meters at nine additional locations, including five at Roberti Ranch, one at Goicoechea Ranch, two at D&S Ranch, and one at the Williams property, specifically to measure groundwater pumping offset achieved by the in lieu recharge projects described in Section 3.2.3.

5.1 GW Levels

5.1.1 Overview of Monitoring Network

The GW level monitoring network established in the 2022 GSP consists of 36 representative monitoring points (RMPs) distributed across the Basin. RMPs are measured at least semiannually during spring and fall measurement periods to capture seasonal high and low GW elevations, consistent with DWR BMP. Beyond the RMP network, the District also maintains a broader set of wells monitored at varying frequency, drawing on DWR monitoring wells, GeoTracker wells, Sierra Valley Enterprises Loyalton Campus (SVELC) wells, and SVGMD wells. This larger inventory supports overall basin characterization but is not evaluated against SMC as the RMP network is.

Wells are assigned to the upper or the lower aquifer based on completion information. Lateral spatial coverage is generally good in the eastern portion of the Basin, where the majority of GW pumping occurs. The western portion has lower well density overall, though it benefits from three nested monitoring wells (DMW 2, DMW 3, and DMW 4), each with three completions, installed by DWR to characterize vertical hydraulic gradients between the upper and lower aquifers.

No RMPs were added to or removed from the 36-well network during the evaluation period. Outside the RMP network, the District added several supplemental wells to support other monitoring objectives. Four telemetered wells were installed in the northwest wetland meadow complex to monitor a GDEGW that previously had no groundwater level coverage. A nested piezometer with three completions was installed near the Griffin Drainage, supplementing the three pre-existing DWR-installed nested wells discussed above. This piezometer supports monitoring of the Griffin Drainage recharge project. The four wetland wells and the piezometer's three completions are now monitored continuously via telemetry. Data from these seven wells is accessible in real time through the District's Database Management System (DMS). Three existing wells downgradient of the Griffin Drainage (SVELC WQ9, SVELC WQ3, and SVELC WQ8)

were also equipped with pressure transducers to support recharge project monitoring. SVELC WQ9 was equipped in March 2024. SVELC WQ3 and SVELC WQ8 were equipped in December 2024. These three wells are retrieved on a quarterly basis rather than telemetered. None of these additions are part of the official RMP network.

All 36 RMPs have confirmed well construction information sufficient to assign each to a specific aquifer zone. 23 are screened exclusively in the upper aquifer, 6 exclusively in the lower aquifer, and 7 across both. No RMP has an identified well construction issue that would prevent accurate measurement relative to SMC, and no RMPs are known to be damaged, dry, or otherwise compromised during the evaluation period. An alternative monitoring approach or well replacement is therefore not needed for this indicator at this time.

A map of the current groundwater level RMP network is provided in Figure 5-1. Current groundwater conditions relative to sustainable management criteria for this indicator are discussed in Section 2.1.

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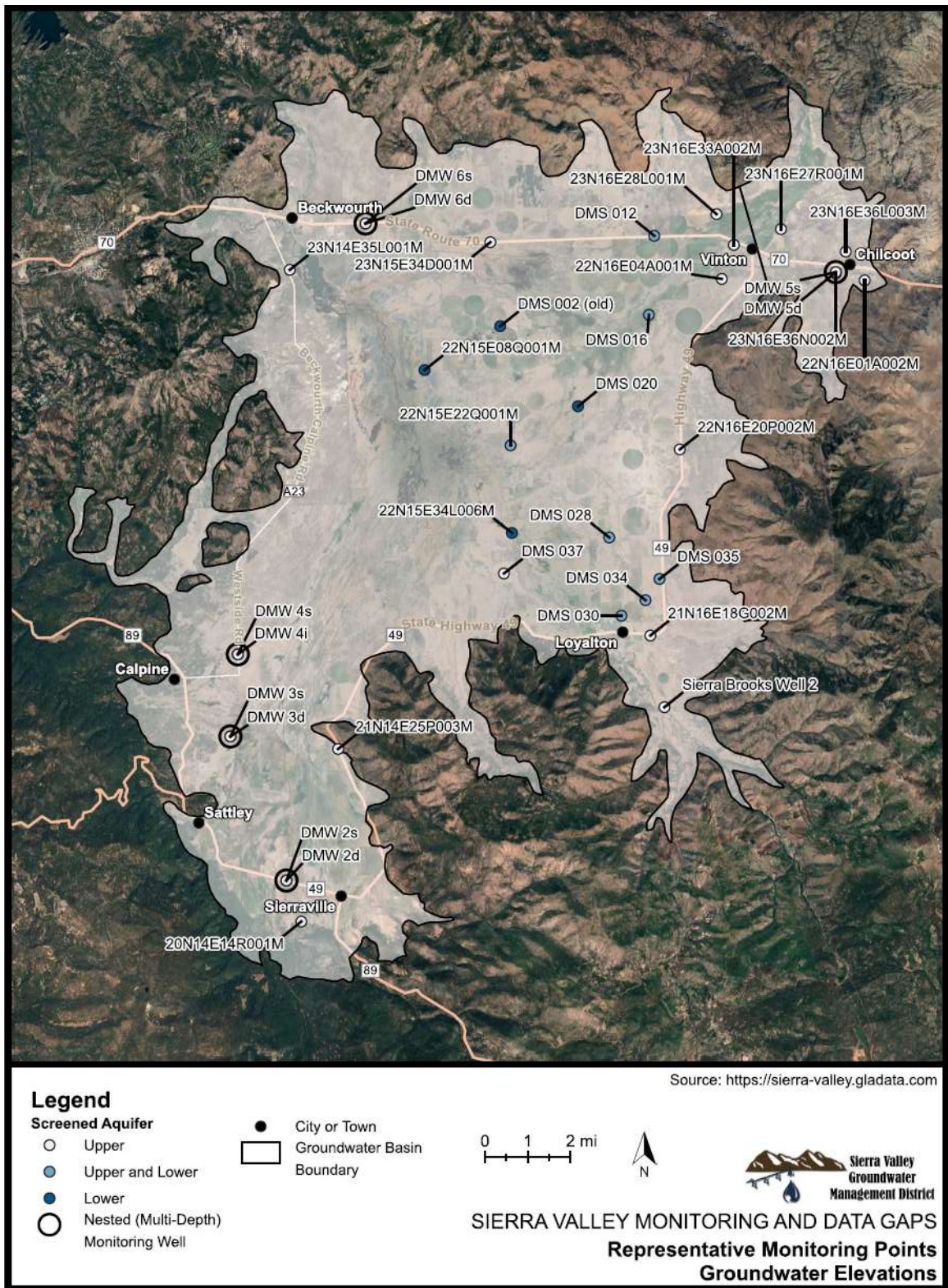


Figure 5-1 Sierra Valley Representative Monitoring Points for groundwater elevations

5.1.2 Data Gaps

The 2022 GSP identified spatial data gaps in GW level monitoring, particularly noting the need for additional coverage in underrepresented areas of the Basin. The Monitoring Plan Data Gaps Technical Memorandum provides detailed analysis of historical and current data gaps, including spatial coverage, temporal frequency, and vertical characterization.

5.1.2.1 Data Gaps Filled

The installation of four telemetered monitoring wells in the northwest wetland meadow complex represents a significant achievement in filling spatial data gaps. This area previously had no GW level monitoring, but new wells now provide critical information about GW conditions in an ecologically sensitive area that supports GW-dependent ecosystems. Their telemetered design allows for real-time monitoring and rapid response to changing conditions.

A nested piezometer with three completions was installed near the Griffin Drainage. This addresses a vertical characterization gap between the shallow and deep aquifer zones identified in the Monitoring Plan Data Gaps Technical Memorandum. Three existing wells within the same Griffin Drainage and Smithneck Creek recharge project drainage area (SVELC WQ9, SVELC WQ3, and SVELC WQ8) were equipped with pressure transducers. SVELC WQ9 was equipped in March 2024. SVELC WQ3 and SVELC WQ8 were equipped in December 2024. These transducers addressed a temporal data gap by providing high-frequency GW level data to better characterize seasonal fluctuations.

Coordination between GW level monitoring and reporting programs in the Subbasin improved during the evaluation period. The DMS continues to be maintained and updated regularly, with GW levels typically uploaded on a monthly basis. This has improved data accessibility for management decisions and stakeholder engagement.

5.1.2.2 Remaining Data Gaps

Despite progress made during the evaluation period, several data gaps remain relevant to the GW level monitoring network.

Spatial coverage remains uneven across the Basin. The western side continues to have relatively sparse monitoring, largely because greater reliance on surface water there has resulted in fewer groundwater wells. The most apparent spatial gap is southwest of the central portion of the Basin, where few wells have been drilled. Information about aquifer geometry and sediment distribution is also limited on the western side. As discussed in Section 4., the AEM survey and ongoing model updates may provide additional geologic insight to help prioritize future well siting in this area.

General understanding of mountain front recharge to the Basin also remains limited, affecting confidence in water budget estimates. As discussed in Section 4.4, expanded groundwater level monitoring near the boundary between the upper watershed and the groundwater basin would help constrain these estimates.

Vertical aquifer characterization also remains incomplete. Drilling records, water level response, and groundwater chemistry data do not clearly indicate two distinct aquifers throughout the Basin, and the extent of confinement between the upper and lower aquifer zones likely varies spatially. Data sparsity on the west side of the Basin in particular limits confirmation of the hydraulic connection between the two zones there. Of the 36 RMPs, 23 are screened exclusively in the upper aquifer, 6 exclusively in the lower aquifer, and 7 across both, as discussed in Section 5.1.1, but additional well construction information basin-wide would support more targeted siting of future monitoring points to improve vertical coverage.

General uncertainty remains in GW storage estimates for the Basin, given limited aquifer parameter data. GW storage is tracked using GW levels as a proxy, consistent with the GSP's monitoring approach, so

improvements to the level monitoring network described above also support refinement of storage estimates.

Domestic well information also remains limited. Location, depth, and screened interval data are lacking for many domestic wells in the Basin, which constrains the District's ability to assess the potential impact of declining GW levels on these users.

