



**Sierra Valley
Groundwater
Management District**



**Sierra Valley Groundwater Management District
and
County of Plumas
Groundwater Sustainability Agencies**

**GRANT COMPLETION REPORT
SIERRA VALLEY SUBBASIN
(DWR SUBBASIN NO. 5-012.01)**

FINAL

December 30, 2022

**Department of Water Resources of the State of California (DWR)
Agreement No. 4600013595**

**Sustainable Groundwater Management Grant
Groundwater Sustainability Plan**

PROLOGUE

In 2014, Governor Brown signed into law a package of bills (Senate Bill 1168, Senate Bill 1319, and Assembly Bill 1739) collectively called the Sustainable Groundwater Management Act (SGMA). The intent of SGMA is to create a “framework for sustainable groundwater management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.” The Sierra Valley Subbasin (DWR Subbasin No. 5-012.01) is a medium-priority basin. A Memorandum of Understanding (MOU) was made and entered into on January 8, 2019, by and between the Sierra Valley Groundwater Management District (SVGMD) and the County of Plumas (Plumas County) to establish and facilitate a cooperative and ongoing working relationship between the County and the SVGMD, as Groundwater Sustainability Agencies (GSAs), to develop a single Sierra Valley Subbasin Groundwater Sustainability Plan (GSP). The MOU is included as Appendix 1-2 in the GSP.

Purpose

The purpose of the GSP is to ensure that “sustainable groundwater management” in the Sierra Valley Subbasin is achieved by 2042 and maintained at least until 2072. Sustainable groundwater management is the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing “undesirable results.” Undesirable results, as they pertain to Sierra Valley, are defined by SGMA as one or more of the following effects caused by groundwater conditions occurring throughout a groundwater basin:

1. Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.
2. Significant and unreasonable reduction of groundwater storage.
3. Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
4. Significant and unreasonable land subsidence that substantially interferes with surface land uses.
5. Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

Sustainability Goal

As required by SGMA, a Sustainability Goal must be developed to fulfill the regulations and culminate in the absence of undesirable results within the next 20 years.

The overarching Sustainability Goal developed under the grant for groundwater management in the Sierra Valley Subbasin is:

To manage groundwater resources in a manner that best supports the long-term health of the people, the environment, and the economy of Sierra Valley into the future by avoiding significant and unreasonable impacts to environmental, domestic, agricultural, and industrial beneficial uses and users of groundwater.

The purpose of this goal is to avoid significant and unreasonable impacts to the environmental, agricultural, domestic, industrial, and community beneficial uses and users of groundwater in Sierra Valley. The sustainability goal incorporates managing groundwater conditions for each of the applicable sustainability indicators in the Subbasin so that:

- Groundwater elevations and groundwater storage do not significantly decline below their historically measured range (i.e., January 2015 levels), thereby protecting the existing well infrastructure from impacts, protecting groundwater-dependent ecosystems, and avoiding significant streamflow depletion due to groundwater pumping.
- Groundwater quality is suitable for the beneficial uses in the Subbasin and is not significantly or unreasonably degraded.
- Significant and unreasonable land subsidence is prevented in the Subbasin. Infrastructure (e.g., roads, foundations, water conveyances, and well casings) and agriculture production in the Subbasin remain safe from land subsidence.
- Significant and undesirable depletions of interconnected surface water (ISW) due to groundwater pumping are avoided by arresting hydraulic gradients near ISW and through projects and management actions that bolster groundwater levels.
- The GSA groundwater management is effectively integrated with other watershed and land use planning activities through collaborations and partnerships with local, state, and federal agencies, private landowners, and other organizations, to achieve the broader “watershed goal” of adequate groundwater recharge and sufficient surface water flows to sustain healthy ecosystem functions.

The Sustainability Goal will be achieved by quantifying and minimizing potential impacts. Scientifically informed Sustainable Management Criteria (SMC) will continue to be developed to avoid significant and unreasonable impacts to beneficial uses and users of groundwater (GSP Chapter 3). The GSAs will implement projects and management actions, monitor SMCs, and iteratively refine the GSP so that the Sustainability Goal is achieved. Monitoring the sustainability indicators (i.e., groundwater level and storage, ISW, groundwater quality, and land subsidence) is fundamental to measure GSP progress, and groundwater also land subsidence, in conjunction with land surface elevation measurements. Groundwater quality is proposed to be monitored through the concentration of selected constituents and water quality parameters.

EXECUTIVE SUMMARY

The SVGMD was awarded \$2M in Proposition 68 grant funding to support development and beginning implementation steps of the GSP for the Sierra Valley Subbasin on behalf of the GSAs (SVGMD and Plumas County). DWR Grant Agreement No. 4600013595 was executed by and between DRW and the SVGMD on May 13, 2020.

