

PUBLIC DRAFT

Sutter Subbasin GSP Amendment

Chapter 8: Plan Implementation

Prepared for:



Sutter Subbasin GSAs

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Acronyms

DMS	Data Management System
DWR	California Department of Water Resources
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
SGMA	Sustainable Groundwater Management Act
SSGMCC	Sutter Subbasin Groundwater Management Coordination Committee

8. PLAN IMPLEMENTATION

Implementation of the Sutter Subbasin Groundwater Sustainability Plan (GSP or Plan) includes:

- GSP implementation, administration, and management
- Implementation of the projects, management actions, and monitoring program as described in **Chapter 7 Sustainability Implementation**
- Data collection, evaluation, and reporting, including preparation and submittal of annual reports and periodic evaluations
- Implementation of adaptive management strategies
- Development of long-term funding streams

This chapter describes the implementation schedule and financing of these activities, as well as the contents of both the annual reports and periodic evaluations that must be provided to the California Department of Water Resources (DWR) as required by the Sustainable Groundwater Management Act (SGMA) regulations.

8.1 Implementation Schedule

Implementation of much of the Sutter Subbasin GSP will occur on an as-needed basis due to the sustainable condition of the Subbasin. Many portions of the Plan implementation are scheduled for completion at regular intervals or early in the implementation process.

Figure 8-1 illustrates the Sutter Subbasin GSP implementation schedule through 2042. Included in the Gantt chart are activities necessary for ongoing GSP monitoring and updates; additional details about activities included in the schedule are provided in the respective sections of this GSP. Adaptive management actions will only be executed if the GSP interim goals, as described in **Section 8.8**, are not being met or if a triggering event occurs. The schedules for implementing projects and management actions, as described in **Section 7.1**, will vary depending on the need, permitting and availability of financing.

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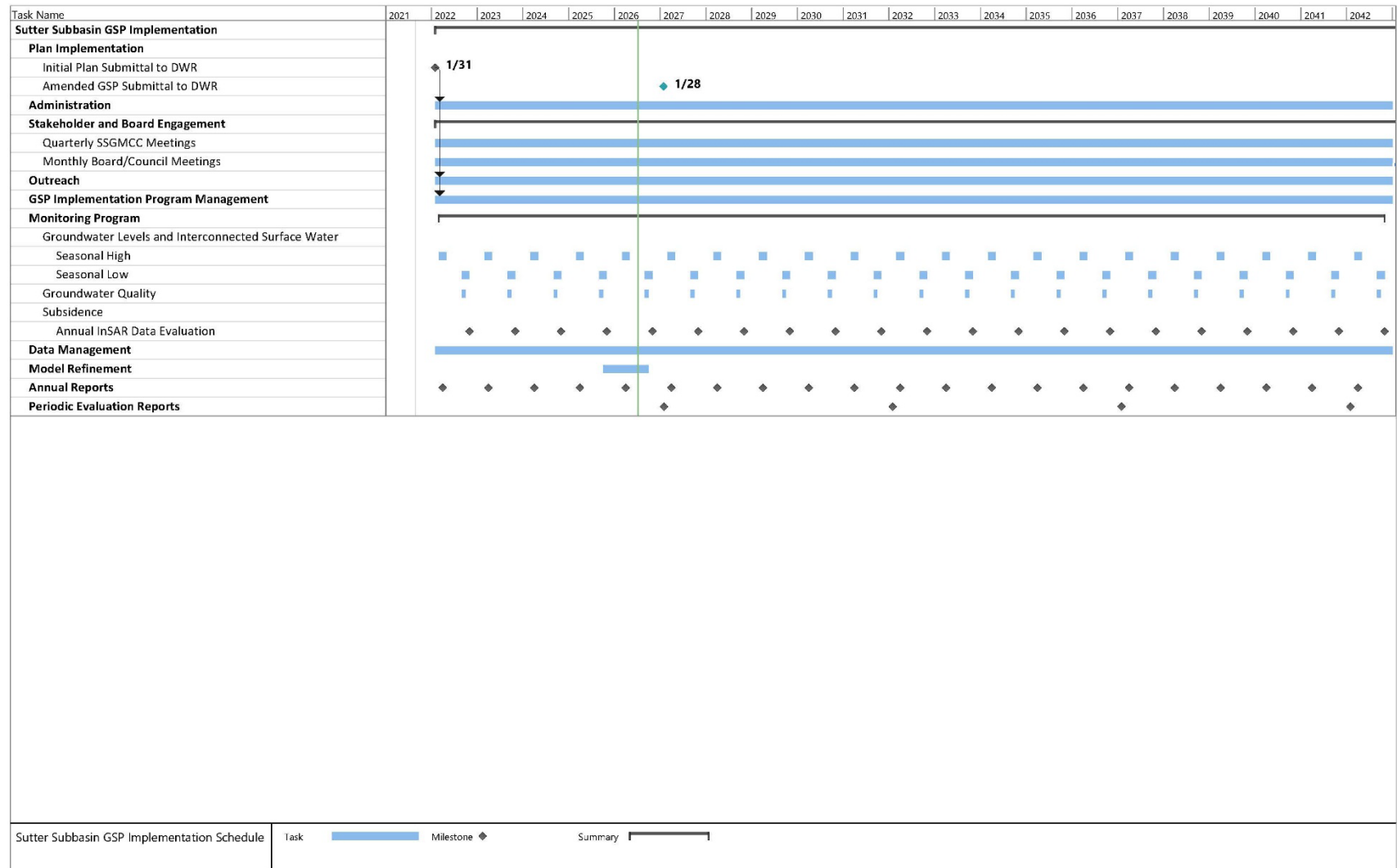