Temporal data gaps are more nuanced. Of the wells in the District's broader historical GW elevation dataset, 88 have not been measured since the GSP was submitted in January 2022. This gap is important for overall basin characterization, but it does not meaningfully affect the RMP network's ability to support GSP implementation. Only one of the 36 RMPs, Sierra Brooks Well 2, falls into this group. A more directly relevant gap is the 27 wells with five or more years between individual measurements, which includes five RMPs. These affect a modest share of the RMP network but are worth continued attention as the District works to maintain consistent RMP records.

5.1.2.3 Plans to Fill Data Gaps

Subject to funding availability, sensors to measure groundwater level and telemetry to remotely download the data may be employed in additional groundwater level monitoring wells to increase data collection frequency and better understand seasonal patterns in groundwater level. This would further address temporal data gaps related to seasonal fluctuations and the impact of pumping and irrigation on groundwater levels. The District will continue to assess the challenges to collecting consistent, high-quality measurements at the RMPs identified in Section 5.1.2.2 with longer gaps between readings, with the goal of minimizing these gaps going forward.

As the hydrogeologic conceptual model is refined through ongoing model updates and data analysis, shallow versus deep zones of the aquifer will be better characterized, enabling targeted monitoring of these zones. This data gap will be addressed through further investigation of well completion reports and use of well video logs to determine completion depths and screened intervals. Siting of future monitoring wells should prioritize areas with identified spatial gaps, with particular emphasis on the western side of the valley where geologic and hydrogeologic information is limited, consistent with the AEM data discussion in Section 4:.

Continued updates and refinements to the SVHSM, incorporating new aquifer parameter data as it becomes available, will help reduce uncertainty in GW storage estimates.

Further evaluation of MFR in the SVHSM, including testing of different parameterizations in space and time, would help reduce uncertainty in this component of the water budget. Expanded GW level monitoring near the boundary between the upper watershed and the GW basin would support this effort.

Future monitoring well installations should include multiple completion depths where feasible to improve vertical characterization of the aquifer system. New wells drilled within the GW basin should have the lithology logs added to the DMS so their data can be incorporated into future model updates.

An inventory and assessment of domestic wells, which will attempt to identify well construction information (well depth and screened interval), is subject to funding availability. This effort would address data gaps related to potential impacts of GW level declines on domestic well users.

The District will continue to pursue opportunities to incorporate additional existing wells into the monitoring network as suitable wells are identified and access is secured. Well completion reports and construction information will continue to be compiled and added to the DMS to support monitoring network optimization.

5.2 GW Quality

5.2.1 Overview of Monitoring Network

The District did not maintain a water quality monitoring network prior to SGMA implementation. Water quality monitoring was performed either by DWR or as part of other regulatory programs required by the State Water Board. The District continues to incorporate water quality data made available by these existing regulatory programs into the DMS. The District's DMS contains nearly 22,000 water quality records from 238 wells and a total of 176 different analytes.

In addition to existing regulatory monitoring, the District has committed to performing water quality sampling for eight constituents of concern (COCs) identified in the GSP: Nitrate, TDS, Arsenic, Boron, Iron, Manganese, pH, and MTBE. The monitoring network focuses on these COCs to assess conditions relative to established water quality thresholds and to evaluate whether GW management activities are resulting in degraded water quality.

During the evaluation period, SVGMD continued incorporating water quality data made available by existing regulatory programs into the DMS while advancing development of a basin-wide, District-run monitoring program. As proposed, this program would consist of six wells, five domestic and one monitoring well, sampled every two years beginning in 2026, with the frequency reduced to every three years if no water quality impacts are identified after the first two sampling events, and would monitor the eight GSP COCs along with sodium, potassium, and bromide. Candidate wells for this program have been identified, but final well selection and network formalization has not been completed. This program is separate from the water quality sampling conducted at six wells near the Staverville Creek and Smithneck Creek recharge sites, described in Section 3.1.2, which supports evaluation of recharge project impacts rather than the basin-wide COC network.

The University of California Cooperative Extension completed its second cross-sectional GW quality analysis in 2025, resampling the same 10 domestic and 5 agricultural wells first sampled in 2021. Fourteen wells were sampled May 13, 2025, and the fifteenth was sampled June 17, 2025 once access was available. All samples were analyzed for nitrate plus nitrite as nitrogen, arsenic, boron, and TDS. Results showed no wells exceeding the nitrate maximum contaminant level, one well exceeding the arsenic maximum contaminant level of 10 micrograms per liter in an area of known volcanic geology, one well exceeding the boron notification level of 1,000 µg/L, and two drinking water wells exceeding the TDS recommended secondary MCL of 500 mg/L while remaining below the upper secondary MCL of 1,000 mg/L. These results are consistent with the 2021 baseline and indicate stable, generally high quality GW conditions across the Subbasin.

A formal network of water quality RMPs has not yet been established. The GSP identified the groundwater quality monitoring network as provisional at the time of adoption, and RMP designation for water quality remains under development pending finalization of the District's basin-wide COC monitoring program described above. This ongoing data gap, and the District's plans to address it, are discussed further in Section 5.2.2.

Water quality sampling of GSP COCs has been performed throughout most of the basin, although most locations have only analyzed a subset of the GSP COCs during a given sampling event. This is expected due to the lack of a basin-wide water quality monitoring program prior to SGMA. Due to the generally low concentrations of constituents in the basin and most of the COCs requiring an analytical lab to quantify concentrations, water quality records in the basin are considered to be of high quality except as indicated by analytical flags.

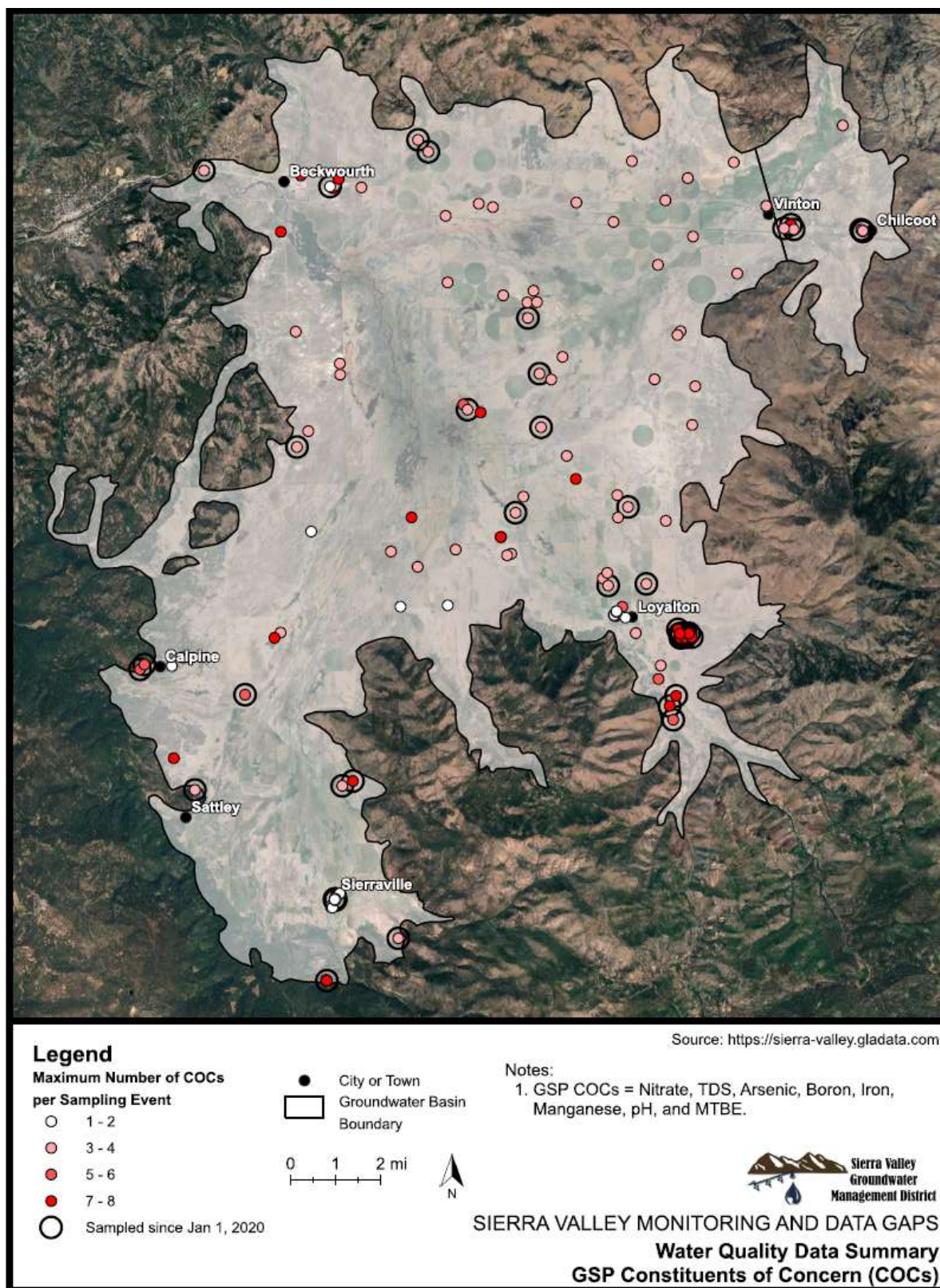


Figure 5-2 Mapped locations of wells used for this periodic evaluation's water quality analysis.

5.2.2 Data Gaps

The 2022 GSP identified data gaps in the GW quality monitoring network related to spatial coverage, temporal frequency, constituent characterization, and RMP network establishment. The Monitoring Plan Data Gaps Technical Memorandum provides detailed analysis of spatial and temporal data gaps for each of the eight COCs.

5.2.2.1 Data Gaps Filled

Prior to SGMA, the District did not maintain a standalone water quality monitoring network, and no formal District-run sampling program was in operation during the evaluation period. Water quality data collection during the evaluation period was performed primarily through existing regulatory programs administered by DWR and the State Water Resources Control Board, including UC Cooperative Extension sampling of 15 basin wells in 2021 and again in 2025, discussed further in Section 5.2.1. This data, representing nearly 22,000 records from 238 wells and 176 different analytes, has been incorporated into the DMS.

Development of the District's basin-wide COC monitoring program, representing the primary data gap identified in the GSP, continued into WY2026. Candidate wells for this program have been identified, but final well selection and the first sampling event has not yet occurred as of this PE.

