Salinas Valley: Upper Valley Aquifer Subbasin Groundwater Sustainability Plan Amendment 1

VOLUME 3

Chapter 9. Projects and Management Actions

Chapter 10. GSP Implementation

Prepared for:

Salinas Valley Basin Groundwater Sustainability Agency

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

9 PROJECTS AND MANAGEMENT ACTIONS

9.1 Introduction

This chapter describes projects and management actions (PMAs) to attain sustainability in accordance with GSP Regulations §354.42 and §354.44. Included in this chapter are potential PMAs and additional discussion on the portfolio of priority projects in Chapter 10. The PMAs in this chapter provide sufficient options and contingency projects for reaching sustainability; however, not all PMAs need to be implemented. In this GSP, projects supporting groundwater sustainability require infrastructure or physical change to the environment. Groundwater sustainability may also be supported through green infrastructure projects that achieve some benefits with minimal infrastructure, such as removal of invasive species and floodplain restoration. Management actions generally refer to activities that support groundwater sustainability without infrastructure.

The PMAs adopted in this GSP are designed to achieve a number of outcomes including:

- Achieving groundwater sustainability by meeting Subbasin-specific SMC by 2042
- Providing incentives to constrain groundwater pumping within the sustainable yield
- Addressing the needs of beneficial uses and users

The PMAs in this chapter include potential options for achieving sustainability. However, many details must be developed before any of the PMAs can be implemented. Full implementation of PMAs will require additional and new sources of funding, while SVBGSA's regulatory fee sustains the administration and operational costs of the SVBGSA, including monitoring and reporting.

This GSP is developed as part of an integrated effort by the SVBGSA to achieve groundwater sustainability in all 6 subbasins of the Salinas Valley under its authority. Therefore, the PMAs included in this GSP are part of a larger set of PMAs in the entire Valley. PMAs implemented in other subbasins may have benefits for the Upper Valley Subbasin, and PMAs implemented within this Subbasin may have benefits for other subbasins.

The priority PMAs identified in Chapter 10 as the preferred pathway to reach sustainability are the most reliable, implementable, cost effective, and acceptable to stakeholders. Descriptions of the PMAs included in Chapter 9 are not in order of priority. Generalized costs are included for planning purposes. Components of these PMAs, such as facility locations and infrastructure layout, will evolve through further analyses. Therefore, each of the PMAs described in this GSP

should be treated as a generalized concept representative of a range of potential configurations or measures.

Some PMAs are based on existing infrastructure, including surface and recycled water facilities. They assume continued operation at current capacity; however, there are known maintenance and repair projects that are needed and that may impact operations during construction or unforeseen circumstances. If current infrastructure is modified or expanded, or if other projects that affect groundwater conditions are implemented, SVBGSA will consider the effect of such changes in meeting sustainability goals and will take steps to help achieve these goals.

Discussions and decisions regarding specific PMAs will continue throughout GSP implementation and will be part of the adaptive management of the Subbasin. PMAs identified in the original GSP provided a starting point for more detailed feasibility analyses and discussions with GSA stakeholders during the first phase of GSP implementation. As GSP and PMA implementation activities continue to progress, additional details for each PMA will need to be agreed upon in future phases.

To be able to relatively compare projects, this chapter estimates the cost per AF of water based on feasibility studies or the best available information. The cost per AF is an amortized cost of the project divided by the annual yield. This is not the cost of water for irrigation or the domestic cost of drinking water for households on water systems. Cost analyses and future benefit analyses will continue to be refined during the next phases of PMA development and GSP implementation. Final costs will depend on further design, environmental review, and permitting. The potential costs for local groundwater users will depend on the type of PMA and beneficiaries of the PMA, as well as availability of external or other sources of funding.

The specific design of PMAs will provide landowners and public entities flexibility in how they manage water and how the Subbasin achieves groundwater sustainability. SVBGSA will collaborate with Upper Valley Subbasin stakeholders to prioritize PMAs necessary to achieve sustainability and will adjust through adaptive management if conditions change.

9.2 General Process for Developing Projects and Management Actions

9.2.1 Process for Developing Projects and Management Actions

9.2.1.1 Original 180/400 Subbasin GSP

The general process for developing the PMAs in the original GSP include reviewing publicly available information, gathering feedback during public meetings, conducting hydrogeologic analysis, consulting with SVBGSA staff, and meeting with the Advisory Committee and Board members.

The initial list of PMAs in the original 180/400 Subbasin GSP was developed with the intention of being Valley-wide. The process included stakeholder input, including a brainstorming workshop where stakeholders proposed and discussed their ideas. The resulting list of PMAs was then narrowed down based on feasibility, likelihood of stakeholder acceptance, and ability to address groundwater conditions.

The projects listed in the original 180/400 Subbasin GSP constituted an integrated management program for all 6 subbasins of the Salinas Valley. The larger set of potential PMAs considered are listed in Appendix 9B of the original 180/400 Subbasin GSP.