Figure 8-1. Implementation Schedule

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8.2 Financing

Operating the Sutter Subbasin GSAs, Sutter Subbasin Groundwater Management Coordination Committee (SSGMCC), and implementing the GSP will incur costs that will require funding by the individual entities comprising the GSAs. The five primary activities that will require financing include:

- Operation of the Sutter Subbasin GSAs and SSGMCC
- Implementation of the GSP (including monitoring, data management, and outreach)
- Development of annual reports, including data collection, analysis, and reporting
- Development of periodic evaluation reports and potential GSP amendments
- Implementation of the GSP-related projects and management actions

Table 8-1 summarizes the estimated costs of these activities. These estimates will be refined as implementation of the GSP progresses.

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Table 8-1. Estimated Implementation Costs

Activity	Estimated Cost	Assumptions
GSP Implementation and GSA Administrative Operations		
Administration	\$400,000 to \$500,000 annually	Overall program management, coordination activities, and legal services
Stakeholder and Board Engagement	\$75,000 to \$125,000 annually	Bi-monthly SSGMCC meetings, bi-monthly Board meetings, and semi-annual public workshops
Outreach	\$35,000 to \$40,000 annually	Email communications, newsletters, and website management
GSP Implementation Program Management	\$75,000 to \$150,000 annually	Program management and oversight of projects and management actions, coordination of GSA implementation, technical activities
Monitoring Program	\$50,000 annually	Groundwater level and groundwater quality monitoring, collection of publicly available subsidence monitoring and stream gage data, and conduct quality control checks on monitoring data
Data Management	\$15,000 annually for following years	Ongoing DMS management, including data uploads and system improvements
Model Refinement	\$60,000 to \$400,000 (one time)	Ongoing refinement of C2VSim-FG, including data calibration and scenario development
Annual Reporting	\$75,000 to \$90,000 annually	Includes data compilation, annual updates to C2VSim-FS-Sutter model, annual report development, and submittal of annual report materials to DWR
Five-Year Updates (including GSP amendments if needed)	\$100,000 to \$1,000,000 every five years (across two fiscal years)	Includes data compiling and reporting on progress for each relevant sustainability indicator, plan implementation progress and updates, monitoring network updates and progress in addressing data gaps, description of new information, amendments, and coordination.

Activity	Estimated Cost	Assumptions
Projects and Management Actions		
Project 1: System Modernization (BWD)	\$20,878,000	Estimated costs for all phases (Phases 1-4) and levels (levels 1 and 2) of project implementation. All cost components calculated in July 2014 and reported in the 2014 FRRAWMP Volume II.4 (Appendix B) and the 2014 FRRAWMP Volume II.6 (Appendix C). Cost estimates were escalated to 2026 according to the U.S. Army Corps of Engineers Civil Works Construction Cost Composite Index.
Project 2: System Modernization (SEWD)	\$18,865,000	Estimated costs for all phases (Phases 1-4) and levels (levels 1 and 2) of project implementation. All cost components calculated in July 2014 and reported in the 2014 FRRAWMP Volume II.4 (Appendix B) and the 2014 FRRAWMP Volume II.6 (Appendix C). Cost estimates were escalated to 2026 according to the U.S. Army Corps of Engineers Civil Works Construction Cost Composite Index.

Activity	Estimated Cost	Assumptions
Project 3: Boundary Flow and Primary Spill Measurement and Drainage Recovery Projects (BWD)	\$1,482,000	Estimated costs for all phases (Phases 1-4) and levels (levels 1 and 2) of project implementation. All cost components calculated in July 2014 and reported in the 2014 FRRAWMP Volume II.4 (Appendix B) and the 2014 FRRAWMP Volume II.6 (Appendix C). Cost estimates were escalated to 2026 according to the U.S. Army Corps of Engineers Civil Works Construction Cost Composite Index.
Project 4: Boundary Flow and Primary Spill Measurement and Drainage Recovery Projects (SEWD)	\$1,444,000	Estimated costs for all phases (Phases 1-4) and levels (levels 1 and 2) of project implementation. All cost components calculated in July 2014 and reported in the 2014 FRRAWMP Volume II.4 (Appendix B) and the 2014 FRRAWMP Volume II.6 (Appendix C). Cost estimates were escalated to 2026 according to the U.S. Army Corps of Engineers Civil Works Construction Cost Composite Index.
Project 5: Dual Source Irrigation Systems	N/A	Total costs are not available at this time
Project 6: Multi-Benefit Recharge	N/A	Total costs will vary depending on the configuration and scale of project implementation. Estimated average annual costs on a per-site basis are noted in the project descriptions in Section 7.1
Project 7: Grower Education	N/A	Total costs are not available at this time