Groundwater quality samples were also collected in January and February 2026 at the six wells near the Staverville Creek and Smithneck Creek recharge sites described in Section 3.1.2. Beyond supporting evaluation of the recharge projects, this sampling is intended to serve as an initial pilot for a more expanded and streamlined water quality sampling approach that could eventually be applied basin-wide, though the specific constituents to be monitored basin-wide have not yet been determined.

5.2.2.2 Remaining Data Gaps

Spatial data gaps remain in portions of the Basin where monitoring well coverage is limited. The western side of the Basin continues to have fewer GW quality monitoring points due to the prevalence of surface water use and limited number of GW wells in this area.

The three-year monitoring cycle provides cost-effective long-term trend analysis but creates temporal data gaps that limit the ability to detect short-term water quality changes that might result from specific management actions or drought conditions. The lack of recent monitoring is the largest of the temporal data gaps presently identified, followed by short observation records at wells and then long periods of time between measurements. As expected, the number of wells where questionable results make up a large fraction of the analyses is relatively small.

Well construction information remains incomplete for some wells in the Basin, creating uncertainty about which aquifer zones are being sampled. This affects the ability to assess water quality conditions in specific hydrogeologic units and to distinguish between upper and lower aquifer water quality where vertical gradients exist.

A formal water quality RMP network has not yet been established. The groundwater quality monitoring network was considered provisional at the time of GSP adoption due to limited well construction information and spatial coverage, as discussed in Section 2.4, and RMP designation remains pending finalization of the District's basin-wide COC monitoring program described in Section 5.2.1. Because Sustainable Management Criteria have only been established for nitrate and TDS, and evaluation currently relies on the broader set of available wells rather than a defined representative subset, the District's ability to consistently track groundwater quality conditions relative to measurable objectives, and to compare conditions across wells and monitoring periods, remains limited until this network is finalized.

5.2.2.3 Plans to Fill Data Gaps

Finalizing well selection for the District's basin-wide COC monitoring program, as described in Section 5.2.1, would address the RMP network gap discussed in Section 5.2.2.2 while also improving spatial coverage in the Basin. Priority should be given to locations that can provide water quality information for underrepresented aquifer zones and portions of the Basin with limited existing coverage.

Consideration should be given to increased monitoring frequency at sentinel wells in areas where water quality is approaching minimum thresholds or where specific management actions, such as MAR, may affect water quality conditions. More frequent monitoring may be necessary if water quality trends indicate degradation or if management actions warrant closer tracking.

Coordination with other agencies conducting water quality monitoring in the Basin should continue to maximize data availability and avoid duplication of effort. The District will continue to incorporate water quality data made available by existing regulatory programs into the DMS.

Ongoing compilation of well construction information and incorporation into the DMS will improve understanding of which aquifer zones are represented by monitoring data. Future monitoring well installations should include detailed construction documentation and be strategically completed to target specific aquifer zones for water quality assessment.

5.3 ISW

5.3.1 Overview of Monitoring Network

The ISW monitoring network established in the 2022 GSP utilizes GW level data from shallow monitoring wells near streams and other surface water features to assess potential depletions of interconnected surface water. The network recognizes that ISW conditions in Sierra Valley are complex, with significant seasonal variation and strong connections between surface water and shallow GW in riparian and meadow areas.

During the evaluation period, substantial improvements were made to ISW monitoring capabilities through installation of stream flow measurement infrastructure. In 2024, the District installed pressure transducers along Smithneck Creek and Staverville Creek as part of MAR projects to develop rating curves and evaluate flow, with telemetry added at these locations in early 2025 for continuous data collection every 15 minutes and remote access. Additional telemetered stream gauging stations were also established at Griffin Drainage and Little Last Chance Creek (North Branch), bringing the District's continuous flow monitoring network to four stations total.

Rating curves have been developed to convert stage data to flow measurements, enabling continuous evaluation of streamflow conditions. The Smithneck Creek rating curve was completed in 2024 and the Staverville Creek rating curve was completed in early 2025, and both require only periodic measurements for ongoing refinement. The Griffin Drainage rating curve remains under development. Manual streamflow measurements continue to be collected at multiple locations to support rating curve development and validate telemetered data.

The Smithneck Creek telemetry station initially lacked cellular reception, requiring manual data retrieval during field visits, but was switched to satellite telemetry in November 2025 to enable remote data transmission.

The four telemetered monitoring wells installed in the northwest wetland meadow complex provide critical GW level data in an area with extensive surface water features and GW-dependent ecosystems. These wells enable assessment of shallow GW conditions in direct proximity to ISW bodies.

Surface water inflows entering the GW basin have been measured sporadically by DWR at 12 locations since 2007. Measurement frequency varies by stream but approximately 2 to 15 flow measurements are recorded for each stream on average every year. The upper Middle Fork Feather River (MFFR) is the only surface water outlet from the basin and has been monitored by DWR since October 31, 2006 at 15-minute intervals.

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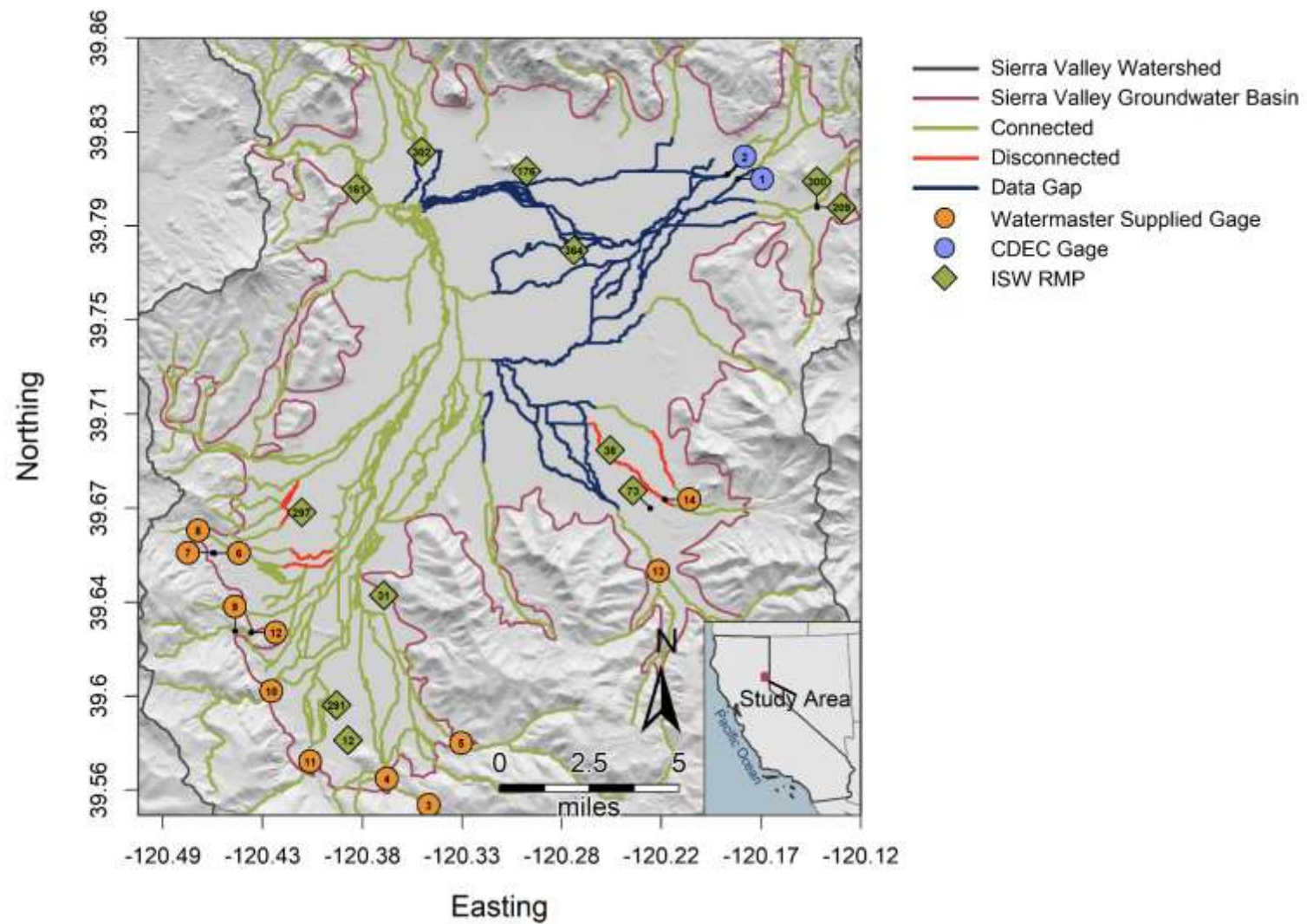


Figure 5-3 Sierra Valley ISW monitoring locations and ISW designations

5.3.2 Data Gaps

The 2022 GSP identified significant data gaps related to ISW, including limited understanding of the spatial extent of interconnected reaches, temporal variation in surface water-GW exchange, and quantification of depletion rates. The evaluation period has seen substantial progress in addressing these data gaps through installation of stream gauges and shallow monitoring wells, though important gaps remain.

5.3.2.1 Data Gaps Filled

The stream gauge and pressure transducer network described in Section 5.3.1 has substantially filled the temporal data gap identified in the 2022 GSP for surface water conditions. Continuous 15-minute stage and flow data, combined with the rating curves developed at Smithneck Creek and Staverville Creek, now allow streamflow to be evaluated on an ongoing basis and correlated with groundwater levels, pumping patterns, and climatic conditions, rather than relying on infrequent manual measurement.

The four telemetered GW monitoring wells installed in the northwest wetland meadow complex filled a spatial data gap in an area of high ecological significance with extensive ISW that previously had no monitoring coverage. These wells provide GW level data in direct proximity to surface water features, supporting assessment of hydraulic gradients and potential depletion conditions.

In 2024 and 2025, SVGMD installed 12 telemetered soil moisture monitoring stations as part of its agricultural irrigation efficiency improvements program to support side-by-side comparison of Low Elevation Spray Application and Mid-Elevation Spray Application pivot irrigation systems, with an additional 11 stations installed in 2025-2026 for individual landowner use and not publicly mapped at the landowners' request. Stations collected soil moisture data during the 2024 and 2025 irrigation seasons. Comparative water-savings results from the Low Elevation Spray Application and Mid-Elevation Spray Application analysis are not yet available. Consistent with the District's approach to other on-farm monitoring data, results will be reported at the program level rather than by individual station or ranch. Work is intended to continue, but funding will need to be secured to support the long-term sustainability of this effort.