9.2.1.2 Original Upper Valley GSP

With guidance from DWR, SVBGSA shifted to an approach where each subbasin GSP focused on the PMAs most relevant for that subbasin, rather than including all PMAs in the Valley in each GSP. As described further in Chapter 10, these are integrated through the IIS. The original Upper Valley GSP included 7 PMAs for further consideration based on their reliability, implementability, cost effectiveness, and acceptability to stakeholders. Developing the PMAs in the original Upper Valley GSP involved building on, updating, and adding to the PMAs developed for the entire Salinas Valley as part of the original 180/400 Subbasin GSP. The process for developing projects for the original Upper Valley GSP included receiving stakeholder input through the Subbasin Implementation Committee at 3 points: following discussion of the main potential changes, upon receiving the drafted chapter, and after public comment on the chapter was received. The iterative process enabled the Committee to consider the public comments before finalizing the chapter. In addition, the Advisory Committee and Board received and commented on the chapter. .

9.2.1.3 GSP Amendment 1

GSP Amendment 1 further refines PMA descriptions and information for PMAs with feasibility studies completed as part of the first phase of GSP implementation. Throughout the preparation of these studies, SVBGSA provided information about each project or management action to the Subbasin Committees, Advisory Committees, and Board and created opportunities for stakeholder input to inform the development of scenarios or options.

Amendment 1 includes priority, ongoing, and contingency PMAs. The next phase of GSP implementation includes project design, environmental review and permitting, and developing funding mechanisms and cost allocations, which are all necessary pre-construction steps. Given these remaining steps on the priorities (discussed further in Chapter 10), chapter 9 continues to include a range of PMAs as contingencies that may be further developed if a priority project hits roadblocks in the future. Not all PMAs will need to be implemented, but this GSP provides sufficient options to achieve sustainability under SGMA.

9.2.2 Estimation of Project Benefits

GSP regulations require an explanation of the benefits that are expected to be realized from the PMA. A mix of methods were used to estimate project benefits:

- **Direct project benefits.** Use of alternative water supplies can provide a direct project benefit of reduced groundwater extraction by the amount of supply provided. For some projects, the effects on groundwater levels and seawater intrusion were estimated through inputting extraction reductions into a groundwater flow model.
- **SVOM.** During development of the 2022 GSPs, a provisional version of the SVOM was available to SVBGSA and was used to estimate project benefits for some projects. The SVOM was finalized by the USGS in April 2025 (version 0, or v0) and updated by SVBGSA in October 2025 (version 1, or v1). For those PMAs that were further investigated after that point, project benefits were either estimated by the SVOM v1.

9.2.3 Cost Assumptions Used in Developing Projects

SVBGSA has completed feasibility studies for several of the PMAs identified in this chapter. During the next pre-construction phases, the size and configuration of each project will be refined and updated based on further project analysis and development. Project designs, and therefore costs, will change as more information is gathered.

For projects with feasibility studies completed during the first phase of GSP implementation, cost estimates include both project infrastructure components and soft costs. All costs include a 30% construction contingency, Monterey County sales tax of 7.75% applied to 50% of costs, and 0.25% monthly escalation to July 2030 as the estimated midpoint of construction. These project cost estimates were standardized based on the economic lifecycle cost of the projects. This represents the capital, operating and maintenance (O&M), and replacement costs over the lifecycle of the project. Costs are shown as annual values, present value, and on a dollar per acre-foot ($/AF) basis in inflation-adjusted (real) dollars. A discount rate of 3.25% is applied for the cost standardization. Economic costs are different than project financial costs, which are the fiscal costs of the project (amount actually paid by various users) and includes all borrowing costs.

If a feasibility study has not yet been prepared, the cost estimates are order-of-magnitude estimates from the original GSP prepared in in 2021. These estimates were made with little to no detailed engineering data. The expected accuracy range for such an estimate is within plus 50% or minus 30%. The cost estimates are based on the conditions at the project location at the time of estimation, reflect professional opinions of costs, and are subject to change as project designs mature.

O&M costs do not include O&M or pumping costs associated with existing infrastructure, such as existing Salinas Valley Reclamation Plant (SVRP, or Reclamation Plant) costs. Cost estimates for PMAs within this GSP Amendment 1 are included in Appendix 9A.

9.3 Overview of Projects and Management Actions

This GSP is part of an integrated plan for managing groundwater in all 6 subbasins of the Salinas Valley, which are managed partially or entirely by the SVBGSA. This GSP focuses on the PMAs that directly help the Upper Valley Subbasin reach its sustainability goals and also includes PMAs outside the Subbasin that may benefit the Subbasin.