SVGMD Purchasing Policy

The SVGMD contracted with other entities with funds provided by the State under this Grant Agreement. The SVGMD developed and adopted a Purchasing Policy (Resolution No. 21-06) on May 18, 2020, with an adopted amendment on October 29, 2021, to ensure a written policy was in place to award contracts through an informal or formal competitive bidding process or sole source exemption. Pursuant to the Grant Agreement terms, contracts were in writing and complied with all applicable laws and regulations regarding contracting for goods, bid policies and procedures, the securing of contractors, and construction contracts for work. The Purchasing Policy is included as Appendix 1-4 in the GSP.

GSP Contractors

The SVGMD released a Request for Proposals (RFP) on May 22, 2020, in compliance with the SVGMD Purchasing Policy to solicit a contractor to assist with the grant administration, stakeholder outreach, and preparation of the GSP (Grant Agreement categories (a), (b), and (c)). A total of six eligible proposal were received. Three finalists were interviewed. On August 17, 2020, the SVGMD entered into a Professional Services Agreement with Larry Walker Associates, Inc. (LWA) to perform such professional services, including project management, technical services, and stakeholder engagement and facilitation, for the development and completion of the GSP. The LWA team also included additional contractors including DBS&A, Judie Talbot, Kennedy Jenks, Stillwater Science, and Balance Hydrologic.

Subsequently, on January 19, 2021, the SVGMD released an RFP in compliance with the SVGMD Purchasing Policy to solicit a contractor to assist with Grant agreement Category (d) Monitoring/Assessment. A total of two eligible proposals were received, one from LWA and one from McGinley & Associates. On March 15, 2021, the SVGMD entered into a Professional Services Agreement with McGinley & Associates, Inc. (McGinley) to perform professional services including technical services for the development, completion, and implementation of the GSP. The McGinley team also included additional contractors including J-U-B, US Geomatics, Hansford Economic Principal, and Schroeder Law. Additionally, the SVGMD Board approved Amendment No. 1 to the LWA Professional Services Agreement on March 15, 2021, which included adding Category (d) scope, schedule, and budget for monitoring networks and data management and to coordinate the GSP work with McGinley. As well, Amendment No. 1 to the McGinley Professional Services Agreement was executed on October 18, 2021, and included an amendment to the scope, and Amendment No. 2 to the McGinley Professional Services Agreement was executed on May 16, 2022, and included an amendment to the scope, schedule, and budget.

Also, the SVGMD Board approved Amendment No. 2 to the LWA Professional Services Agreement on August 15, 2022, which included adding Category (c) budget for work on SMCs, GDEs, and subsidence. As well, Amendment No. 3 to the LWA Professional Services Agreement was approved by the SVGMD Board on December 29, 2022, which included adding Category (d) budget for coordination with McGinley.

Further, on October 29, 2021, the SVGMD released a Notice Inviting Bid Proposals in compliance with the SVGMD Purchasing Policy for the Category (d) Flow Meter Replacement Project. On December 20, 2021, the SVGMD entered into a Construction Contract Agreement with Your H2O Pro for the Flow Meter Replacement Project work including installation of flowmeters and modifications to existing pipe and appurtenances associated with implementation of the GSP. Additionally, Amendment No. 1 to the Your H2O Pro Construction Contract Agreement was executed on May 16, 2022, and included an amendment to the scope to include LEPA Demonstration Program work, budget, and schedule. Amendment No. 2 to the Your H2O Pro Construction Contract Agreement was executed on August 15, 2022, and included the installation of one 8" flow meter at Roberti Pivot #10. Amendment No. 3 to the Your H2O Pro Construction Contract Agreement was executed on October 17, 2022, and included the installation of one 12" flow meter at DMS-12.

Also, on December 21, 2021, the SVGMD released a Notice Inviting Bid Proposals for the Category (d) Magnetic Flow Meter purchase of equipment goods as part of the Flow Meter Replacement Project. At the January 17, 2022, meeting of the SVGMD Board of Directors, TechnoFlo Systems was selected as the preferred bidder in compliance with the SVGMD Purchasing Policy.

As well, on July 22, 2022, the SVGMD released a Notice Inviting Bid Proposals for the Category (d) Irrigation Efficiency Demonstration Program – LEPA Conversion Package for the Roberti Ranch Pivot #13 purchase of irrigation system conversion equipment goods. At the August 15, 2022 meeting of the SVGMD Board of Directors, Agri-Lines Irrigation Inc. was selected as the preferred bidder in compliance with the SVGMD Purchasing Policy.