5.3.2.2 Remaining Data Gaps

Significant data gaps remain in characterizing ISW conditions throughout the Basin. The spatial extent of monitoring is still limited relative to the total length of streams and extent of wetland and meadow areas in the Basin. Additional stream gauge locations would improve understanding of how surface water conditions vary spatially and respond to different hydrologic conditions and management actions.

The relationship between surface water flow and shallow GW pumping is not yet fully quantified. The new monitoring infrastructure provides data on both components, but additional analysis, and potentially additional monitoring locations, are needed to establish clear cause-and-effect relationships and quantify depletion rates at a basin-wide scale.

The relationship between shallow GW levels and timing, vegetation health as measured by NDVI, and the condition of GW-dependent ecosystems has not been established. Additional studies are needed to better understand this relationship and overall ecosystem functioning.

The Griffin Drainage rating curve remains under development, as discussed in Section 5.3.1.

Characterization of seasonal variation in ISW conditions requires multiple years of data collection with the new monitoring infrastructure. The first year or two of data from the new stream gauges and telemetered wells is valuable, but additional years of monitoring are needed to understand how ISW responds to different climatic conditions (wet years, dry years, drought) and to assess long-term trends.

5.3.2.3 Plans to Fill Data Gaps

Completion of the Griffing Drainage rating curve should be prioritized to enable full utilization of the stage data being collected at all locations. Once completed, rating curves will provide continuous flow estimates that can be analyzed alongside other stream gauge data to understand spatial patterns of streamflow across the Basin.

Continued operation of the existing stream gauge network and collection of validation measurements will build the multi-year dataset needed to characterize seasonal and interannual variation in ISW conditions. This dataset will be essential for assessing GSP implementation effectiveness relative to the ISW sustainability indicator.

Analysis of data collected from stream gauges and shallow monitoring wells should be conducted to quantify relationships between GW levels, pumping patterns, and streamflow conditions. This analysis will support refinement of SMC for ISW and inform management decisions related to GW extraction near surface water features.

Additional studies correlating shallow GW levels and timing with NDVI and GDE health would improve understanding of overall ecosystem functioning in the Basin.

Additional stream gauge locations may be warranted in priority areas identified through analysis of existing data. Potential locations include reaches where significant baseflow contribution is suspected, areas near MAR sites where surface water-GW interactions are of management interest and reaches that support critical habitat for aquatic species or GW-dependent ecosystems.

Shallow monitoring wells in additional riparian and meadow areas would improve spatial characterization of ISW conditions. These wells should be strategically located based on analysis of existing data, with priority given to areas where interconnection is likely and where beneficial uses may be sensitive to depletion.

5.4 Land Subsidence

5.4.1 Overview of Monitoring Network

The land subsidence monitoring network established in the 2022 GSP relies on two complementary data sources: DWR-provided interferometric synthetic aperture radar (InSAR) satellite data and a network of ground-based survey control points. This dual approach combines broad spatial coverage from remote sensing with high-accuracy verification from traditional surveying.

In October 2022, the District contracted US Geomatics to establish 11 subsidence monitoring control points, consisting of four permanent survey monuments and seven non-permanent locations, in areas of the Basin with the most pronounced historical subsidence potential identified through InSAR analysis. Surveys are conducted by California-licensed professional land surveyors using real-time kinematic methods, providing vertical accuracy of approximately ± 0.01 feet.

The control points have been resurveyed annually during the evaluation period, with surveys completed in October 2023, October 2024, and October 2025 using consistent methods to allow direct comparison across survey years. The maximum observed elevation change from the October 2022 baseline was -0.13 feet at one control point and +0.13 feet at another, consistent with elastic rather than inelastic subsidence processes. Given the small magnitude of change observed to date, it remains difficult to determine whether inelastic subsidence has occurred since 2022. Going forward, resurveys are expected to occur periodically, informed by water year conditions and InSAR results, rather than on a fixed schedule. InSAR data complements the control point surveys by providing basin-wide spatial coverage,

though current DWR-processed InSAR datasets have significant coverage gaps, as discussed in Section 0.

5.4.2 Data Gaps

The 2022 GSP identified the subsidence monitoring network as adequate for detecting and quantifying land subsidence in the Basin, with the primary data gap being the establishment of baseline conditions through initial monument surveys. The evaluation period has successfully established this baseline and collected three subsequent survey cycles, effectively filling the identified baseline data gap.

5.4.2.1 Data Gaps Filled

The October 2022 baseline survey successfully established reference elevations for the monument network, filling the critical baseline data gap identified in the GSP. The October 2023, October 2024, and October 2025 resurveys have each provided an additional data point for every monument, enabling assessment of subsidence rates over the three-year period since baseline.

DWR provides spatially distributed annual rates of subsidence and total displacement since June 2015 from remotely sensed InSAR data, generally available two to four months after collection. InSAR data quality is considered very high, with vertical accuracy stated at ± 0.066 feet at 95% confidence.

5.4.2.2 Remaining Data Gaps

The 11 surveyed control points are concentrated in the north-central and northeast portion of the basin, coincident with where the majority of GW pumping occurs and where subsidence has been observed historically. The southeast portion of the basin near Loyalton represents a spatial data gap. The nearest control point is approximately four miles to the north-northwest. While the aquifer near Loyalton tends to be thinner with a lower proportion of clay sediments and may be less susceptible to subsidence, installation of control points in that area should be considered. The lack of subsidence monitoring in the western portion of the basin is not considered a significant data gap given limited pumping in that area.

Although InSAR data is collected monthly across the basin, the processed spatial datasets DWR provides showing land displacement since June 2015 have significant gaps in spatial coverage. Recent coverages are missing values for approximately 60-70% of the basin, and the areas with missing data coincide with areas of higher subsidence potential. SVGMD has notified DWR of this limitation and intends to monitor whether coverage improves in future data releases. The integration of control point surveys and InSAR data provides complementary accuracy and spatial coverage benefits, with the ground-based surveys serving as the primary verification mechanism given current InSAR coverage limitations.

Neither the control point surveys nor the InSAR data allow for real-time observation of subsidence conditions. InSAR data are collected monthly but typically have a three- to four-month lag before they are published, and the control points have been surveyed annually, in October, since installation in 2022. More frequent control point surveys are technically feasible but not currently pursued due to cost and the District's limited financial resources. If future monitoring indicates subsidence conditions are becoming significant and unreasonable, other measurement techniques capable of more frequent or near-real-time assessment may need to be considered.

The monitoring record established since the October 2022 baseline, while now spanning four annual survey cycles, remains relatively short for assessing long-term subsidence trends or detecting slow, gradual subsidence that may occur over multi-year periods. Continued monitoring over subsequent evaluation periods will address this limitation.

5.4.2.3 Plans to Fill Data Gaps

Continued periodic resurveys of the monument network, consistent with the approach described in Section 5.4.1, will build the long-term dataset needed to assess trends and detect subsidence. The monuments should be maintained in good condition and protected from disturbance to ensure data continuity.

If spatial data gaps are identified through analysis of InSAR data showing areas of potential subsidence concern not adequately covered by existing monuments, additional monuments should be installed in those areas. Conversely, if InSAR consistently shows stable conditions in areas with redundant monument coverage, consideration could be given to optimizing monument locations to balance coverage with monitoring efficiency.

Coordination with DWR regarding InSAR data availability, quality, and interpretation should continue to ensure SVGMD is aware of any areas of potential concern identified through the statewide InSAR monitoring program. Any significant changes to DWR's InSAR program that affect data availability or quality should prompt reevaluation of the basin-specific monitoring approach.

Specific timelines for these actions have not been established, as implementation is contingent on available funding, consistent with the cost constraints described in Section 5.4.2.2.

5.5 Recommended Corrective Action 7

In its July 27, 2023 determination letter approving the Sierra Valley GSP, DWR issued the following RCA 7:

"Provide additional information on the monitoring networks for sustainability indicators in the Plan area, including:

- a. Clearly identify the number and location of all monitoring wells to be included in the monitoring networks and provide well construction, total well depth, and screened interval information for all wells that are monitored.*
- b. Define the monitoring site type and data collection frequency in tabular format for the degraded water quality monitoring network in the GSP. Evaluate whether the frequency should be increased to better define GW quality conditions throughout the year especially during the timing of peak GW use to monitor and identify potential impacts to beneficial uses and users of GW.*
- c. Establish a monitoring network for land subsidence that directly measures land elevation change such as remote sensing data, survey monuments, or global positioning system stations."*

5.5.1 Response to Recommended Corrective Action 7

The GSA has addressed each item of RCA 7 through the monitoring network improvements described throughout Section 5: and elsewhere in this Periodic Evaluation.

For item (a), well construction information is complete for the groundwater level monitoring network. As described in Section 5.1.1, all 36 RMPs have confirmed construction records sufficient to assign each well to a specific aquifer zone, with 23 screened exclusively in the upper aquifer, 6 in the lower aquifer, and 7 across both. Supplemental wells added during the evaluation period, including the four telemetered wetland wells and the three-completion Griffin Drainage piezometer described in Section 5.1.1, were installed with documented construction. Well construction information for the groundwater quality monitoring network remains incomplete for a subset of wells, as discussed in Section 5.2.2, and is

identified there as a remaining data gap and a priority for the District's basin-wide constituent of concern monitoring program described in Section 5.2.1.

For item (b), the District's planned basin-wide water quality monitoring program, described in Section 5.2.1, defines site type (five domestic wells and one monitoring well) and sampling frequency (biennial beginning 2026, reducing to triennial if no impacts are identified after the first two events). Final well selection and formal tabulation of this network have not yet been completed, as discussed in Section 5.2.2.

For item (c), the GSA established a land subsidence monitoring network that directly measures land elevation change, consisting of 11 survey control points installed in October 2022 and resurveyed annually through 2025, supplemented by DWR InSAR data. The network is described in Section 5.4.1 and in Section 2.5.1 (response to RCA 5), Table 2-6, Figure 2-3, and Figure 2-4 demonstrates elastic, non-subsidence conditions basin-wide.