The PMAs for this GSP are listed in Table 9-1. As of the prioritization completed during drafting of GSP Amendment 1, they are placed into 2 categories: (1) priority PMAs that are part of the preferred IIS portfolio described in Chapter 10 or otherwise important for the Subbasin to manage groundwater sustainability; (2) contingency PMAs that could be pursued if future conditions indicate additional actions are needed. Not all PMAs will need to be implemented. Rather, PMA implementation will be guided by monitoring results, progress toward sustainability, and adaptive management decisions made during GSP implementation.

Table 9-1.Projects and Management Actions

Project/ Management Action #	Name	Description	Project Benefits	Quantification of Project Benefits	Cost
A – MANAGEMENT ACTIONS					
MA1	Upper Valley SMC Technical Advisory Committee (TAC)	Establish TAC to review groundwater conditions and provide advice on management actions and projects	Potential for increased groundwater elevations, increased groundwater storage, decreased groundwater extraction, protection of water quality	Dependent on specific recommendations implemented	Staffing costs plus $25,000 per year
MA2	Demand Management and Planning	Proactively determines how extraction should be controlled and planned for and employs demand management measures as needed, such as during droughts	Decreases extraction if needed	Range of potential project benefits	Depends on measure selected
MA3	Fallowing, Fallow Bank, Agricultural Land Retirement, and Multi-benefit Land Repurposing	Includes voluntary fallowing, a fallow bank whereby anybody fallowing land could draw against the bank to offset lost profit from fallowing, retirement of agricultural land, and repurposing agricultural land.	Decreased groundwater extraction for irrigated agriculture	Dependent on program participation	$1,750-$2,600/AF if land is temporarily fallowed $645-$1,010/AF if land is retired; plus additional cost of repurposing
MA4	Conservation and Agricultural BMPs	Promote agricultural best management practices and support use of ET data as an irrigation management tool for growers	Better tools assist growers to use water more efficiently; decreased groundwater extraction	Dependent on specific BMPs implemented	Approximately $100,000/yr

Project/ Management Action #	Name	Description	Project Benefits	Quantification of Project Benefits	Cost
MA5	Rural Residential Demand Management	Voluntary water use efficiency services and incentives for rural residential users. Potential measures include home water-use assessments, leak detection and repair, direct installation or rebates for efficient fixtures and appliances, outdoor irrigation audits and equipment, turf or high water-use landscape replacement, and technical assistance	Reduced local pumping, lower household water and energy costs, greater drought resilience, and reduced vulnerability of domestic wells to declining groundwater levels	Dependent on program participation	Program development cost $25,000-$50,000 Typical $/AF range for ongoing implementation depends on measure used, from $100/AF to $3,500/AF
MA6	Rural Residential Well Mitigation	Assist rural residential drinking water users through monitoring network improvements, groundwater level tracking, well registration, dry well reporting and notification systems, demand management planning, groundwater recharge projects, and coordination with agencies and organizations involved in drinking water assistance	Mitigate impacts from declining groundwater levels in rural residential areas	Unable to quantify until program is developed	Not yet determined
MA7	MCWRA Reservoir Operation	Collaborate with MCWRA to evaluate potential reoperation scenarios, which could be paired with projects such as the Interlake Tunnel, seasonal reservoir releases with aquifer storage and recovery (ASR), or other potential projects	More regular annual reservoir releases including dry years, which could provide water for seasonal storage through ASR in the northern Salinas Valley	Unable to quantify benefits until feasibility study is completed	Approximately $400,000 - $500,000
MA8	MCWRA Drought Reoperation	Support the existing Drought Technical Advisory Committee (D-TAC) when it develops plans for how to manage reservoir releases during drought	More regular seasonal reservoir releases; drought resilience	Unable to quantify benefits since drought operations have yet to be triggered	Minimal SVBGSA staffing costs for participation. No additional MCWRA costs since already formed

Project/ Management Action #	Name	Description	Project Benefits	Quantification of Project Benefits	Cost
P – PROJECTS					
P1	Multi-benefit Stream Channel improvements	Prune native vegetation and remove non-native vegetation, manage sediment, and enhance floodplains for recharge. Includes 3 components:1) Stream Maintenance, Program, 2) Invasive Species Eradication, and 3) Floodplain Enhancement and Recharge	Increased groundwater recharge through enhanced river infiltration, reduced evapotranspiration from arundo removal, and development of floodplain recharge features; improved in-stream flow benefits, riparian habitat, wildlife connectivity, floodplain function and stormwater conveyance, and modest reductions in flood risk and infrastructure damage	Component 1: benefits not quantified Component 2: benefit of 3,200 AF/yr of increased recharge Component 3: benefit of 400-1,300 AF/yr from 10 recharge basins	Component 1: Cost: $150,000 for annual administration and $95,000 for occasional certification; $780,000 for the first year of treatment on 650 acres, and $455,000 for annual retreatment of all acres Component 2: Average Cost: $25,000/acre Component 3: Cost: $11,160,000; Unit Cost: $930/AF
P2	Managed Aquifer Recharge with Overland Flow	Construct basins for managed aquifer recharge of overland flow before it reaches streams	Groundwater recharge, less stormwater and erosion, more regular surface temperature	400 AF/yr in increased recharge.	Capital Cost: $4,128,000 Unit Cost: $870/AF *(2022 GSP estimate)*

9.4 Management Actions

Management actions are new or revised non-structural programs or policies that are intended to reduce or optimize local groundwater use. Management actions are not listed in priority order. Prioritization will occur during GSP implementation as an ongoing, adaptive process, and is further discussed in Chapter 10.