REPORTS AND/OR PRODUCTS

Work Plan

The scope approved by DWR in the Grant Agreement Work Plan for the Sierra Valley Subbasin GSP Development (Project) is as follows and was completed as described in the Work Plan (Exhibit A).

The Work Plan included activities associated with the planning, development, and preparation of a GSP for the Sierra Valley Basin. The resulting GSP incorporated appropriate Best Management Practices (BMPs) as developed by DWR and is intended to provide a more complete understanding of the groundwater subbasin to support long-term sustainable groundwater management.

- Category (a): Grant Agreement Administration – Prepared reports detailing work completed including:
 - Submittal of Environmental Information Forms (EIFs) on June 4, 2020, for Category (a), (b), and (c) [not a project as defined by CEQA] and a separate EIF form for Category (d) [a project as defined by CEQA]. Subsequently, a CEQA Notice of Exemption (NOE) was filed with the Plumas County Clerk/Recorder on May 17, 2022, for Category (d) project work.
 - Deliverable due date schedule.
 - Quarterly invoicing, progress reports, and all required backup documentation.
 - Draft and Final Grant Completion Report.
 - Awarded contracts to LWA, McGinley, Your H2O Pro, TechnoFlo Systems, and Agri-Lines Irrigation Inc.
- Category (b): Stakeholder Engagement/Outreach – Prepared and executed:
 - Communications & Engagement Plan (GSP Appendix 2-3) with revisions directed and approved by the SVGMD on December 30, 2020 and December 13, 2021.
 - Presentations and GSP updates at monthly SVGMD Board of Directors meetings, May 2020 through October 2022 or end of Grant Agreement Category (d) work.
 - Two public workshops were held in May 2021 and October 2021 to share information, invite participation, and receive feedback on GSP content. These workshops were designed to maximize opportunities for public input in advance of and during key points in the GSP process. All workshops were noticed through traditional news media, social media, posting of fliers, and the GSP Interested Parties email list. Of note, the May 2021 workshop was conducted twice on different days and times of the day to maximize public opportunities to participate. Attendance ranged from 15 to 25 participants, per workshop.
 - Tribal stakeholder outreach emails and phone calls.
 - SVGMD website maintenance to include GSP related materials, documents, meetings, workshops, and other activities.
 - Formation of a technical advisory committee (TAC) to meet monthly with the objective to review GSP materials and make recommendations to the GSAs. The TAC was comprised of individuals representing various groundwater users and stakeholder interests (i.e., Agricultural Commissioner for Plumas and Sierra Counties, City of Loyalton, Feather River Land Trust, Feather River Trout Unlimited, Hinds Engineering, Integrated Environmental Restoration Services, Plumas Audubon, Plumas County Planning Department, Plumas County Environmental Health, Sierra Brooks Water System, Sierra County Environmental Health, Sierra Valley Groundwater Management District, Sierra Valley Resource

Conservation District, Sierraville Public Utility District, UC Cooperative Extension, Upper Feather River Watershed Group (IRWM), USFS – Plumas National Forest, and USFS – Tahoe National Forest). The TAC met 17 times to address specific GSP elements. Meetings were conducted in person and virtually, and due to COVID-19, some meetings were virtual only. Typically, TAC participation ranged from 10 to 25 participants.

- An internal Planning Committee was established to track project management and ensure compliance with SGMA requirements. Members included representatives from each GSA, the technical team and the DWR SGMA liaison. The Planning Committee provided planning guidance and review of materials for TAC meetings, public workshops, informational emails to interested parties, and updates to the SVGMD Board.
- SVGMD held an Irrigators Meeting on July 18, 2021, to engage agricultural producers and owners of large-capacity wells in the basin in the GSP process. 12 of 20 identified groundwater pumpers attended and shared ideas for reducing groundwater decline, from an agricultural perspective. Participants in this meeting came up with several ideas to achieve sustainable groundwater management in the basin.
- To encourage active involvement of diverse social, cultural, and economic elements of the population within the Sierra Valley Subbasin, SVGMD used a variety of traditional and web-based communication tools to keep stakeholders informed and engaged, including:
 - Print and on-line media/newspaper announcements: Mountain Messenger; Plumas News; Sierra Booster and www.sierraville.org.
 - Outreach partners' newsletters, websites, and social media accounts.
 - GSA websites, with posting of TAC meeting minutes, materials, and recordings on the SVGMD website.
 - Interested parties email lists.
 - Posting of public workshop flyers at local establishments.
 - Distributing surveys using multiple formats: hard copies at workshops, posted as PDFs, and links to online versions.
- Category (c): GSP Development – Developed technical analysis including:
 - Adopted GSP by SVGMD on January 17, 2022, and on January 18, 2022 by the Plumas County Board of Supervisors.
 - Proof of adopted GSP submittal to DWR on January 28, 2022, via email from SGMA Portal no-reply@water.ca.gov.
 - Development of a Data Management System (DMS).