Collectively, these monitoring network improvements substantially address RCA 7, with the water quality network's well selection and tabulation remaining as the GSA's primary outstanding action item.

5.6 Data Gaps Summary and Strategy

This section provides an integrated summary of monitoring network changes, data gaps identified and filled, and strategies for continued network improvement across all sustainability indicators evaluated in Section 5:. **Table 5-1** summarizes data gaps by sustainability indicator, their status, and the actions needed to address them. Priority rankings assigned to each data gap reflect the value the associated action would add toward GSP implementation relative to its cost, consistent with the prioritization approach described in the Monitoring Network and Data Gaps Technical Memorandum.

Table 5-1. Data Gaps

Data Gap	Description	Status	Priority	Needed Elements
No recent monitoring of wells that have a long historical record.	88 wells (51%, 1 RMP well) have had no measurements since January 2022. 27 wells (16%, 5 RMP wells) have long gaps between measurements.	Existing	Very High	Collect water level measurements at the 88 wells (1 RMP well) that have had no measurements since January 2022 and 27 wells (5 RMP wells) have long gaps between measurements.
InSAR spatial coverage gaps	DWR-processed InSAR spatial datasets have coverage gaps affecting approximately 60-70% of the basin, with missing data conceding with areas of higher subsidence potential.	Existing	Very High	The District is unable to fill this data gap on its own due to the highly specialized and technical workflows required to process InSAR data. SVGMD will continue to coordinate with DWR to find a suitable solution.

Data Gap	Description	Status	Priority	Needed Elements
Groundwater storage estimate uncertainty	General uncertainty in groundwater storage estimates.	Existing	High	Continue updates and refinements to the SVHSM to reduce uncertainty in groundwater storage estimates.
ISW shallow well monitoring near GDEs	The GSP identified four existing shallow wells near GDEs for installation of continuous pressure transducers to support ISW monitoring.	Filled	Medium	No further action required. Wells are equipped and operational.
Stream gauge network – Continuous flow monitoring	The GSP identified the need for continuous streamflow monitoring. No District-operated gauges existed at GSP adoption. Gages for Smithneck and Staverville Creeks were installed by the District in 2025, with additional stations at Griffin Drainage and Little Last Chance Creek.	Partially Filled	Medium	Install continuous stream gaging stations for Berry Creek, Cold Stream, Antelope Creek, and East Fork Carman Creek. Complete the Griffin Drainage rating curve, which remains under development.
Groundwater level-NDVI-GDE health correlation	Lack of established correlation between groundwater levels, NDVI, and the health of GDEs.	Existing	Medium	Additional studies to better understand the relationship between shallow groundwater levels and timing, NDVI, health of GDEs, and overall ecosystem functioning.
Subsurface lithology data—Western basin	Well density and subsurface lithology data are limited on the western side of the basin. The most apparent spatial gap is southwest of the central basin, where few wells have been drilled.	Existing	Medium	Ensure lithology data is collected for any new wells drilled in the basin, prioritizing areas identified through AEM and seismic geophysical data. Add new well lithology logs to the DMS. Consider drilling test holes or installing temporary wells for targeted aquifer testing if funding allows.

Data Gap	Description	Status	Priority	Needed Elements
District water quality monitoring program	The GSP identified the need for a District-run COC sampling program at up to six wells. No formal District program existed at GSP adoption.	Partially Filled	Medium	First sampling event conducted in 2026. Candidate wells identified. Final well selection and RMP network formalization not yet complete as of this Periodic Evaluation.
Groundwater level monitoring frequency—twice-yearly wells	Measurements collected only twice per year (spring/fall) for many monitoring wells.	Partially Filled	Low	Install pressure transducers that can collect data more frequently, preferably with telemetry. Manual measurements should still be performed once or twice per year to correct sensor drift. 7 wells were equipped with transducers during the evaluation period.
Vertical aquifer characterization	Inadequate vertical coverage of upper and lower aquifer zones, particularly on the western side of the basin where wells tend to be shallower.	Partially Filled	Low	Refine upper/lower aquifer characterization through AEM and seismic data integration. Site new multi-completion monitoring wells with short screened intervals to improve vertical coverage as the hydrogeologic conceptual model is updated.
Subsidence monitoring—ground-based control points	The GSP included land subsidence survey monuments as a planned monitoring commitment, but the network was not fully operational at GSP adoption.	Partially Filled	Low	Eleven control points established and surveyed annually. Consider additional control points near Loyaltown in the southeast basin in future monitoring cycles.
Mountain front recharge understanding	General lack of understanding around mountain front recharge.	Existing	Low	Further evaluate mountain front recharge in the SVHSM, including testing of different parameterizations in space and time.
Well construction information—domestic wells	Limited construction information (location, screened interval, pump intake depth, etc.) available for domestic wells.	Existing	Very Low	This data gap is unable to be filled by the District, as all publicly available data sources with well construction information have been reviewed. Property owners are encouraged to visit the District's DMS to see what information is available for their well and to provide construction documentation if available. Local permitting agencies and DWR should require drillers to submit well completion reports with all sections completed.

5.6.1 Network Functionality Assessment

The monitoring networks for all sustainability indicators are functioning effectively to track Basin conditions relative to SMC. No wells in the GW level network have become permanently dry or damaged during the evaluation period that would affect the network's ability to monitor Basin conditions. All RMPs remain accessible and capable of measuring GW elevations relative to established minimum thresholds and measurable objectives.

The addition of telemetry to stream gauges and select GW monitoring wells has significantly improved data accessibility and timeliness. During the evaluation period, telemetry was added to the four continuous stream gauging stations and to wells in the northwest wetland complex and near Griffin Drainage. Real-time data from these telemetered sites enables rapid identification of changing conditions and supports adaptive management decision-making.

The subsidence control point network has proven effective in verifying InSAR-based subsidence assessments and providing high-accuracy elevation data. Four annual survey cycles have been completed since the October 2022 baseline, with maximum observed elevation changes ranging from -0.13 to +0.13 feet. As discussed in Section 5.4, these results are consistent with elastic rather than inelastic subsidence processes, though it remains difficult to determine conclusively whether inelastic subsidence has occurred in the Basin since 2022.

One monitoring issue affecting the extraction monitoring network was identified during WY 2023, when flow meters on agricultural wells required replacement or reprogramming. This issue and its resolution are discussed in Section 3.1.1.

5.6.2 Monitoring Network Module Updates

All monitoring network updates implemented during the evaluation period have been incorporated into SVGMD's Database Management System (DMS). The DMS provides stakeholder access to groundwater data (excluding pumping data) through a user-friendly, map-based web interface at Sierra-Valley.gladata.com.

GW level data are typically uploaded to the DMS on a monthly basis during the measurement season. Stream gauge data, water quality results, and subsidence survey data are uploaded as they become available following quality assurance/quality control procedures. The DMS is maintained and updated regularly to ensure data accessibility and accuracy for management decisions and stakeholder engagement.

All monitoring network updates described in this PE are reflected in the DMS and have been (or will be, pending final verification) submitted to DWR's SGMA Portal Monitoring Network Module to meet regulatory reporting requirements. Stakeholders can access current monitoring network information and data through both the SVGMD DMS and the SGMA Portal.

5.6.3 Adaptive Monitoring Approach

SVGMD has demonstrated an adaptive approach to monitoring network management during the evaluation period, responding to identified data gaps, new information, and management needs. The installation of telemetered monitoring wells and stream gauges represents strategic investment in enhanced monitoring capabilities in areas where real-time data provides significant value for management decision-making.

The ongoing identification of additional monitoring needs (Table 5-1) demonstrates continued assessment of network adequacy and commitment to addressing data gaps. Future monitoring network enhancements should continue to be prioritized based on:

- Areas where SMC are at risk of being exceeded
- Locations where management actions are implemented that require effectiveness monitoring (MAR, irrigation efficiency improvements)
- Data gaps that affect understanding of Basin conditions or ability to achieve sustainability goal
- Cost-effectiveness of monitoring relative to information value for management decisions per DQO process
- Opportunities to leverage monitoring infrastructure or data from other agencies or programs
- MT exceedances (23 CCR § 354.38(e)(1))
- Highly variable spatial or temporal conditions (23 CCR § 354.38(e)(2))
- Adverse impacts to beneficial uses and users of GW (23 CCR § 354.38(e)(3))
- Potential to adversely affect adjacent basin implementation (23 CCR § 354.38(e)(4))

The extent and pace of these monitoring network enhancements will continue to depend on funding availability. Grant funding is frequently tied to specific eligible activities, reporting requirements, and timelines set by the funding agency, which can direct which monitoring investments are feasible within a given funding cycle. SVGMD's Board prioritizes monitoring network investments within the funding actually secured, and the sequencing described above should be understood as subject to adjustment based on the amount and terms of future funding.

As GSP implementation progresses and management actions are scaled up, monitoring networks may need to be further adjusted to assess effectiveness of specific projects and ensure Basin conditions remain within sustainable ranges. The framework established during this first evaluation period, informed by the Data Quality Objectives process and DWR BMP, provides a strong foundation for continued monitoring network optimization in subsequent evaluation periods.

SECTION 6: GSA AUTHORITIES AND ENFORCEMENT ACTIONS

6.1 GSA Authorities

The SVGMD was established in 1980 and has been monitoring groundwater extraction from high-capacity wells since 1989. SVGMD submitted notification to DWR in 2017 to become the exclusive GSA for the portion of the Subbasin within the District's statutory boundary, becoming the Subbasin's lead GSA. Plumas County serves as the GSA for a small portion of the valley in the northwest corner of the basin. The coordination of the two GSAs is described in detail in Section 7.3.1. There have been no changes to the organizational structure or governance of either GSA since GSP adoption in January 2022.

Since GSP adoption, SVGMD has exercised its established authorities to advance GW sustainability across all components of the GSP's Projects and Management Actions. SVGMD's existing well metering program has continued to provide the data foundation for GW management, and the District has applied its well permit ordinances to prevent new high-capacity wells in restricted areas. SVGMD secured and complied with temporary diversion permits from the SWRCB to support MAR demonstration projects, including 180-day temporary permits issued in 2023 and 2024 and a subsequent 5-year temporary permit issued in 2025, demonstrating the District's ability to pursue new regulatory pathways in support of its sustainability goal. The District also leveraged DWR SGMA Implementation Grant funding to advance Tier I and Tier II PMAs including irrigation efficiency improvements, monitoring network expansion, well inventory completion, and hydrologic model updates. These actions collectively demonstrate that SVGMD's existing authorities, combined with proactive use of state grant programs and regulatory processes, are enabling meaningful progress toward the basin's sustainability goal. SVGMD confirmed it has not undertaken activities specifically related to Senate Bill 552 or other non-SGMA regulations during the evaluation period.