9.4.1 MA1: Upper Valley SMC Technical Advisory Committee

This was Management Action A1 in the original GSP, and it established the Upper Valley SMC Technical Advisory Committee (TAC) to give valuable science-based information and advice to the Subbasin Implementation Committee to manage groundwater resources sustainably. The TAC is open to all interested stakeholders but will be limited in committee membership to third party experts with expertise in fields such as hydrology, hydrogeology, hydrological modeling, civil engineering, or fisheries biology. As a prerequisite to participating in the TAC, an interested stakeholder must retain and pay for an expert to serve on the TAC on his/her behalf. Government agencies may utilize in-house staff for purposes of TAC participation. The SMC TAC advises on the entire Subbasin, and the ASCMA will be represented on the TAC.

The SMC TAC was established during the first phase of GSP implementation. SVBGSA worked with the Subbasin Committee to determine membership, and the SMC TAC members were appointed by the Board of Directors. The SMC TAC met initially to develop guiding principles, action levels, and the decision-making process. The action levels are groundwater condition levels that trigger the need for management actions or projects according to the SMC. Over the course of GSP implementation, the SMC TAC will also review the data required for decision making to ensure needed data is being collected to monitor the 5 SMC potentially present in the Upper Valley Subbasin. TAC members work with the Upper Valley Subbasin Committee to develop recommendations to correct negative trends in groundwater conditions and meet the measurable objectives.

The SMC TAC convenes annually in April, and subsequently as needed, to:

- Review the Upper Valley Subbasin Annual Report and whether conditions trigger the need for projects or management actions to continue to maintain sustainability.
- Recommend implementation of specific PMAs to the Subbasin Committee for approval by the appropriate Board for final implementation. SVBGSA and ASGSA will consult on management actions and projects as agreed to in the Implementation Agreement between the SVBGSA and ASGSA.
- Review data and make recommendations on data acquisition and analysis needed.

The SMC TAC will make recommendations to the Upper Valley Subbasin Committee on management actions and projects. These could include:

- Recharge projects, such as stream channel improvements or managed aquifer recharge (MAR) of overland flow.
- DM, such as voluntary or mandatory pumping restrictions depending on spatial and temporal conditions such as droughts, voluntary fallowing, or other DM strategies.
- Management actions and projects that mitigate groundwater quality degradation from GSA actions.

This management action relies on monitoring data that covers the entire Subbasin. Therefore, the GMP and other monitoring tasks are critical to collect the data the SMC TAC needs for decision making.

The MCWRA D-TAC, described in Management Action MA8, convenes, and develops a schedule for releases from the Nacimiento and San Antonio Reservoirs during drought periods. The D-TAC and SMC TAC are unique but complimentary, as the D-TAC's recommendation of reservoir releases affect stream flow and therefore groundwater recharge, and the SMC TAC advises on groundwater status.

Through this approach, the Subbasin will be able to react in real time with hydrological situations derived from additional data, provided by a robust SVBGSA monitoring program that includes other local agencies that interface with the Upper Valley Subbasin.

9.4.1.1 Relevant Measurable Objectives

The measurable objectives benefiting from the SMC TAC management action include:

- **Groundwater levels.** This measurable objective will benefit from actions the TAC recommends to maintain groundwater elevations at or above the measurable objectives.
- **Groundwater storage.** This measurable objective will benefit from actions the TAC recommends to maintain groundwater storage at or above the measurable objectives.
- **Groundwater quality.** This measurable objective will benefit from actions the TAC recommends to maintain groundwater quality at or above the measurable objectives.
- **Land subsidence.** This measurable objective will benefit from actions the TAC recommends to prevent any potential land subsidence from occurring based on groundwater conditions.

- **ISW.** This measurable objective will benefit from actions the TAC recommends to maintain shallow groundwater elevations at or above the measurable objectives near areas of ISW.

9.4.1.2 Expected Benefits and Evaluation of Benefits

The primary benefits for this management action are that there will be a stakeholder-accepted, science-based process to assess the annual report and recommend actions as needed to maintain sustainability. Management actions and recharge projects will increase groundwater elevations and storage. DM measures will reduce groundwater extraction. Groundwater quality projects will mitigate groundwater quality degradation from pumping or GSA action. The specific PMAs implemented will determine whether the groundwater benefits expected are related to groundwater elevations, groundwater storage, groundwater quality, land subsidence, and/or depletion of ISW. Because future conditions are unknown and the actions recommended and taken depend on those conditions, it is difficult to quantify the expected benefits at this time.