- Prepared Sierra Valley Subbasin specific hydrogeologic conceptual model (HCM) and data portal.
- Updated numerical model to analyze historical and future water budget conditions.
- Established common methods, data, and assumptions to be applied during GSP development and implementation.
- Integrated technical analyses and data evaluation to create a comprehensive GSP.

Additionally, the GSP included information such as:

- Description of Plan Area and groundwater conditions (Chapter 2)
- Hydrogeologic System Model and Water Budget (GSP Appendix 2-7)
- Well Impact Analysis (GSP Appendix 3-1)
- Historical Groundwater Levels (GSP Appendix 3-2)
- GDE/NDVI Assessment (GSP Appendix 3-3)
- Monitoring Networks (GSP Chapter 3)
- Implementation Plan (GSP Chapter 5)
- Category (d): Monitoring/Assessment – Prepared:
 - DMS Technical Memorandum (GSP Appendix 2-1).
 - Financial and Economic Resources Assessment (GSP Appendix 5-1) and estimate of GSP implementation costs.
 - Site Visit Summary Documentation for Agricultural Pump Flow Metering Program. All large-capacity agricultural well meters evaluated; a subset retrofitted or replaced; all confirmed to now be installed to specifications. GPS coordinates documented for all active large-capacity agricultural wells.
 - 2022 Monitoring Networks Expansion O&M Manual (Technical Memorandum), summarizing new equipment installations and providing guidance for monitoring, maintenance, and operation, including flow meters, four GDE monitoring sites, and four new land surface elevation (subsidence) monuments. Engineering packet with drawings, details, and specifications (i.e., Standard Operating Procedures or SOPs) is included.
 - Sierra Valley Irrigation Review and LEPA Irrigation Efficiency Demonstration Program (Technical Memorandum) summarizes existing irrigation practices in Sierra Valley and potential irrigation efficiency improvements to reduce groundwater pumping. Includes details of newly installed LEPA demonstration project at the Roberti Ranch, including guidelines for data collection.

- Review of Potential Water Supply Augmentation Projects and Management Actions (Technical Memorandum) with surface water resources overview, review of surface water resource management, and recommendations.

Specific tasks include:

- Identified, evaluated, and updated monitoring protocols.
- Compiled data and reporting standards for development of Monitoring Networks.
- Created a Groundwater Monitoring Network capable of demonstrating trends in groundwater and related conditions.
- Brought all large-capacity agricultural well meter installations up to manufacturer’s specifications.
- Created a Subsidence Network, including installation of four subsidence monuments and identification of existing elevation monuments to monitor subsidence and ascertain significant and unreasonable effects.
- Standardized Agricultural Pump Flow Metering Program.
- Created initial Groundwater Dependent Ecosystems (GDE) Monitoring Network of four shallow monitoring wells with transducers and telemetry
- Prepared landowner access agreements for subsidence monumentation and GDE network equipment and instrumentation.

Budget

The Budget (Exhibit B) was modified as follows:

- Grant Agreement Amendment No. 1 (executed July 14, 2021) moved \$75,000 from Category (a) to Category (b)

The final grant Budget is shown below:

Category	Grant Amount
(a) Grant Agreement Administration	\$125,000
(b) Stakeholder Engagement/Outreach	\$185,000
(c) GSP Development	\$905,000
(d) Monitoring/Assessment	\$785,000
Total	\$2,000,000

Schedule

The Schedule (Exhibit C) was modified as follows:

- Grant Agreement Amendment No. 2 (executed August 17, 2022) extended Category (a) end date from October 31, 2022 to December 31, 2022 and Category (d) end date from October 31, 2022 to November 30, 2022

The final grant Schedule is shown below:

Category	Start Date	End Date
(a) Grant Agreement Administration	02/03/2020	12/31/2022
(b) Stakeholder Engagement/Outreach	08/04/2020	01/31/2022
(c) GSP Development	08/04/2020	04/30/2022
(d) Monitoring/Assessment	08/04/2020	11/30/2022

Project Completed

90 Day Notice to Adopt

In accordance with SGMA, the GSAs provided a 90 Day Notice to Adopt to the cities and counties within the geographic area covered by the Sierra Valley Subbasin GSP, which stated that the GSAs intended to adopt the GSP no earlier than 90-days from the date of the notice (September 20, 2021). Such cities and counties included the City of Loyalton, County of Sierra, and County of Plumas. The GSAs also provided notice to Native American Tribes with traditional lands, cultural places, and/or knowledge of cultural resources located within the boundaries of the SVGMD and watershed. No city, county, or Tribe requested to consult with the GSAs because of the 90 Day Notice to Adopt.