6.2 Enforcement Actions

No formal enforcement or legal actions were taken by SVGMD against GW users during the evaluation period. GW conditions during this period did not trigger any enforcement provisions under the GSP, and no changes to SVGMD's enforcement authorities or mechanisms have been made since GSP adoption.

6.3 Other Applicable Policies and Regulations

MAR project permitting was facilitated in part by Governor's EO N-7-22, which streamlined CEQA review for water recharge projects meeting specified criteria. SVGMD's MAR demonstration projects qualify under that EO, and no independent CEQA review was required for the recharge infrastructure constructed during the evaluation period.

Ordinance 18-01, governing requirements for new water well permits, was amended in May 2021 and again in March 2024, with the March 2024 amendment aligning the ordinance with Executive Order N-7-22's well permitting requirements, adopting formal well evaluation procedures, and updating provisions for exempt and inactive wells, as described in Section 0; the amendment's municipal water agency exemption language was the subject of a formal inquiry from the City of Loyalton in January 2026, also described in Section 0. Annual management charge and large capacity well management charge ordinances and resolutions were adopted each fiscal year during the evaluation period as routine continuations of the District's existing fee authority.

Several other statewide executive orders addressing drought response and groundwater recharge were issued during the evaluation period, including EO N-3-23 (February 13, 2023), EO N-4-23 (March 10, 2023), and EO N-16-25 (January 31, 2025). None of these orders were the basis for any SVGMD permitting, CEQA, or implementation action. SVGMD's recharge program relied on standard SWRCB

temporary diversion permitting and the EO N-7-22 CEQA exemption described above throughout the evaluation period. Additional recharge infrastructure constructed under EO N-7-22's CEQA exemption during this period includes the Griffin, Potter, and Staverville Creek structures, described in Section 3.2.3. No other new executive orders or external regulatory requirements affecting GSP implementation were identified through WY 2026.

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SECTION 7: OUTREACH, ENGAGEMENT, AND COORDINATION WITH OTHER AGENCIES

7.1 Outreach and Engagement

SVGMD conducted focused outreach throughout the evaluation period targeting three primary audiences: agricultural irrigators who may participate in irrigation efficiency and MAR demonstration projects; domestic well owners who can contribute to the voluntary monitoring network; and the broader public to maintain awareness of GSP implementation progress. Outreach methods included direct landowner contact, community workshops, board meeting presentations, and a public booth at the regional county fair.

Initial outreach to irrigators in May 2024 focused on communicating opportunities provided by DWR grant funding to improve on-farm irrigation efficiency and to participate in GW recharge demonstration projects. Follow-up outreach in November 2024 reached ranchers who had not been contacted previously. Three community workshops were held during the evaluation period: May 20, 2024; November 18, 2024; and March 31, 2025. The first two workshops occurred during the non-irrigation season when farmers had additional time, and SVGMD considers all irrigators in the valley to have been made aware of the available project opportunities as a result of these efforts. Farm assessment summaries and project status updates were also presented at monthly SVGMD Board meetings throughout the evaluation period.

As part of the outreach effort, SVGMD and the GSA team staffed an informational booth at the Plumas-Sierra County Fair in Quincy, California from July 24–27, 2025. The booth was staffed by the project facilitator and the technical team project manager. Approximately 150 people stopped by the booth, generating approximately 75 conversations, of which roughly 20 were in-depth discussions. Topics included the MAR demonstration projects, irrigation efficiency improvement opportunities, and the volunteer well monitoring program. Attendees expressed interest in applying lessons from Sierra Valley to other nearby areas, learning more about local water quality, volunteering for the monitoring network, and connecting with local school curriculum. The fair outreach was also used to identify well owners willing to have their wells instrumented in areas with monitoring data gaps.

To support the volunteer groundwater level monitoring program (see Section 0), two Eno-Scientific Well Watch Water Level Metering Devices were purchased and made available for free checkout at the Sierra County library. An instructional guide (*Volunteer Monitoring Program: A Guide to Measuring Depth to Groundwater*) and a flyer were prepared and distributed locally. The Sierra County Environmental Health Department was notified of the program. As of the time of this Periodic Evaluation draft, coordination with SVGMD and outreach to interested well owners is ongoing.

Outreach activities have been effective in identifying willing participants for both the irrigation efficiency demonstration project and the MAR program. The three workshops and ongoing Board meeting updates have ensured that the agricultural community has been regularly informed about project progress and opportunities. All announcements are posted on the SVGMD website (sierravalleygmd.org) and distributed via the SVGMD listserv to interested parties. The outreach methods described in the GSP remain relevant to implementation and are being actively maintained and updated as new project opportunities arise. One historical concern regarding water-supply impacts attributed to nearby agricultural wells was raised during a Board meeting and is documented in Table 7-1. No other concerns regarding impacts to water supply or beneficial use have been identified through SVGMD's outreach and engagement activities during the evaluation period.

A joint Technical Advisory Committee (TAC) and community stakeholder meeting was held on February 9, 2026, ahead of that month's regular Board meeting, providing an update on SGMA requirements, GSP

development, and completed Projects and Management Actions to attendees. The District also submitted an application to return to the Plumas-Sierra County Fair for a second consecutive year in 2026.

7.1.1 Comments and Responses

SVGMD engages the public on GSP implementation progress through its regular monthly Board meetings, which are open to the public and noticed to all interested parties on the District's listserv. The draft PE will be presented at a public Board meeting prior to final submission, allowing members of the public and advisory committee members to provide oral comments at the meeting or submit written comments directly to the District.

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Table 7-1. Comments and Responses

Comment ID	Comment	GSA Response	Implemented Changes
1.1	Diversions under T033461 should not be permitted unless a reasonable minimum flow is preserved at the points of diversion.	The application established diversion thresholds using the 90/20 Method, diverting only the top tenth percentile of daily flows and capping diversions at 20% of daily flows. The Nature Conservancy's Natural Flows database confirmed that permit thresholds are protective of baseflow even relative to unimpaired conditions. The permit also requires that Lake Oroville be full or spilling and the Delta be in an excess condition before any diversion is authorized.	No change to permit terms. Diversion thresholds established through the 90/20 Method were retained as sufficiently protective of minimum flows.
1.2	Cumulative environmental impacts of repeated temporary permits could be deleterious to surface waters. The Board should cap the number of temporary permits without a pending standard permit application.	This is the first temporary permit filed by the applicant for these streams. The permit includes a term requiring the permittee to state intentions to continue the project and, if long-term diversion is planned, to file and diligently pursue a standard water right application.	No change to permit terms. Permittee acknowledged obligation to pursue standard permit if long-term diversion is intended.
2.1	Trout Unlimited was not notified within a reasonable time during the noticing period to offer comment.	The Board posted the notice on its website with GovDelivery electronic notification on October 25, 2024, and mailed the notice as required to interested parties including Trout Unlimited. The notice was also published in the Sierra Booster on November 7, 2024. Unlike 5-year temporary permits, 180-day permit noticing requirements do not require notification to the GSA's interested parties list. Trout Unlimited was encouraged to work directly with SVGMD to stay apprised of future projects.	No change to permit terms. SVGMD committed to ongoing coordination with Trout Unlimited through the SVGMD listserv.
3.1	Dotta Ranch, LLC was not listed in the owner information for the permit, despite owning land at the point of diversion on NLLC.	On January 14, 2025, after consulting with the District, Division staff corrected application T033461 to add Dotta Ranch, LLC as a landowner participating in the project. Revised application and updated party contact information is available through eWRIMS.	Application T033461 was corrected to include Dotta Ranch, LLC as a participating landowner.

Comment ID	Comment	GSA Response	Implemented Changes
4.1	LCCWD requested that diversion from Little Last Chance Creek only take place between December 1 and March 14.	The Sierra Valley Watermaster confirmed that the adjudicated watermaster season begins April 1, running through December 31. Because the application did not account for adjudicated rights between December 1 and December 31, the diversion season at POD 1 was limited to January 1 through March 14.	Diversion season at POD 1 revised to January 1–March 14 through Terms 5T and 0360401. District concurred.
4.2	LCCWD stated that the District should not expect additional release of water from Frenchman's Reservoir to serve the temporary permit.	The temporary permit does not have bearing on the operation of Frenchman's Reservoir and is not contingent upon changes to reservoir release operations.	No change. Permit confirmed to have no bearing on Frenchman's Reservoir operations.
4.3	LCCWD asked that Little Last Chance Lake be at "full" conditions before any water is diverted.	The District coordinated with LCCWD and identified a contact to confirm lake conditions prior to any diversion. Term 0360401 was added to memorialize this requirement.	Term 0360401 added requiring District to confirm Little Last Chance Lake is full at time of any diversion at POD 1.
4.4	LCCWD requested that a minimum flow of 2 cfs be moving through North Creek Weir during any diversion.	Term 0360401 was revised to require that at least 2 cfs of flow is bypassed at POD 1 at the time of diversion, as measured at the LLN gage.	Term 0360401 revised to require 2 cfs bypass at POD 1 during all diversion events.
5.1	Tom Dotta submitted written comment by email on February 6, 2025, expressing general support for the District's recharge efforts but urging SVGMD to pursue larger scale, better planned recharge opportunities using currently unused water rights, including the Smithneck Creek watershed, the Plazola pond right, and the former mill pond right.	The comment was read into the public record at the February 10, 2025 Board meeting; no formal written response was documented.	None directly attributable to this comment, though the recharge program was subsequently expanded to include additional Smithneck and Staverville area sites during 2025.
6.1	Jim Swann (public comment, July 18, 2022 Board meeting) described property and water-supply impacts he attributes to two nearby agricultural wells installed roughly 25 years earlier.	The comment was read into the public record; no formal written response. Water-use figures cited were disputed in discussion by Directory Roberti.	None.