In addition to helping the Subbasin meet SMC measurable objectives, the SMC TAC provides a process to assist the Subbasin Committee in responding to drought impacts on groundwater.

Benefits will be measured using the monitoring networks described in Chapter 7. Groundwater elevations will be measured with a network of wells that is monitored by MCWRA. Groundwater storage will be monitored based on groundwater elevation changes. Land subsidence will be measured using InSAR data provided by the DWR. When data gaps are filled, ISW will be measured through shallow wells near locations of ISW.

9.4.1.3 Circumstances for Implementation

The SMC TAC was established during the first phase of GSP implementation and has met several times, as of GSP Amendment 1. The TAC will continue to meet annually in April and subsequently if needed.

9.4.1.4 Permitting and Regulatory Process

The GSA Board of Directors authorized the establishment of the SMC TAC. The convening of the SMC TAC does not require permits.

9.4.1.5 Implementation Schedule

The SMC TAC was established during the first phase of GSP implementation, and it convenes at least annually going forward.

9.4.1.6 Legal Authority

Legal authority for GSA to implement PMAs is guided by CWC Part 2.74 Chapter 5, which identifies the powers and authorities of GSAs. CWC §10725.4 specifically provides GSAs with the authority to conduct investigations. The Joint Exercise of Powers Agreement establishing the SVBGSA includes powers to establish and administer projects and programs for the benefit of the Basin [Subbasin].

9.4.1.7 Estimated Cost

The costs of convening and supporting the SMC TAC include staff time and any additional analyses requested by the TAC. Development of the annual report occurs independent of the TAC and therefore does not incur any additional costs. The cost for SVBGSA technical support to the SMC TAC is estimated at $25,000/year, variable based on the number of meetings and additional analyses needed.

9.4.1.8 Public Noticing

As part of the approval of the establishment of the SMC TAC, it went through a public notice process to ensure that all groundwater users and other stakeholders have the opportunity to comment on it. The general steps in the public notice process include the following:

- SVBGSA staff prepared an assessment of the need for the TAC for the SVBGSA Board in a publicly noticed meeting. This assessment included:
    - A description of the undesirable result(s) that may occur if action is not taken
    - A description of the proposed management action
    - An estimated cost and schedule for the proposed management action
    - Any alternatives to the proposed management action
- The SVBGSA Board notified stakeholders in the area of the proposed TAC and allow at least 30 days for public response.
- After the 30-day public response period, the SVBGSA Board conducted a vote to establish the TAC and notified the public of its approval via an announcement on the SVBGSA website and mailing lists.

In addition to the process detailed above, all projects will follow the public noticing requirements per CEQA or NEPA.

9.4.2 MA2: Demand Management and Planning

SVBGSA's approach to planning for demand management (DM) extends beyond solely reducing net pumping. DM is also a planning tool to prepare for droughts as well as increasingly uncertain climate conditions that may affect water supplies from year to year. In this context, DM includes evaluating opportunities to manage groundwater demand while encouraging stewardship of ground- and surface water supplies to support local communities, industries, and the environment.

DM can be accomplished through specific measures (actions) that are developed and carried out through policies, programs, or other management approaches. Because groundwater conditions, water use patterns, and management needs vary across the Salinas Valley, DM measures should be tailored to the specific users and hydrologic conditions of the area in which they are applied. MA2: Demand Management and Planning serves as an umbrella management action for the broad range of potential DM measures that may be prioritized, developed, and activated. While MA2 provides the overarching framework for DM, specific DM measures identified for this subbasin are described in more detail as discrete management actions (MA3 through 6) in this chapter.

The original 180/400 GSP proposed a Water Charges Framework for the entire Salinas Valley, which was intended to create a structure to manage groundwater extraction through promoting voluntary pumping reductions and charging fees for various levels of pumping. During the first phase of GSP implementation, SVBGSA instead developed a DM Framework. MA2 now expands the concept of DM to include a broader range of planning and management tools, while separating demand management from the funding mechanism. This approach preserves flexibility and does not limit future options to reduce net groundwater pumping.

DM may include voluntary or mandatory measures, ranging from incentivized residential water use efficiency and conservation efforts to pumping allocations or other regulatory mandates. To further evaluate these options, SVBGSA undertook several activities during GSP implementation.

- Stakeholder Assessment (2022–2023): Assessed how well stakeholders understand and support demand management.
- Legal White Paper (2024): Summarized legal considerations for demand management. The white paper was prepared by Minasian Law in coordination with staff and legal counsel from ASGSA, MCWDGSA, MCWRA, and Monterey County Environmental Health and received by SVBGSA Board on March 13, 2025.
- Community Workshops (2024): SVBGSA held 4 "Our Water Future in the Salinas Valley: Planning for Uncertainty" at locations throughout SVBGSA's jurisdiction.