Public Review Draft GSP

The Public Review Draft Sierra Valley Subbasin GSP was released for a 35-day public comment period on October 11, 2021, and ended on November 15, 2021.

The SVGMD and Plumas County Board of Supervisors, on December 20, 2021, and December 21, 2021, respectively, held public hearings discussing TAC, public, SVGMD, and County comments on the Public Review Draft GSP; and on January 10, 2022, the District held a special meeting to further discuss District comments. All public hearings were properly noticed in the local newspapers (i.e., Mountain Messenger, Plumas News, Sierra Booster).

115 comments were received from 28 comment letters. Topics of concern included outreach/engagement, groundwater dependent ecosystems, and interconnected surface water, subsidence, design, and implementation of monitoring network, data gaps, GSP implementation, demand management, GSA rate structure, water budget, climate change, tribes, and disadvantaged communities, and projects and management actions.

Appendix 2-4 of the GSP provides a comment response summary.

Adopted GSP

The SVGMD adopted the Final GSP on January 17, 2022 (Resolution No. 22-001), and on January 18, 2022, the Plumas County Board of Supervisors also adopted the GSP (Resolution No. 2022-8655). The GSP was stamped by a registered professional geologist and registered professional engineer.

The GSP, including all required elements, technical studies, and data collected was then submitted as required to DWR and uploaded to the SGMA Portal on January 28, 2022, and can be found at the link below:

<https://sgma.water.ca.gov/portal/gsp/preview/125>

75 Day DWR Public Comment Period

The 75-day DWR public comment period ended on April 23, 2022. SGVMD publicized the opportunity to comment to DWR through email lists, press releases, and on the website. A total of 19 comments were submitted during the comment period, with an additional three comments submitted after the comment period. Comments can be found on the DWR GSP SGMA Portal at:

<https://sgma.water.ca.gov/portal/gsp/comments/125>

Disadvantaged Community (DAC) and Economically Disadvantaged Area (EDA) Benefits

The SVGMD received a cost-share waiver for the development of the GSP under the Grant Agreement because the GSP serves a DAC. A DAC is defined as a community with an annual median household income (MHI) that is less than 80% of the statewide annual median household income. Using the U.S. Census American Community Survey (ACS) dataset for the years 2012-2016, 80% of the statewide MHI is \$51,026.

The entire Sierra Valley Subbasin is classified as an EDA, as follows:

- Census Tract 3 is designated a DAC in Plumas County. Census Tract 3 has median incomes at 65% at 2016 California's MHI; and
- Census Tract 100 covering Sierra County is designated a DAC. Census Tract 100 has median incomes at 69% of 2016 California's MHI.

Specific areas identified as DACs under Block Groups with DAC status cover Loyaltan, Sierra Brooks, Sattley, and Sierraville. A critical benefit to DACs is the protection of groundwater as a drinking water source through the maintenance groundwater elevations and water quality. DACs highlight groundwater's importance as a drinking water source to municipal well operators, public water systems, and all residents using groundwater for drinking water. DACs identify water quality degradation that significantly and unreasonably affects groundwater supply or suitability for use in drinking water systems as an undesirable result. These benefits are relevant EDAs because of drinking water conditions, public health, and environmental and ecological benefits. Appendix 2-6 of the GSP provides a water quality assessment with available water quality data reported to-date.

Stakeholder outreach and engagement included interested parties representing DAC communities.

No Severely Disadvantaged Community (SDAC) are identified within the Sierra Valley Subbasin.

Tribal Interaction

SGMA requires GSAs to consider the interests relating to the uses and users of groundwater. These interested parties comprise a wide range of entities including California Native American tribes (federally recognized and non-federally recognized) (Water Code Section 10723.2). While there are no Tribal Trust Land Tracts (U.S. Department of Interior, Bureau of Indian Affairs) within Sierra Valley Subbasin boundary based on information and data published by DWR, the Sierra Valley Subbasin and immediate watershed is located within California Native American traditional lands, including the Maidu, Paiute, and Washoe Tribes.

Specifically, Plumas National Forest lands along the federally designated Wild and Scenic River corridor of the Middle Fork of the Feather River, stretching from near the east end of Rocky Point Road to the western edge of the Sierra Valley basin in the Middle Fork Feather corridor, has deep and enduring cultural connections for the local Maidu, Paiute, and Washoe tribes that predate both establishment of the U.S. Forest Service and non-tribal settlement of the region. Present-day, this area includes a grazing allotment managed by Plumas National Forest ("the Ramelli Allotment"), which is the location of an irrigation water right from Big Grizzly Creek near its confluence with the Middle Fork of the Feather River.