Comment ID	Comment	GSA Response	Implemented Changes
6.2	Jim Swann (public comment, August 15, 2022 Board meeting) described his own ditch, culvert, and board-based recharge practices and encouraged SVGMD to coordinate with the road department on similar infiltration/recharge practices.	The comment was read into the public record; no formal written response.	None.

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7.2 GSA Boards

The SVGMD Board of Directors meets monthly on the third Monday of each month. The Board consists of seven members: elected Supervisors and appointees of both Sierra and Plumas Counties. Of the seven members, one is a Plumas County Supervisor and two others are appointed by Plumas County. Board seats are allocated by appointing jurisdiction, Sierra County, Plumas County, and one District at large seat, rather than by stakeholder sector or interest group. One Sierra County appointee seat became vacant in December 2023 following a Director's resignation; a sitting Director was appointed Vice Chair to fill that leadership role in the interim until a new seat was sworn in on March 18, 2024. Board meeting agendas are publicly noticed and distributed via email to the SVGMD interested parties listserv. Meeting materials and minutes are posted publicly at sierravalleygmd.org/board-meetings. All Board meetings are open to the public.

A Planning Committee, consisting of SVGMD and Plumas County staff, the DWR grant manager, and the consultant team, meets prior to each monthly Board meeting to review GSA actions and develop the Board agenda. This committee serves as the primary coordination mechanism for ongoing GSP implementation activities.

During GSP development, SVGMD held monthly Board meetings and the TAC met on a similarly regular basis to support drafting and review of the GSP, from the TAC's first meeting on November 2, 2020 through its final GSP development phase meeting on April 18, 2022. Per its November 2, 2020 roster, TAC membership represented agricultural uses, water quality, land use, human right to water and domestic water uses, environmental and ecosystem uses, integrated regional water management, soils and subsidence, and GW and public works interests. Both GSAs, SVGMD and Plumas County, participated directly. The DWR and CDFW participated as ex-officio members. Since GSP adoption, the TAC has functioned as an as-needed outreach and engagement tool rather than a standing committee. It held no further meetings until February 9, 2026, when a TAC and community stakeholder meeting was convened ahead of that day's special Board meeting to report on GSP Implementation progress and gather stakeholder input ahead of this PE.

SVGMD's Board of Directors has held a Board meeting in every month since GSP submittal with one exception: the January 2024 regular meeting was canceled due to a Martin Luther King Jr. holiday scheduling conflict, and no meeting was held that month. Approximately 60 Board meetings (regular and special) were held during the evaluation period, with additional meetings expected before final PE submission in January 2027.

Table 7-2 summarizes special Board meetings, TAC meetings, and other advisory, ad hoc, and inter-agency coordination meetings held since GSP adoption (January 17, 2022). Comparable special Board meetings and regular TAC meetings were also held throughout the GSP development period (2020 through early 2022) to support Plan drafting but are not listed here because they fall outside this Periodic Evaluation's evaluation period.

Table 7-2 List of special board meetings, TAC meetings, and other advisory/coordination meetings since GSP adoption

Date	Meeting Type	Description
2022-02-03	Planning Committee	GSP submission and implementation status; annual report planning
2022-02-28	TAC Meeting	DWR subsidence report, annual report approach, AEM survey timeline
2022-03-14	Planning Committee	Public-comment posting; Implementation MOU concept first raised
2022-04-07	Planning Committee	Category D reimbursement forms; Ad Hoc session preparation
2022-04-18	TAC Meeting (Final)	Final TAC meeting of the GSP-development phase, held same day as the April Board meeting; exit survey given to members
2022-04-18	Ad Hoc Meeting (Outreach/Subsidence Monitoring)	Held same day as the April Board meeting
2022-06-02	Planning Committee	First of two June sessions
2022-06-13	Planning Committee	Second of two June sessions; GSP Implementation MOU discussed
2022-06 (exact date not available)	Finance Committee	FY2022-23 budget discussion
2022-07-07	Planning Committee	Held immediately after the GDE Ad Hoc session, same day
2022-07-07	Ad Hoc Meeting (GDE Monitoring)	Coordinated with TAC members; emailed to interested parties
2022-08-04	Planning Committee	PMA subcommittee spreadsheet preparation
2022-09-09	Ad Hoc Committee (SGMA Implementation Grant Subcommittee)	Implementation grant priorities
2022-10-06	Technical Team Working Session	PMA considerations for increased water supply
2022-10-13	Planning Committee	DMS reporting, Category D reports, DWR Round 2 grant
2022-11-03	Planning Committee	Data management, Category D deliverables
2022-12-08	Special Board Meeting	LWA annual-report presentation; Agri-Lines LEPA contract discussion (no quorum to vote)
2023-01-05	Planning Committee	SGMA Implementation Grant timeline; RFQ approach discussed
2023-02-02	Planning Committee	Implementation grant timeline; RFQ planning for consultant vendors
2023-03-02	Planning Committee	GSP Annual Report edits; website updates; RFQ schedule for Round 2 grant
2023-04-06	Planning Committee	Implementation activities/funding; CDFW concept-proposal follow-up; small-GSA coalition funding effort

Date	Meeting Type	Description
2023-05-04	Planning Committee	DMS draft well report; DWR EO N-7-22 survey response; funding discussions
2023-05-15	Ad Hoc Committee (SOQ Review Subcommittee/Evaluation Panel)	Reviewed consultant SOQ submissions June-August 2023; recommended 3 qualified firms to the Board
2023-06-01	Planning Committee	Administration/funding focus; SOQ review in progress
2023-07-06	Planning Committee	SOQ panel finalizing recommendations; DWR monitoring well siting; recharge permit documentation
2023-07/08 (exact dates not available)	Ad Hoc Committee (CDFW Grant Subcommittee)	Met twice to revise CDFW grant agreement language
2023-08-03	Planning Committee	Qualified vendor list finalized; purchasing policy changes; GSP approval/corrective-actions summary
2023-09-07	Planning Committee	Purchasing policy amendments; grant application updates; WY2023 annual report preparation
2023-11-01	Planning Committee	Purchasing policy revisions; Annual Report/permit contracting; DWR Round 2 grant status
2023-11-13	Inter-Agency Forum (Plumas Watershed Funding Forum)	SVGMD funding proposal reviewed and amended
2023-11-20	Ad Hoc Committee (Meadow Edge Park Well-Permit Policy)	Reported findings to the Board December 18, 2023
2023-12-07	Planning Committee	DWR Round 2 grant agreement comments; CDFW grant contracting; well ordinance ad hoc committee proposed
2024-02-01	Planning Committee (Final)	Last Planning Committee update given as a standing Board-meeting agenda item; the item was discontinued March 18, 2024
2024-02-19	Special Board Meeting	Discussion-only session on active/inactive large-capacity well policy; no votes taken
2024-03-18	Special Board Meeting	Continued well-policy discussion; well application revision approved
2024-04-04	Special Board Meeting	Well permit review and irrigation efficiency implementation discussion scheduled; no minutes were located for this meeting
2024-05-20	Special Board Meeting	"Efficient Water Management for Forage Crops" public workshop; no Board business conducted
2024-08-14	Inter-Agency Meeting	SVGMD representative met with Plumas County regarding a potential Lake Davis-Frenchman Lake water transfer opportunity
2024-08-19	Ad Hoc Committee (Irrigation Efficiency)	Formed to oversee equipment selection and grant compliance for irrigation efficiency projects

Date	Meeting Type	Description
2024-11-18	Public Workshop (Ag Irrigation Efficiency / Irrigators Workshop)	Held immediately following the regular November Board meeting; topics included on-farm efficiency and remote sensing/climatic data
2025 (individual dates not available)	Ad Hoc Committee (Irrigation Efficiency, continuing)	Continued through 2025 to prioritize equipment purchases and review vendor quotes/invoices ahead of Board approval
2025-03-31	Public Workshop (Board Irrigator's Workshop)	Zoom-available community workshop
2025-04/05 (exact date not available)	Ad Hoc Committee (SOQ - Irrigation Efficiency Equipment Vendors)	Reviewed vendor SOQ submissions; recommended a 5-vendor on-call list adopted by the Board May 9, 2025
2025-05-09	Special Board Meeting	On-call list of qualified irrigation efficiency vendors/contractors approved
2026-02-09	Special Board Meeting	Held immediately after the same-day TAC/community stakeholder meeting; DWR grant Component 4 (irrigation efficiency) results reported
2026-02-09	TAC/Community Stakeholder Meeting	GSP Implementation update to stakeholders on SGMA requirements, GSP development history, and completed Projects and Management Actions under the DWR implementation grant
2026-02-19	Inter-Agency Coordination Call (Drought Contingency Planning)	Coordination call with Sierra and Plumas County environmental health/planning staff on domestic well tracking, the District's well-sounder loaner program, and related outreach

7.3 Coordination with Other Agencies

7.3.1 Coordination Between GSAs in the Basin

SVGMD is the lead GSA in the Sierra Valley Subbasin, formed as a joint powers agency between Plumas County and Sierra County under special act legislation (SB 1391, 1980). Plumas County is the GSA for a small portion of the valley in the northwest corner. Even so, Plumas County participates in SVGMD's governance and coordination directly, through a Plumas County Board Supervisor and two additional Plumas County appointees serving on the SVGMD Board, and through the Plumas County Planning Director's participation in the monthly Planning Committee meetings that inform GSP-related decisions. No changes have been made to the GSA Coordination Agreement since GSP submittal in January 2022. No formal reassessment was conducted during the evaluation period; however, the agreement was reviewed to confirm its continued validity and applicability, and each participating party informally confirmed the agreement remains active.

7.3.2 Coordination with Other Agencies

SVGMD coordinates regularly with a range of local, state, tribal, and federal entities on matters related to GSP implementation.

At the local level, the LCCWD is included on the SVGMD listserv and participates in coordination related to MAR projects along Little Last Chance Creek, including evaluation of flow conditions and protection of adjudicated water rights during diversion seasons. The Feather River Land Trust and Trout Unlimited are also included on the SVGMD listserv and receive Board meeting notices and other announcements. SVGMD also reports to the Plumas Watershed Forum, which has provided grant funding for GSP implementation activities. Coordination with Sierra County and Plumas County environmental health and planning departments occurred as part of the well inventory component, including requests for paper well permit and septic records for parcels without digitally available well completion reports. SVGMD also coordinated with Plumas County and Sierra County in 2024 on drought resiliency planning, including a joint meeting held in September 2024 in connection with Plumas County's Senate Bill 552 Drought Resiliency Plan.