- DM Framework (2024–2025): Planning tool that provides a structure for how the SVBGSA can evaluate, prioritize, and implement measures if and when they are needed to meet SGMA requirements.
- Economic and Financial Analyses (2024–2025): Evaluated costs and feasibility of different demand management measures identified in the DM Framework.

The DM Framework is a Valley-wide planning document that establishes stages and triggers that indicate when DM may be needed to avoid undesirable results within a particular subbasin. There are triggers for both long-term declines in groundwater levels and short-term declines associated with droughts. The Framework recognizes that even if DM may not currently be necessary in a particular subbasin, it remains an available management tool that could be employed if groundwater conditions change or indicate the need for it. Based on extensive public input, the DM Framework describes the 6 agricultural and 4 domestic DM measures that were identified as the most appropriate in the Salinas Valley. It outlines DM administrative requirements, funding approaches, technical and economic analysis, measurement methods, and a water accounting system that would need to be developed for a measure to be activated. The DM Framework provides a preliminary assessment of costs to the agency, water users, and the regional economy to help guide further prioritization and decision making. The 10 measures range from voluntary to mandatory demand reductions. Table 9-2 notes if there is a discrete GSP management action to further describe the respective measure planned in this Subbasin.

Table 9-2. DM Measures Identified in DM Framework

	Agricultural	Urban
Voluntary	On-Farm Water Use Efficiency (MA4) Rotational Fallowing/Fallow Bank Agricultural Land Retirement/ Land Repurposing (MA3)	Education and Outreach (MA5) Incentivized Water Use Efficiency (MA5)
Mandatory	DM Fee Pumping Limits/Allocations Penalty Charges	Water Pricing Mechanisms Mandatory Efficiency Measures

Voluntary approaches to managing pumping can reduce demand through incentives rather than mandatory requirements or penalties. For example, through a voluntary fallowing program, willing landowners can reduce pumping and receive compensation if that reduction benefits a larger area and the larger area can contribute to the funding mechanism without changing extraction in all locations. Demand planning also encompasses planning for future demand that may occur from changes in land uses, such as bringing new land into irrigated production, changes in crop types, or new housing developments in areas with no existing water use.

DM measures can also be mandatory to provide a regulatory backstop that can be implemented in less time than it takes to implement water infrastructure projects. For example, pumping limits or allocations are a way to regulate groundwater extraction and determine each extractor's pro-

rata share of the sustainable yield or pumping limit. This typically divides the sustainable yield among beneficial users. Allocations can be developed based on various criteria, such as acreage, land use, historical pumping, or number of connections, or be a hybrid of multiple criteria.

DM measures can be used to:

- Plan for and/or reduce pumping
- Generate funding for PMAs
- Incentivize water conservation and/or recharge projects
- Show there are options for measures that can be developed if needed, but this management action does not establish pumping allocations or pumping controls.

9.4.2.1 Relevant Measurable Objectives

The main measurable objectives benefiting from demand management and planning include:

- **Groundwater levels measurable objective.** Reducing pumping will result in higher groundwater levels than otherwise would occur.
- **Groundwater storage measurable objective.** Reducing pumping will result in higher groundwater levels, and therefore greater groundwater in storage, than otherwise would occur.
- **ISW measurable objective.** Pumping reductions that occur near locations of ISW may result in higher shallow groundwater levels in ISW monitoring wells.

9.4.2.2 Expected Benefits and Evaluation of Benefits

The primary benefits expected for this management action are to reduce pumping during droughts or on an ongoing basis, to raise groundwater elevations; quantification of the benefits will be assessed as part of evaluation of specific measures.

Benefits will be evaluated using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR.. Reductions in groundwater pumping will be tracked through the GMP. Additional methods for measuring and verifying pumping reductions and their effects on groundwater conditions may be incorporated as part of specific DM programs.

9.4.2.3 Circumstances for Implementation

DM and Planning is a priority PMA with respect to droughts in the Upper Valley Subbasin. Stages will be assessed on an ongoing basis throughout GSP implementation and measures will

be activated as needed. The DM Framework applies to the entire Salinas Valley, but it is structured to account for differences in subbasin and aquifer conditions. The Framework establishes stages and triggers on a subbasin-scale since SGMA compliance is by subbasin. Stages are used to classify whether subbasin conditions indicate progressively lower groundwater levels relative to the SMC. Stages are defined on a numerical scale from 0 to 4, with 0 representing sustainable conditions that do not warrant DM and 4 representing chronic undesirable results that indicate the need for DM. Triggers also determine in which stage each subbasin is. DM measures may be implemented for larger or smaller areas that do not align with subbasin boundaries if conditions warrant it. The Framework provides an overview of how each DM measure may relate to different stages. Potential DM measures and appropriate areas will be evaluated and recommended to the Board in coordination with partner agencies.