Plumas County utilized the DWR Engagement with Tribal Governments document, which is intended to provide general guidance to GSAs regarding how and when to engage with Tribal governments. As part of DWR's guidance document, the recommended communication and engagement procedures for Tribes starts with contacting the Native American Heritage Commission (NAHC) to identify the appropriate Tribal entities for notification and engagement outreach. Additionally, Plumas County worked with a local Native American contact and the Plumas National Forest.

The NAHC was contacted by Plumas County and a list of Tribes with traditional lands or cultural places located within the SVGMD boundary, Sierra Valley Subbasin boundary, and watershed boundary was provided.

Those Tribes include:

- Estom Yumeka Maidu Tribe of the Enterprise Rancheria
- Greenville Rancheria of Maidu Indians
- Mooretown Rancheria of Maidu Indians
- Susanville Indian Rancheria
- Tsi Akim Maidu
- United Auburn Indian Community of the Auburn Rancheria
- Washoe Tribe of Nevada and California

In addition, the following Tribes were also contacted, as they may have traditional lands or cultural places or knowledge of cultural Tribal resources within the boundaries of the SVGMD, Sierra Valley Subbasin, and watershed:

- Pyramid Lake Paiute Tribe
- Reno-Sparks Indian Colony
- Mechoopda Indian Tribe
- KonKow Valley Band of Maidu
- Honey Lake Maidu

Communications by email, phone, and/or mail were made to these twelve Tribes to notify them of the SGMA Sierra Valley Subbasin GSP planning process, to invite them to participate, and to confirm that Tribal engagement is directed by individual Tribes, with interested Tribes communicating their preferred methods of contact and pathways of engagement. For example, engagement could solely be in the form of informational updates as an interested party or could be more involved with direct participation on a committee or during meetings or while attending public workshops. Follow up with individual Tribes was conducted and tailored to the specific Tribal responses received.

Remaining Work and Mechanism for Implementation

To achieve the Sustainability Goal for the Sierra Valley Subbasin by 2042, and to avoid undesirable results over the remainder of a 50-year planning horizon, as required by SGMA regulations, multiple PMAs were identified and included in the GSP (Chapter 4).

Implementation of PMAs will occur throughout implementation of the GSP.

PMAs are classified under three main categories:

1. demand management for groundwater,
2. supply augmentation, and
3. others such as enhancement of data collection and education and outreach.

Furthermore, PMAs are organized into two tiers reflective of the timeline for implementation, as explained below.

***TIER I:** Existing PMAs that are currently being implemented to provide demand management, supply augmentation, and other management actions and are anticipated to continue to be implemented, with potential new enhancements only if considered technically and economically feasible.*

- **Inventory and Metering:** SVGMD continues to maintain a list of large-capacity wells in the Sierra Valley Subbasin, including active metered wells and inactive wells. All active large-capacity agricultural wells are now and will continue to be fitted with flow meters owned and monitored by SVGMD.
- **Monitoring and Reporting:** SVGMD reads flowmeters on large-capacity agricultural wells monthly during the growing season and sounds monitoring wells for groundwater levels periodically. DWR measures groundwater levels in the Subbasin twice per year and posts results in SGMA Monitoring Network Module. The Sierra Valley Watermaster periodically collects stream flow data in the Subbasin, which is not published publicly. SVGMD continues to evaluate approaches to expanding the monitoring network, including monuments to measure subsidence and piezometers and/or shallow wells to evaluate interconnected surface water and impacts to GDEs.
- **Data Management and Modeling:** The hydrogeologic model developed as part of this project to develop the GSP will be maintained and updated to continue to assess Sierra Valley Subbasin conditions (e.g., groundwater levels and quality) to support maintenance of the criteria for all the sustainability indicators. The newly collected data will be used to implement the Sustainable Management Criteria and provide accurate records for use in the hydrogeological model. The data management system (DMS) developed for the GSP will be used to store the new data collected from the optimized monitoring network as discussed. The DMS is designed and developed to facilitate ease of management to reduce ongoing implementation costs.
- **Education and Outreach:** During implementation, stakeholder input will continue to be sought through public workshops, presentations at SVGMD Board meetings that are open to the public, posting of GSP materials on the SVGMD website and outreach through local publications.
- **SVGMD Well Permit Ordinances:** Will continue to require meters on all high-capacity wells (Ordinance 82-03), to require review of water availability for new development applications (83-01), and to restrict installation of new high-capacity agricultural wells in specific areas of the Sierra Valley Subbasin (18-01 §3a).
- **Water Reuse:** Opportunities will be explored to expand the use of treated wastewater from Loyalton WWTP and former Loyalton Mill/Co-gen plant for crop irrigation.