Activity	Estimated Cost	Assumptions
Project 8: Installation of Additional Shallow Groundwater Monitoring Wells	\$1,421,000	Cost estimates were escalated to 2026 according to the U.S. Army Corps of Engineers Civil Works Construction Cost Composite Index.
TOTAL – during FY with five-year updates and no projects	\$767,000 – \$1,917,000	Average annual estimate; includes responding to Recommended Corrective Actions
TOTAL – during FY with no five-year updates or projects	\$380,000 – \$1,650,000	Average annual estimate

8.2.1 Financing of GSP Implementation and Operations

Costs associated with implementing the Sutter Subbasin GSP and operating the Sutter Subbasin GSAs and SSGMCC include:

- **Administration:** Overall program management, coordination activities, and legal services
- **Stakeholder and Board Engagement:** Bi-monthly SSGMCC meetings, bi-monthly Board meetings, semi-annual public workshops
- **Outreach:** Email communications, newsletters, and website management
- **GSP Implementation Program Management:** Program management and oversight of project and management action implementation, including coordination among Board, staff, and stakeholders; coordination of GSA implementation technical activities; oversight and management of consultants, budget tracking, schedule management; and quality assurance/quality control of project implementation activities
- **Monitoring Program, Data Management, and Model Refinement:** Groundwater level and groundwater quality monitoring; collection of publicly available subsidence monitoring data and stream gage data; conducting quality control checks on and management of data; summarizing and/or estimating other data sets required for annual reporting; ongoing management of Data Management System (DMS), including data uploads and system improvements; ongoing refinement of the C2VSimFG-Sutter model, including data calibration and scenario development

Implementation of this GSP is projected to run between approximately \$380,000 and \$1,920,000 per year during the initial years of implementation, excluding implementation of projects and management actions. Costs associated with the implementation of identified projects and management actions will vary depending on the project type and stage of the project (e.g., planning or construction). Development of this GSP was partially funded through a Proposition 1 Sustainable Groundwater Planning Grant, with funding from the Sustainable Groundwater Management Act (SGMA) Implementation Grant program used to do the 2027 Periodic Evaluation and this GSP amendment. Operations of the SSGMCC are funded by volunteer contributions (both directly and through in-kind services) from the GSAs. Although ongoing operation could include contributions from the Subbasin GSAs, which are ultimately funded through customer fees or other public funds, additional funding will likely be required to implement the GSP. Of the implementation activities described in this GSP, only project implementation (design and construction) is likely to be eligible for grant or loan funding, and funding through grants or loans have varying levels of certainty.

In 2024, the Sutter Subbasin received grant funds from DWR under the SGMA Implementation Grant program to implement several proposed work efforts, including preparation of a financing study to identify an appropriate method for developing a long-

term funding stream for implementation of the Sutter Subbasin GSP. In 2025, the Subbasin GSA completed an estimated budget that projected potential expenses relating to SGMA compliance for the next five-year period. In 2026, the Subbasin GSAs completed a fee study to support the collection of administrative fees through a Proposition (Prop) 26 process. The Prop 26 process is expected to occur in 2027. It is important to note that funding raised under a Prop 26 process may only cover administrative expenses.

If the Subbasin GSAs choose to raise additional funding to implement non-administrative programs and projects, the following methodologies may be used.

- **Assessments:** Assessments could be levied using a fee-based assessment on land area or irrigated acreage. Funding GSP implementation (projects and/or management actions) by assessing a fee for all acres in the Subbasin (approximately 285,819 acres) would result in assessments ranging between approximately \$2 and \$4 per acre per year, assuming the assessment would not distinguish between land use types. Funding by assessing a fee only on irrigated acres (approximately 170,000 acres during the current conditions water year [2013]) would result in fees ranging between \$4 and \$7 per acre per year. An assessment solely on irrigated acreage could affect agricultural operations and contribute to land use conversions, which could, in turn, affect the overall assessment amount. Cost allocated by parcel would range from \$18 to \$30 per parcel per year.
- **Pumping Fees:** Pumping fees are typically a charge for pumping that would be used to fund GSP implementation activities. In the absence of other sources of funding (i.e., grants, loans, or combined with assessments), fees would range between \$5 and \$9 per acre-foot (AF) of water pumped per year (based on projected baseline pumping on an average annual basis from 2022 to 2027 and 2022 to 2072, respectively). To meet the funding needs of the GSP, a tiered approach may be used where fees would decrease when groundwater elevations are higher and increase when groundwater elevations are lower to encourage conservation, or a modified fee structure could be implemented based on the type of pumping (domestic vs agricultural vs municipal), including a potential waiver of pumping fees for *de minimis* groundwater pumping.
- **Combination of fees and assessments:** This approach would combine pumping fees and assessments to moderate the effects of either approach on the economy in the Sutter Subbasin. This approach would likely include an assessment that would apply to all acres within the Subbasin, rather than just to irrigated acreage (thereby accounting for a shared regulatory compliance cost), coupled with a pumping fee to account for those properties that extract more groundwater than others.