The DM Framework short-term triggers will be evaluated annually, and long-term triggers will be assessed at least every 5 years for subbasins that have not already been determined to be in Stage 3 or Stage 4 based on long-term conditions. If there are planned infrastructure projects to improve groundwater conditions, evaluation of triggers can consider whether a DM measure is necessary. A DM measure may be temporary based on the timeline for project implementation or under drought conditions.

9.4.1.4 Permitting and Regulatory Process

Activation of specific DM measures requires authorization by the SVBGSA Board of Directors. For example, allocations or pumping limits would be developed and activated through an SVBGSA ordinance or regulation. Such regulations could be structured for automatic implementation when specific criteria are met or require the vote of the Board of Directors to take effect. However, activation of DM measures would not require permits for physical facilities.

9.4.2.4 Implementation Schedule

The Board will determine the DM measures to prioritize and implement. The schedule to develop and activate DM measures will depend on the specific measure prioritized.

9.4.2.5 Legal Authority

Legal authority for MA2 Demand Management and Planning is guided by California Water Code (CWC) Part 2.74 Chapter 5, which identifies the powers and authorities of GSAs. CWC §10725.2 provides the GSA with the powers and authorities to "perform any act necessary or proper" to implement SGMA regulations and allows the GSA to adopt rules, regulations, ordinances, and resolutions necessary for SGMA implementation. The Joint Exercise of Powers Agreement establishing the SVBGSA includes power to establish and administer projects and

programs for the benefit of the Basin [Subbasin]. Imposition of pumping allocations and controls requires a supermajority plus vote of the SVBGSA Board of Directors.

9.4.2.6 Estimated Cost

Costs for development and activation of DM measures vary based on the measure.

Direct costs to the administering agency (e.g., SVBGSA or another agency) and water users, as well as regional economic implications for the broader Monterey County region were assessed qualitatively in the Framework. Some relative quantitative estimates are provided but could change based on how a measure is implemented.

Table 9-3 summarizes relative costs for each DM measure. Costs are classified as high, moderate, or low, corresponding to agency level of effort (e.g., staff time, resources, and measurement) and direct costs to water users (e.g., capital costs, O&M, other fees, and impacts to farming operations or households). Regional economic impacts (community costs) are described as positive, negative, or mixed, corresponding to the effect of the measure on regional employment, communities, and economic activity (gross domestic product, or GDP).

Table 9-3. Summary of DM Measure Costs

AGRICULTURAL MEASURES						
Cost Category	**On-Farm Efficiency**	**Land Repurposing**	**Fallow Bank**	**Pumping Limits**	**DM Fee**	**Penalty Charges**
Agency Costs						
Development	*low*	*high*	*moderate*	*high*	*low*	*low*
Administration	*low*	*moderate*	*moderate*	*high*	*low*	*low*
Measurement	*low*	*low*	*moderate*	*moderate*	*moderate*	*low*
Incentive Payments	*none*	*moderate*	*moderate*	*none*	*none*	*none*
Water User Costs						
Capital and O&M	*moderate*	*moderate*	*low*	*low*	*low*	*low*
Rates/Fees	*low*	*moderate*	*moderate*	*low*	*N/A*	*N/A*
Farm/Household Impacts	*low*	*low*	*moderate*	*moderate*	*moderate*	*low*
Community Costs						
GDP	*mixed*	*mixed*	*negative*	*negative*	*negative*	*N/A*
Employment	*mixed*	*mixed*	*negative*	*negative*	*negative*	*N/A*
Community Costs	*none*	*mixed*	*negative*	*negative*	*negative*	*N/A*
Stages Assessment	*low*	*moderate*	*moderate*	*high*	*moderate*	*moderate*

DOMESTIC MEASURES				
Cost Category	**Education and Outreach**	**Incentivized Efficiency**	**Mandatory Efficiency**	**Pricing Mechanisms**
Agency Costs				
Development	*low*	*moderate*	*moderate*	*low*
Administration	*low*	*moderate*	*moderate*	*low*
Measurement	*moderate*	*low*	*low*	*low*
Direct Payments	*moderate*	*high*	*N/A*	*none*
Water User Costs				
Capital and O&M	*low*	*low*	*moderate*	*low*
Rates/Fees	*low*	*low*	*low*	*N/A*
Farm/Household Impacts	*low*	*low*	*moderate*	*moderate*
Community Costs				
GDP	*N/A*	*positive*	*positive*	*negative*
Employment	*N/A*	*positive*	*positive*	*negative*
Community Costs	*N/A*	*positive*	*positive*	*negative*
Stages Assessment	*low*	*low*	*high*	*moderate*

9.4.2.7 Public Noticing

As part of the approval of DM measures in the Subbasin, a public notice process will be necessary to ensure that all groundwater users and other stakeholders have the opportunity to comment on it. Development of DM measures will occur at public meetings of the SVBGSA Board and committees, and public noticing will be conducted in accordance with the Brown Act. SVBGSA will share information about the project and opportunities to comment on its website and in newsletters.