- **Sierra Brooks—Smithneck Wildland Urban Interface Fuels Reduction Project:** Grant-funded project to reduce heavy fuel loads through mastication, manual forest thinning, and brush abatement to improve water retention and water quality. SVGMD will explore opportunities to build on other projects in the area to increase forest resilience and resistance to destructive wildfire, disease, and insect infestation, and protect the community of, and water supply for, Sierra Brooks.

***TIER II:** The following PMAs were identified for consideration within the first five years of the GSP based on an evaluation of effectiveness, feasibility, and funding availability.*

- Agricultural Efficiency Improvements
- Well Inventory Expansion
- Reoperation of, or Adjustments to, Surface Water Supplies
- Off-stream Storage
- Drought Mitigation and Planning
- Water Conservation
- Groundwater Trading and Allocations System
- Watershed and Upland Management and Restoration
- Voluntary Managed Land Repurposing
- Groundwater Recharge / Managed Aquifer Recharge (MAR)
- Assessment of Post-fire Hydrology – Water Supply Augmentation
- Climate Change Impact Assessment

COST AND DISPOSITION OF FUNDS

The table below illustrates a summary of final funds disbursement for the GSP DWR Grant Agreement by Budget category.

Budget Category	Total Grant Award	Total Billed to Grant through December 31, 2022
(a) Grant Agreement Administration	\$125,000	\$116,272.40
(b) Stakeholder Engagement/Outreach	\$185,000	\$184,986.09
(c) GSP Development	\$905,000	\$904,945.19
(d) Monitoring/ Assessment	\$785,000	\$793,726.93
Total GSP	\$2,000,000	\$1,999,930.61

The table below summarizes the final costs and disposition of funds. Note, there was no cost sharing obligations under this Grant Agreement.

Invoice No. / Date / Quarter (Q)	Date of Invoice	Amount of Invoice	Date DWR Check was Received	Amount of DWR Check
1 / June 5, 2018 through June 30, 2020	09-24-2020	\$65,366.71	01-11-2021	\$65,366.71
2 / Q3 2020	11-30-2020	\$92,529.70	02-08-2021	\$92,529.70
3 / Q4 2020	03-04-2021	\$182,274.95	05-27-2021	\$182,274.95
4 / Q1 2021	04-27-2021	\$171,888.66	06-13-2021	\$171,888.66
5 / Q2 2021	09-28-2021	\$363,544.20	11-14-2021	\$363,544.20
6 / Q3 2021	12-01-2021	\$326,613.68	04-08-2022	\$326,613.68
7 / Q4 2021	03-01-2022	\$276,129.39	06-01-2022	\$276,129.39
8 / Q1 2022	06-20-2022	\$112,985.19	08-24-2022	\$112,985.19
9 / Q2 2022	09-01-2022	\$98,747.58		
10 / Q3 2022	12-01-2022	\$69,607.19		
11 / Q4 2022	01-06-2023	\$40,244.03		
<i>Retention</i>				\$199,999.33
Total				\$1,999,930.61