If the Sutter Subbasin GSAs secure grants or loans to help pay for project and/or management action implementation, the possible financing approaches may be

adjusted to align with operating costs of ongoing GSP implementation activities. Potential funding sources that may be used for GSP implementation are summarized in **Table 8-2** with an assessment of the likelihood of each funding source being obtained.

Table 8-2. Potential Funding Sources for GSP Implementation

Funding Source	Certainty
Ratepayers (within Project Proponent service area or area of project benefit)	High – User rates pay for operation and maintenance (O&M) of a utility’s system. Depends upon rate structure adopted by the project proponent and the Proposition 218 rate approval process, which is dependent upon the structure of the GSA and its authority to collect rates from users. Can be used for project implementation as well as project O&M.
General Funds or Capital Improvement Funds (of Project Proponents)	High – General or capital improvement funds are set aside by agencies to fund general operations and construction of facility improvements. Depends upon agency approval.
User fees, special taxes, and assessments (within Project Proponent service area or area of project benefit)	High – Monthly user fees, special taxes, and assessments can be assessed by some agencies should new facilities directly benefit existing customers. Depends upon the rate structure adopted by the project proponent and the Proposition 218 rate approval process, which is dependent upon the structure of the GSA and its authority to collect fees/taxes/assessments from users.
Sustainable Groundwater Management Act (SGMA) Implementation Grant Program administered by DWR	High – The Sutter Subbasin was awarded \$8.53 million in 2023 under the SGMA Implementation Grant program. Prop 4, authorized in 2024, includes approximately \$20 million in funding for groundwater banking, groundwater recharge and/or instream flow projects that support the conjunctive use of groundwater and surface water supplies. Funds administered under this program do not require local cost share. Eligible project types include projects that increase groundwater storage, improve the management and operation of groundwater storage, or are for groundwater banking, and support implementation of SGMA; and projects that support conjunctive use and groundwater recharge and provide benefits of improved regional watershed management; address current and projected drought conditions and demonstrate adaptation to climate change for a region;

Funding Source	Certainty
	provide ecosystem benefits to fish and wildlife and improve stream flow for anadromous fish.
Storm Water Grant Program administered by California State Water Resources Control Board (SWRCB)	High – The 2024 Prop 4 allocated \$160 million to the SWRCB for grants and loan the improve water quality or help provide clean, safe and reliable drinking water. Some of this funding will go to the Storm Water Grant Program (SWGP), administered by the California State Water Resources Control Board (SWRCB) Division of Financial Assistance (DFA), to fund stormwater and dry-weather runoff capture, treatment, reuse, infiltration, and related green/natural infrastructure projects. The solicitation for applications is expected to occur in the Fall of 2026 through early 2027.
Water & Waste Disposal Loan & Grant Program in California administered by the United States Department of Agriculture (USDA), Rural Development	High – Long-term, low-interest loans and grants available to fund clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to household and businesses in eligible rural areas (areas or towns with populations of 10,000 or less). Funds may be used to finance the acquisition, construction, or improvement of drinking water sourcing, treatment, storage, and distribution as well as storm water collection, transmission, and disposal, for example. Eligible applicants include most state and local governmental entities, private nonprofits, and federally-recognized tribes. Applications are accepted year-round.
Community Facilities Direct Loan & Grant Program in California administered by USDA, Rural Development	High – Low interest direct loans and grants available to provide affordable funding to develop essential community facilities in eligible rural areas (areas or towns with populations of 20,000 or less). An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area and does not include private, commercial, or business undertakings. Funding priorities include small communities with a population of 5,500 or less and low-income communities having a median household income below 80% of the state nonmetropolitan median household income.

Funding Source	Certainty
Infrastructure State Revolving Fund Loan Program administered by the California Infrastructure and Economic Development Bank (I-Bank)	High – Low-interest loans are available from I-Bank for infrastructure projects (such as water distribution). Maximum loan amount is \$25 million per applicant. Applications are accepted on a continuous basis.
Integrated Regional Water Management (IRWM) Implementation Grant Program administered by DWR	Low – The Northern Sacramento IRWM Region, which overlaps the Sutter Subbasin, will pursue grant funding in the Sacramento River Funding Area, when funding is made available.
Drinking Water State Revolving Fund Loan Program administered by the SWRCB Division of Drinking Water	Medium – Approximately \$150 to \$250 million is available on an annual basis for drinking water projects. Low-interest loans are available for project proponents should they decide to seek financing. Funding has become more limited; however, applicants are encouraged to apply.
Clean Water State Revolving Fund (CWSRF) Loan Program administered by the SWRCB	Medium – Approximately \$200 to \$700 million has been made available annually for low-interest loans (typically ½ of the General Obligation Bond Rate) in recent years for water recycling, wastewater treatment, and sewer collection projects. During recent years, available funding has become limited due to high demand. Success in securing a low-interest loan depends on demand of the CWSRF Program and available funding. Applications are accepted on a continuous basis. SWRCB prepares a fundable list for each fiscal year. In order to receive funding, a project must be on the fundable list. Full applications must be submitted by the end of the calendar year to be considered for inclusion on the following year's fundable list.
Water Recycling Funding Program (WRFP) – Planning and Construction Grants from SWRCB	Medium – The 2024 Prop 4 included funding for water reuse and recycling projects the increase the use or supply of recycled water or produce recycled water offsets from potable water. Under this bill, construction grants are available that can fund 35% of eligible costs, up to \$15,000,000. Eligible DACs and SDACs (could receive grant funding totaling 100% of the eligible project costs.