At the state level, SVGMD reports regularly to DWR and CDFW, both of which have provided grant funding for GSP implementation activities. Coordination with CDFW and the SWRCB was required in connection with temporary diversion permit applications for MAR demonstration projects along Little Last Chance Creek and Staverville Creek. SVGMD worked directly with SWRCB staff and regional water masters to ensure all permit conditions were protective of downstream water rights, including those associated with Oroville Dam operations. SVGMD continues to work with the SWRCB regarding recharge reporting and other diversion permit requirements.

No federally recognized tribal lands lie within the SVGMD boundary. Formal notice was provided to Tribes with traditional lands, cultural places, or cultural-resource knowledge in the area as part of the GSP's 90-Day Notice to Adopt process (September 2021), with Plumas County serving as the primary point of contact for tribal engagement per the GSP-development grant scope of work. No tribal coordination activity has been identified since GSP submittal.

At the federal level, the U.S. Forest Service (Plumas National Forest) participated as a TAC member through GSP development and submitted formal comment on the draft GSP. No coordination with USFS, BLM, USFWS, or other federal agencies has been identified since GSP submittal.

SECTION 8: OTHER INFORMATION

8.1 Consideration of Adjacent Basins

The Chilcoat Subbasin (DWR Basin No. 5-012.02) is the only adjacent groundwater basin believed to have a significant hydrogeologic connection to the Sierra Valley Subbasin, consistent with the Department's Recommended Corrective Action 2 (Section 4.2.5). The Chilcoat Subbasin is a low-priority basin not subject to SGMA, but it falls within SVGMD's jurisdictional boundary, and no hydrogeologic flow barrier between the two subbasins was identified during GSP development. As described in Section 4.2.5, SVGMD continues to use Chilcoat monitoring data for basin-scale hydrogeologic purposes, including groundwater contour mapping, regional gradient evaluation, and model calibration. For purposes of evaluating groundwater conditions and sustainability performance within the Sierra Valley Subbasin specifically, the District is working to distinguish Chilcoat monitoring points from Sierra Valley monitoring points, including evaluating whether Chilcoat wells should remain in the Sierra Valley RMP network or instead be retained solely as basin-boundary and model-calibration wells, as discussed further in Section 4.2.5. Chilcoat Subbasin (DWR Basin No. 5-012.02) is the only adjacent GW basin believed to have a significant hydrogeologic connection to the Sierra Valley Subbasin. The Chilcoat Subbasin is a low-priority basin not subject to SGMA, but it falls within SVGMD's jurisdictional boundary. Although the two subbasins are designated separately for SGMA purposes, no hydrogeologic flow barrier between them was identified during GSP development. SVGMD applies its GW management activities consistently across its entire jurisdictional area, including the portion overlying the Chilcoat Subbasin, and does not differentiate operationally between the two subbasins in its monitoring, reporting, or management activities except for the purposes of SGMA implementation and reporting.

The basin's other surrounding GW basins were assessed as part of the original GSP's basin-setting evaluation and found not to have a significant hydrogeologic connection to the Sierra Valley Subbasin. That assessment has not changed during this evaluation period. Projects and Management Actions implemented during the evaluation period have not adversely affected any adjacent basin's ability to achieve its sustainability goal. PMAs are designed with protections for downstream and adjacent users of GW and surface water, and no adverse inter-basin impacts have been identified.

8.2 Challenges Not Previously Discussed

Technical and data-related challenges identified during the evaluation period are addressed in Section 5: of this Periodic Evaluation. The primary challenge not discussed elsewhere is long-term funding sustainability.

Funding sustainability is among the most significant long-term challenges for SVGMD's GSP implementation program. Like many rural groundwater sustainability agencies, SVGMD has a limited rate base and modest operating revenues. The District's current budget supports annual reporting and monitoring activities, but capital investments, including new monitoring wells, MAR infrastructure maintenance, and irrigation efficiency programs, have relied heavily on DWR SGMA Implementation Grant funding, which concluded on March 31, 2026 after funding the majority of the District's monitoring network expansion, well inventory update, hydrologic model updates, and pilot recharge and irrigation efficiency projects. Invoice reimbursement delays of up to three months during the final year of the grant created short-term cash flow pressure, and the District explored bridge loan options with a local bank as a contingency. SVGMD's annual management charge and large capacity well management charge renewals are covered in Section 6.3. These renewals follow the routine Proposition 218 public hearing process required for each. No new or expanded Proposition 218 funding mechanisms have been pursued during the evaluation period.

To sustain implementation activity following the grant's conclusion, SVGMD applied in 2026 for WaterSMART grant funding from the Bureau of Reclamation for recharge project improvements and

continued GSP compliance work and submitted a concept proposal for a SWEEP block grant from the California Department of Food and Agriculture to fund further on-farm irrigation efficiency improvements. The District also joined the Small GSA Coalition effective January 1, 2026, to pursue Proposition 4 funding available to small GSAs for administration, reporting, and monitoring costs, at an estimated annual cost of no more than \$6,000. Remaining committed funding outside the concluded DWR grant includes CDFW funding through March 2027 and Plumas Watershed Forum funding through December 2026.

8.3 Legal Challenges

No legal challenges to the Sierra Valley GSP or its implementation have been filed or are pending as of the preparation of this Periodic Evaluation draft. Four objections were received during the public notice period for Temporary Permit 21468 (October–November 2024); all four were resolved through coordination with SVGMD and LCCWD prior to permit issuance, as described in Table 7-1. No objections were received during the public notice period for Temporary Permit 21475 (July 2025).

SECTION 9: SUMMARY OF PROPOSED OR COMPLETED REVISIONS TO PLAN ELEMENTS

9.1 Summary

This Periodic Evaluation (PE) covers the first five-year evaluation period for the Sierra Valley Groundwater Sustainability Plan (GSP), from WY2021 through WY2025. During the evaluation period, no URs were determined to have occurred for any sustainability indicator. Groundwater (GW) conditions reflected the influence of variable hydrology, with measurable stress during the critically dry years of WY2021–2022 followed by substantial recovery during wet WY2023 and stabilization in WY2024. No chronic declining trend in GW storage was established during the evaluation period.

Tier I and Tier II PMAs progressed substantially during the evaluation period. California Department of Water Resources (DWR) Sustainable Groundwater Management Act (SGMA) Implementation Grant funding supported completion of the well inventory update, improvements to the Sierra Valley Hydrogeologic System Model (SVHSM), significant expansion of the monitoring network, construction of Managed Aquifer Recharge (MAR) demonstration infrastructure at two creek systems, and initiation of the agricultural irrigation efficiency demonstration project. No Plan Amendments are proposed at this time, as new information collected during the evaluation period does not require material changes to the GSP's Sustainable Management Criteria (SMC), sustainability goal, or Representative Monitoring Point (RMP) network.

Through WY2026 to date, cumulative MAR volume across the four constructed sites totals approximately 130 acre-feet (AF), achieved during the first operational season under the five-year temporary diversion permit. The irrigation efficiency program achieved an estimated 400 to 470 AF per year in reduced GW pumping. The DWR SGMA Implementation Grant that funded the majority of these efforts concluded March 31, 2026. Based on this complete record, no Plan Amendment is warranted.

9.2 Next Steps

SVGMD will use the findings of this PE to guide GSP implementation in the next evaluation period. Ongoing Tier I activities, including well metering, monitoring and reporting, data management and modeling, education and outreach, well permit ordinance administration, water reuse, and the Sierra Brooks-Smithneck wildland urban interface fuels reduction project, will continue without interruption. Tier II projects initiated during this evaluation period, including the agricultural irrigation efficiency demonstration project, the MAR and in-lieu recharge programs, and the well inventory program, will continue into the next evaluation period. The well inventory's core expansion work is now complete. Remaining activity is limited to adding well completion reports to the Data Management System as they become available and continued outreach to encourage voluntary well monitoring participation. The irrigation efficiency program and both recharge programs are still in their early monitoring phases and will continue to collect data to assess realized water savings and recharge benefits over time.

Tier II PMAs identified in the GSP but not yet initiated, including off-stream storage, drought mitigation and planning, a formal water conservation program, GW trading and allocation, watershed and upland management and restoration, voluntary managed land repurposing, post-fire hydrology assessment, and climate change impact assessment, will be re-evaluated at the start of the next evaluation period to determine whether basin conditions, available resources, or new partnership opportunities support their advancement.

Hydrologic model updates will continue as a priority activity. The PRMS and MODFLOW recalibration completed during this evaluation period corrected climate-forcing parameters and converted MFR from a static long-term average to a transient, climate-responsive input, positioning the model to run future climate change scenarios once funding is identified to support that analysis, consistent with the Climate

Change Impact Assessment PMA described above. Continued model refinement will depend on closing specific monitoring gaps identified during this update: additional or upgraded climate stations to reduce reliance on interpolated and modeled precipitation and temperature data, expanded high-elevation monitoring of precipitation and snow water equivalent, additional stream gage sites with longer continuous records, and expanded GW level monitoring near the boundary between the upper watershed and the GW basin to better constrain MFR estimates.

SVGMD will continue to pursue grant funding and evaluate available mechanisms to sustain GSA operations and GSP implementation activities, as discussed in Section 8.2. Funding sustainability remains a key challenge for the District, particularly following the conclusion of the DWR SGMA Implementation Grant on March 31, 2026. Securing continued support for capital programs, monitoring network enhancements, and modeling work will be a priority in the coming years. As discussed in Section 5.6, the pace and sequencing of future monitoring network improvements will likewise depend on the amount and terms of funding secured in upcoming grant cycles.

9.3 Proposed Plan Amendments

No Plan Amendments are proposed in connection with this PE. All new information collected during the evaluation period has been assessed and determined not to require material changes to the GSP's SMC, sustainability goal, RMP network, or Projects and Management Actions. This determination will be revisited prior to final PE submission to confirm it remains valid based on the complete five-year record.

REFERENCES

Sierra Valley Project Deliverables (Technical Memos and Reports)

SVGMD. 2026. *Monitoring Network Expansion and Data Gaps Technical Memorandum* (Grant Agreement 4600015875, Deliverable 2.d). February 18, 2026.

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