ADDITIONAL INFORMATION

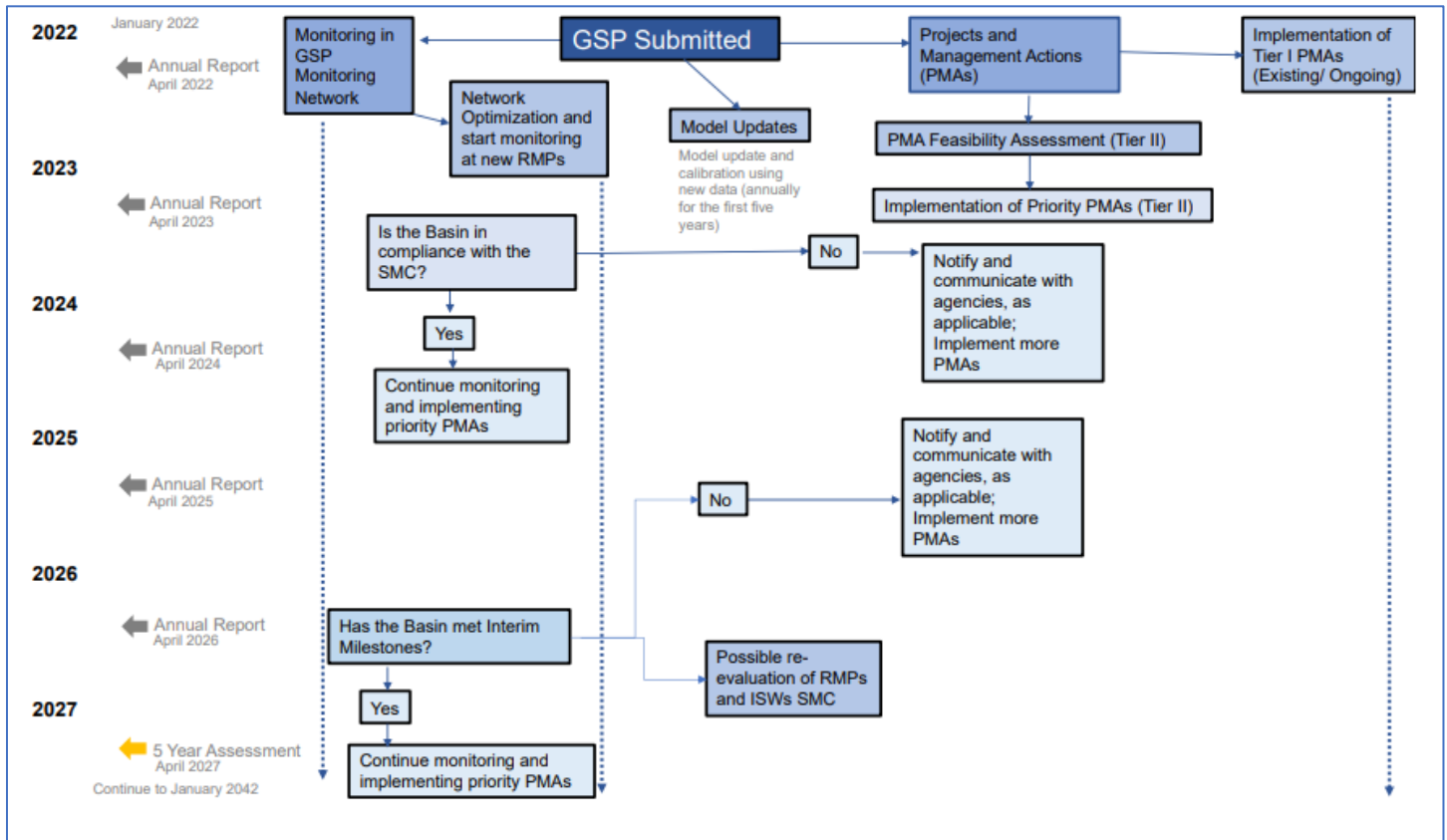
Annual Report

The first Annual Report for Water Year (WY) 2021 (October 1, 2020 through September 30, 2021) was successfully submitted to DWR on April 1, 2022. The Annual Report provides a summary of hydrologic conditions and water use in the Sierra Valley Subbasin using observed data from monitoring networks and/or estimated using best available methods.

GSP Implementation

Initiation of GSP implementation by the GSAs starts immediately after adoption. While most activities are continuous during GSP implementation, annual reports will be submitted to DWR by April 1st of each year, starting in 2022, and periodic five-year assessment reports will be submitted to DWR by April 1st every five years (i.e., 2027, 2032, 2037, and 2042).

The graphic on the following page is included in Chapter 5, Plan Implementation, of the GSP and illustrates the GSP process over the next five years.



The GSP implementation plan for the Sierra Valley Subbasin is defined, and includes:

1. Management and Administration
 - a. GSA management, administration, legal, and day-to-day operations
 - b. Reporting, including preparation of annual reports and five-year evaluations and updates
2. Implementation
 - a. Implementation of the GSP monitoring program activities
 - b. Technical support, including model updates, data collection, and other technical analysis
 - c. PMAs
3. Outreach and Education
 - a. Coordination activities with stakeholders and entities
 - b. Ongoing education and outreach activities to stakeholders

GSP Costs

The costs for the GSP will include funding for functions associated with GSAs management and administration and capital project costs (e.g., monitoring SMCs and implementing PMAs). Overall GSP cost of management and administration is projected to be between \$68,500 and \$142,000, annually.

It is anticipated that the GSAs will be able to cover the projected cost of management and administration at the start of the GSP implementation process through the current SVGMD revenue and fee structure. GSP implementation of capital projects are anticipated to be funded through current and future available grants and other various funding opportunities from state and federal sources.

As GSP implementation proceeds, the GSAs will further evaluate funding mechanisms and may perform a fee study with a cost-benefit analysis to support consideration of potential refinements. The need for additional revenue beyond the current SVGMD revenue and fee structure will be determined.