Funding Source	Certainty
Title XVI Water Recycling and Reclamation / Water Infrastructure Improvements for the Nation (WIIN) Program – Construction Grants administered by the United States Bureau of Reclamation (USBR)	Medium – Grants up to 25% of project costs or \$20 million, whichever is less, are available from USBR for water recycling projects. A Title XVI Feasibility Study must be submitted to and approved by USBR to be eligible. USBR solicits grants annually.
WaterSMART Grant Programs administered by USBR	Medium – During Fiscal Year 2021, \$7.8 million was appropriated to WaterSMART grant programs. WaterSMART grant programs include Water and Energy Efficiency Grants, Water Marketing Strategy Grants, and Small-Scale Water Efficiency Projects. Grant programs can help fund projects such as canal lining/piping, municipal metering, and supervisory control and data acquisition (SCADA) systems.
Bonds	Medium – Revenue bonds can be issued to pay for capital costs of projects allowing for repayment of debt service over 20- to 30-year timeframe. Depends on the bond market and the existing debt of project proponents.
WaterSMART Title XVI Water Recycling and Reclamation Program – Feasibility Study Grants administered by USBR	Low – Grants up to \$150,000 have been available in the past for preparation of Title XVI Feasibility Studies. It is possible future rounds may be administered.

8.2.2 Financing of Projects and Management Actions

Costs for projects and management actions are described in **Section 7.1** of this GSP. Financing of the projects and management actions would vary depending on the activity and timing. Potential financing for projects and management actions is provided in **Section 7.1**, though other financing may be pursued as opportunities arise or as appropriate.

8.3 Administration

Each of the Sutter Subbasin GSAs are administered independently and involve meetings and oversight of individual GSA projects and programs. GSA administration will include coordination meetings; regular email communications to update GSA members on ongoing basin activities; coordination activities with the other GSAs, such as on projects or studies; administration of projects implemented by the GSA; and

general oversight and coordination. SSGMCC meetings are assumed to occur bi-monthly with other oversight and administration activities occurring as needed and on an ongoing basis.

GSA administration is also expected to require additional effort during GSP updates and around the time of annual report and periodic evaluation development. Other administrative actions may involve tracking and evaluating GSP implementation and sustainability conditions, as well as assessing the benefit to the Subbasin. Annual costs for GSA administrative actions are estimated to range from \$200,000 to \$450,000 and include estimates for annual legal, audit, and insurance expenses.

8.4 Public Outreach

During 2022 GSP development and in parallel with the 5-year Periodic Evaluation and GSP Amendment, the GSAs used multiple forms of outreach to communicate SGMA-related information and solicit input. The GSAs intend to continue public outreach and provide opportunities for engagement during GSP implementation, as described in **Chapter 4**. To continue to keep stakeholders informed about coordination and implementation efforts following GSP adoption, the GSAs will conduct the following outreach efforts during GSP implementation:

- Continuing to hold regular SSGMCC meetings during the GSP implementation phase. SSGMCC meetings between the GSAs and Funding Partners are assumed to occur, at a minimum, twice a year with other oversight and administrative activities occurring as needed and on an ongoing basis. The GSAs may also choose to establish a new advisory committee to hold standing outreach meetings specific to GSP implementation.
- Providing regular updates at GSA's Board of Director or City Council meetings through a standing SGMA agenda item.
- Maintaining the Sutter Subbasin GSP website and keeping it up to date with a regular posting of information.
- Performing local outreach at public meetings and events.
- Producing and distributing an annual newsletter to update interested parties on ongoing basin activities, such as on projects or studies.

Costs to support outreach are estimated to range from \$30,000 to \$45,000 annually.

8.5 Monitoring

The Sutter Subbasin GSAs will use the monitoring programs described in **Section 7.2** to track conditions for the applicable sustainability indicators discussed in **Chapter 6**. Monitoring network data will be collected, uploaded to the DMS, and used to determine whether undesirable results are occurring, whether minimum thresholds are being reached or exceeded, and to determine if adaptive management is necessary. The monitoring networks make use of existing monitoring programs and develop further

monitoring to continue characterization of the system and support development of water budgets.

Key components involved in the implementation of the monitoring network activities for the GSP include:

- Semi-annual groundwater level monitoring at 63 wells for the chronic lowering of groundwater levels sustainability indicator and 23 wells for the depletions of interconnected surface water sustainability indicator.
- Semi-annual groundwater quality monitoring at 28 wells.
- Annual evaluation of publicly available Interferometric Synthetic Aperture Radar (InSAR) provided by DWR for land subsidence monitoring.
- Coordination between the new GSP monitoring program and other regulatory programs requiring monitoring and reporting (e.g., Irrigated Lands Regulatory Program).

NOTE: Monitoring site count is subject to change following revisions to Chapter 7: Sustainability Implementation, which is in progress.

8.6 Data Management System

As required under the GSP Emergency Regulations §352.6 Data Management System, each GSA is required to develop and maintain a Data Management System (DMS) that is capable of storing and reporting information relevant to the development or implementation of the GSP(s). Additionally, per §354.4 Reporting Monitoring Data to the Department, all monitoring data is to be stored in a DMS with copies of the monitoring data included in the annual report and submitted electronically on forms provided by DWR. The Sutter Subbasin GSAs have coordinated to develop a single DMS for the Sutter Subbasin.

The Sutter Subbasin DMS is implemented using the Opti platform and serves as a data sharing portal to support sustainable groundwater management and transparent reporting of data and results relative to GSP implementation. The DMS is web-based and publicly accessible using common web browsers, including Google Chrome, Firefox, and Microsoft Edge. It is a flexible and open software platform that utilizes familiar Google maps and charting tools for analysis and visualization. The site may be accessed through <https://seas.woodardcurran.io/sutter/login.php>.

The DMS can be configured for additional tools and functionality as needed to support the Sutter Subbasin GSAs and SSGMCC. Detailed instructions on the usage of the DMS can be found in the Opti Public User Guide (https://opti.woodardcurran.com/sutter/upload/OptiPublicDMS_Guide.pdf).

In order to facilitate data synthesis, monitoring data will be uploaded to the DMS as follows:

- **Groundwater elevations** – Twice per year, with seasonal high groundwater elevation data collected between March and April, and seasonal low groundwater elevation data collected between September and October. Additional water level data may be collected for those representative monitoring locations influenced by rice growing operations.
- **Interconnected surface water** – Twice per year in conjunction with groundwater level monitoring.
- **Groundwater quality** – Once per year in conjunction with groundwater quality monitoring between July and October.
- **Subsidence** – Publicly available subsidence data will be used along with locally-collected data.

The DMS will be maintained by Sutter County with a contract with the software vendor for hosting, maintenance, and future maintenance. DMS maintenance will be included in the costs for GSP administration.

8.7 Model Refinements

The C2VSimFG-Sutter model will be updated based on newly available data or additional information provided by GSAs. Areas of higher uncertainty, such as calibration in the Sutter Buttes area and other areas of the Subbasin with few wells and the need for better understanding of surface water-groundwater interactions, will be refined using additional information collected through GSP monitoring and projects to achieve better calibration. Once the model has been updated and recalibrated, new SGMA scenarios will be developed and evaluated, including the current, projected, and sustainable scenarios, as well as associated water budgets and the evaluation of sustainability indicators based on project implementation.

The C2VSimFG-Sutter model will be updated annually as part of the Annual Report preparation, and more recently, the model was refined and recalibrated in coordination with preparation of the 2027 Periodic Evaluation and GSP Amendment to prepare updated scenarios and water budget. Model update costs are expected to be \$50,000 to \$400,000, depending on the degree of work completed during the model updates.

8.8 Adaptive Management Strategies

As part of GSP implementation, adaptive management strategies would only be considered for implementation if designated trigger events for that strategy occur. Triggers for implementation of adaptive management allow for a variety of actions, ranging from coordination and monitoring to management of groundwater extractions and recharge. Triggering events for implementation are based on monitoring results, and data are set in relation to sustainable management criteria described in **Chapter 6**. The purpose of this adaptive management strategy is for the GSAs to take the necessary action to investigate the cause of potential exceedances of the minimum

threshold, determine if the exceedances are the result of groundwater basin management, and provide a framework of activities required to respond to such exceedances.

If a single observation exceeding the minimum threshold at a representative monitoring site is recorded and confirmed, the monitoring entity will report this exceedance to the GSA. The GSA would then, in turn, flag the representative monitoring site where the exceedance is observed and would bring the flagged monitoring site to the attention of the SSGMCC. The SSGMCC will consider the results of an assessment performed by the GSAs of the exceedance to determine if it is a locally-driven change in conditions or representative of a long-term, regional change in conditions. The SSGMCC will recommend a course of action that may include collecting additional data, conducting additional monitoring to confirm the impact, and/or working with water managers near the site to resolve the issue. The GSA would take action(s) deemed necessary, including corrective action such as pumping reductions or cessation of recharge projects, additional studies, or management modification, if any, in the area influencing the monitoring site.

Corrective action to better understand or mitigate the impact may include increased monitoring frequency, coordination and information sharing with overlying land use planning agencies or other water and wastewater management entities to determine the cause of exceedances, augmenting alternate water supplies for the area, providing additional recharge, and addressing changes in recharge in the area. In extreme cases, halting or reducing groundwater pumping in the depths and areas influenced by the representative well monitoring site may be considered until conditions recover. Alternative supplies for those in the affected area would be coordinated should groundwater pumping be halted. Given the current, historical, and projected sustainable nature of the Sutter Subbasin, and given the cost associated with developing detailed response plans, details of these adaptive management actions will be further developed only if conditions suggest a reasonable potential for implementation of such strategies.

The corrective action or information gathering would be deemed successful in returning the Subbasin to sustainable conditions, following the implementation of corrective action or measures, once monitoring indicates that conditions are above the minimum threshold, or that the issue was a result of localized conditions.

8.8.1 Public Notice and Outreach

Public notice of exceedances of the minimum threshold at an individual monitoring site would first be made via a web page or public data portal, to the extent developed at that time. Notice would also be provided as an agenda item at associated GSA board or city council meeting or SSGMCC meeting. Actions taken regarding discussion of the cause or corrective action to be taken to improve conditions would be considered during the SSGMCC meetings. Additionally, any exceedances relative to the minimum thresholds and status compared to the other sustainable management criteria would be reported to

DWR in annual reports under this GSP, which will be publicly available following submission to DWR.

8.8.2 Permitting and Regulatory Process

Implementation of this adaptive management strategy itself is not anticipated to require permitting or regulatory approvals. However, actions or projects resulting from a need to improve conditions relative to the minimum threshold will be subject to the appropriate permitting and regulatory processes, if any, and will be addressed on a case-by-case basis.

8.8.3 Adaptive Management Strategy Benefits

The primary benefit anticipated as a result of this adaptive management strategy is continued sustainable groundwater management and maintaining the sustainability goal established for this GSP. Expected benefits also include continued cooperative management of groundwater conditions among the GSAs. Benefits will be evaluated based on observed groundwater conditions following implementation of this adaptive management strategy and evaluation of long-term conditions at or improved relative to the minimum threshold. An additional benefit of the strategy is avoidance of high-cost, restrictive management efforts unless it is clearly needed, as indicated by data and analysis of the data.

8.8.4 Implementation

Implementation of this strategy would be conducted by the Subbasin GSAs. The GSAs will inform the SSGMCC of the exceedance of the minimum thresholds and will provide analysis, as needed, to the SSGMCC to identify the cause for the exceedance, whether it is localized or indicative of long term, regional trends, and the corrective actions, if any, needed to return conditions to those above the minimum threshold. The SSGMCC acts in an advisory role in the effort. The GSAs will take into consideration the SSGMCC's recommendation when implementing actions.

8.8.5 Status and Timing

This adaptive management strategy would commence as monitoring activities described in this GSP begin for the purpose of assessing conditions relative to the established sustainable management criteria. If exceedances of the minimum threshold occur, the implementation process as described above would take place and corrective action or additional study would be initiated by the GSAs and put in place until conditions are improved relative to the minimum threshold. The accrual of benefits is expected to be continuous throughout the GSP implementation timeframe.

8.8.6 Legal Authority

The GSAs adopting this GSP are responsible for sustainable management of groundwater based on the power and authority granted under the California Water

Code. As such, the adopting GSAs have the authority to take action deemed appropriate within its legal authority to maintain sustainable groundwater conditions within the Sutter Subbasin.

8.8.7 Costs

Costs associated with this adaptive management strategy include staff time, consultant costs, contractor costs, transportation costs for in-person meetings (if necessary), monitoring and data collection, and actions associated with corrective management. Given the nature of adaptive management, including the broad range of actions that could be taken, these costs cannot be estimated at this time.

8.8.8 Technical Justification

Management of sustainability indicators relative to the established sustainable management criteria is crucial in order to maintain sustainable conditions within the Sutter Subbasin. It is anticipated that subbasin conditions will fluctuate around the established measurable objectives and that long-term trends will demonstrate continued sustainable conditions throughout the Sutter Subbasin across sustainability indicators. This adaptive management strategy outlines a uniform procedure for the GSAs to follow in the unprecedented event that collected measurements indicate conditions may be approaching minimum thresholds, which protect against undesirable results. With a procedure in place to guide the GSAs, early detection and correction of unsustainable conditions is likely to occur.

8.8.9 Reducing Uncertainty

This adaptive management strategy addresses subbasin uncertainty by providing a flexible framework to address potential exceedances of minimum thresholds should conditions within the Sutter Subbasin change as a result of unforeseen issues.

8.9 Annual Reports

Annual reports must be submitted by April 1 of each year following GSP adoption, per the GSP Emergency Regulations §356.2 Annual Reports. Annual reports must include four key sections as follows:

- General Information
- Basin Conditions
- Plan Implementation Progress

A general outline of what information will be provided in each of these sections in the annual report is included below. In addition, a copy of the monitoring data stored in the DMS will be submitted electronically to DWR through the Monitoring Network Module or Annual Report Module, as appropriate, and would be completed in a manner and format consistent with §356.2 of the GSP Emergency Regulations and additional guidance provided by DWR. The Sutter Subbasin GSAs will also report, at a minimum, two static

groundwater elevation readings per year, representing the seasonal low and seasonal high groundwater conditions in the basin, to DWR electronically by January 1 and July 1, respectively.

As annual reporting continues, it is anticipated that this outline will change to reflect current Subbasin conditions, priorities of the Sutter Subbasin GSAs, and applicable State requirements.

General Information

General information will include an executive summary that highlights the key content of the annual report. As part of the executive summary, this section will include a map of the Sutter Subbasin, description of the sustainability goal, and a description of GSP projects and their progress, as well as an annual update to the GSP implementation schedule. Key required components include:

- Executive Summary
- Map of the Subbasin

Subbasin Conditions

Subbasin conditions will describe the current groundwater conditions and monitoring results. This section will evaluate how conditions have changed in the Subbasin over the previous year and compare groundwater data for the water year to historical groundwater data. Pumping data, effects of project implementation (e.g., recharge data, conservation, etc., if applicable), surface water flows, total water use, and groundwater storage will be included.

Key required components include:

- Groundwater elevation data from the monitoring network, including seasonal high and seasonal low contour maps for the principal aquifer
- Hydrographs of groundwater elevation data at representative monitoring locations
- Groundwater extraction data
- Surface water supply data by source
- Total water use data by sector and source
- Change in groundwater storage, including a map and graph
- Subsidence rates and survey data (if applicable)

Plan Implementation Progress

Progress toward successful Plan implementation will be included in the annual report. This section of the annual report will describe the progress made toward achieving interim milestones as well as implementation of projects and management actions.

Key required components include:

- GSP implementation progress, including interim milestones achieved and any proposed changes to the GSP
- Progress toward the Subbasin sustainability goal

Preparation of annual reports will begin following the close of the previous water year (after September 30) and will continue through March of the following calendar year before submittal to DWR by April 1st.

8.10 Periodic Evaluation Report

SGMA requires evaluation of GSPs regarding their progress toward meeting approved sustainability goals at least every five years. SGMA also requires developing and submitting a written assessment to DWR as part of the periodic evaluation process. An evaluation must also be made whenever the GSP is amended. A description of the information that will be included in the Periodic Evaluation report is provided in the subsequent subsections, which align with GSP Emergency Regulations § 356.4. Periodic Evaluations will also align with guidance provided by DWR, such as DWR's *Groundwater Sustainability Plan Implementation: A Guide to Annual Reports, Periodic Evaluations, and Plan Amendments* (DWR, 2023b).

Sustainability Evaluation

This section will contain a description of current groundwater conditions for each applicable sustainability indicator and will include a discussion of overall Subbasin sustainability. Progress toward achieving interim milestones and measurable objectives will be included, along with an evaluation of groundwater elevations (i.e., those being used as direct or proxy measures for the sustainability indicators) in relation to minimum thresholds. If any of the adaptive management triggers are found to be met during this evaluation, a plan for implementing adaptive management described in the GSP would be included.

Plan Implementation Progress

This section will describe the current status of project and management action implementation, and will report on whether any adaptive management action triggers had been activated since the previous periodic evaluation. Updated project implementation schedules will be included, along with any new projects that were developed to support the goals of the GSP and a description of any projects that are no longer included in the GSP. The benefits of projects that have been implemented will be included, and updates on projects and management actions that are underway at the time of the Periodic Evaluation will be reported.

Reconsideration of GSP Elements

Part of the Periodic Evaluation will include a reconsideration of GSP elements. As additional monitoring data are collected during GSP implementation, land uses and community characteristics change over time, and GSP projects and management

actions are implemented, it may become necessary to revise the GSP. This section of the periodic evaluation will reconsider the Subbasin setting, management areas, undesirable results, minimum thresholds, and measurable objectives. If appropriate, the revised or amended GSP completed at the end of the 5-year assessment period will include revisions informed by the outcomes of the monitoring network and changes in the subbasins, including changes to groundwater uses or supplies and outcomes of project implementation.

Monitoring Network Description

A description of the monitoring network will be provided in the periodic evaluation. Data gaps or areas of the Subbasin that are not monitored in a manner commensurate with the requirements of §352.4 and §354.34(c) of the GSP Emergency Regulations will be identified. An assessment of the monitoring network's function will also be provided, along with an analysis of data collected to date. If data gaps are identified, the GSP will be revised to include a program for addressing these data gaps along with an implemented schedule for addressing gaps and how the Sutter Subbasin GSAs will incorporate updated data into the GSP.

New Information

New information that becomes available after the last periodic evaluation or GSP amendment would be described and evaluated. If the new information would warrant a change to the GSP, this would also be included, as described in Reconsideration of GSP Elements.

Regulations or Ordinances

The Periodic Evaluation will include a summary of the regulations or ordinances related to the GSP that have been implemented by DWR since the previous report and address how these may require updates to the GSP.

Legal or Enforcement Actions

Enforcement or legal actions taken by the Sutter Subbasin GSAs in relation to the GSP will be summarized in this section, along with how such actions support sustainability in the Subbasin.

Plan Amendments

A description of amendments to the GSP will be provided in the Periodic Evaluation, including adopted amendments, recommended amendments for future updates, and amendments that are underway during development of the periodic evaluation.

Coordination

Ongoing coordination will be required by the Sutter Subbasin GSAs for plan implementation, in addition to coordination with neighboring subbasins and GSAs in neighboring subbasins. This section of the Periodic Evaluation will describe coordination activities between these entities, such as meetings, joint projects, or data collection

efforts. If additional neighboring GSAs have been formed, existing GSAs have been modified, or changes in neighboring basins have occurred since the previous periodic evaluation that result in a need for new or additional coordination within or outside the Subbasin, such coordination activities would also be included and discussed.

Reporting to Stakeholders and the Public

Any outreach activities associated with the GSP assessment and any resultant updates should be documented in this section of the Periodic Evaluation report.

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