The general steps in the public notice process will include GSA staff bringing an assessment of the need for DM to the SVBGSA Board in a publicly noticed meeting. This assessment will include:

- A description of the undesirable result(s) that may occur if action is not taken
- A description of potential DM measures
- For the development of any specific DM measure, GSA staff will bring to the SVBGSA Board in a publicly noticed meeting:
    - An estimated cost and schedule for the proposed management action
    - Any alternatives to the proposed management action

- The SVBGSA Board will notify stakeholders in the subbasin or area of the proposed DM measure and allow at least 30 days for public input to the SVBGSA Board.
- After the 30-day public review period, the SVBGSA Board will vote whether to approve the implementation of the management action and notify the public if approved via an announcement on the SVBGSA website and mailing lists.

Mandatory measures in the form of an ordinance or regulation, such as the imposition of pumping allocations and controls, may also require CEQA review and this process will follow public noticing requirements.

9.4.3 MA3: Fallowing, Fallow Bank, Agricultural Land Retirement, and Multi-Benefit Land Repurposing

This was included in the original GSP as Management Action A3. To reduce groundwater extraction temporarily or permanently, this management action includes 4 actions that could be implemented on an as-needed basis to reduce irrigated land. These actions provide options for voluntary fallowing, land retirement or land repurposing that can be targeted to specific locations that have declining groundwater elevations or recharge potential, such as floodplains. Water quality and access to drinking water wells will also be considered when deciding where to incentivize these actions.

The following could be included under an overarching program, and could be implemented independently:

- **Rotational fallowing:** Participating growers/landowners fallow some percentage of land or fallow on a rotating basis. This could be modified to include partial fallowing, such as growing fewer crops per year instead of completely fallowing land.
- **Fallow bank:** Landowners/growers in a specific area contribute to a fallow bank and anybody participating in the program can voluntarily fallow land and draw against the bank to offset the lost income. The specific design of a fallow bank will be developed during GSP implementation, including options such as exempting growers from rotational fallowing if they contribute a certain amount of money to the fallow bank.
- **Agricultural land retirement:** Interested landowners retire agricultural land or receive payments to retire agricultural land, effectively reducing the amount of groundwater used in the Subbasin. The specific design of a payment system will be developed during GSP implementation.
- **Multi-benefit Land Repurposing (MLRP):** Interested landowners retire agricultural land, effectively reducing the amount of groundwater used in the Subbasin and the land is also repurposed to another multi-benefit use. Multi-benefit project types include

floodplain restoration, recharge basins, treatments wetlands, parks/open space and others depending on community interest.

This management action could work together with mandatory DM measures. For example, if stakeholders develop pumping allocations into a water market, payments for this management action could be developed as a part of the market.

9.4.3.1 Relevant Measurable Objectives

The main measurable objectives benefiting from fallowing, land retirement, or land repurposing include:

- **Groundwater levels measurable objective.** Reducing pumping will result in higher groundwater levels than otherwise would occur.
- **Groundwater storage measurable objective.** Reducing pumping will result in higher groundwater levels, and therefore greater groundwater in storage, than otherwise would occur.
- **ISW measurable objective.** If pumping reductions occur near locations of ISW, it may result in higher shallow groundwater levels in ISW monitoring wells.

9.4.3.2 Expected Benefits and Evaluation of Benefits

The primary benefits expected for this management action are to reduce pumping and raise groundwater elevations. Quantification of the benefits will be assessed as part of evaluation of specific measures. This management action is costed for saving 1,000 AF/yr; however, it could be scaled to any size. Because it is unknown how many landowners will willingly enter these types of programs, it is difficult to quantify the expected benefits at this time.

Benefits will be evaluated using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR. Reductions in groundwater pumping will be tracked through the GMP. Additional methods for measuring and verifying pumping reductions and their effects on groundwater conditions may be incorporated as part of specific programs.

9.4.3.3 Circumstances for Implementation

Fallowing, agricultural land retirement, and land repurposing – a contingency PMA in the Upper Valley Subbasin – relies on willing participants, be it for participation or land sale. The Salinas Valley MLRP is an ongoing action, and other actions are contingency actions to be activated as needed. The Salinas Valley MLRP has been under development during the first phase of GSP implementation with Department of Conservation grant funding and in partnership with the

California Marine Sanctuary Foundation, Central Coast Wetlands Group and the Greater Monterey County Integrated Regional Water Management (IRWM) Group. Developing 1 or more of these programs further may be prioritized as a voluntary demand management measure to achieve reductions in groundwater extractions as needed and guided by the DM Framework and assessments of DM stages and triggers.

9.4.3.4 Permitting and Regulatory Process

While no permitting or regulatory processes are necessary for buying land or securing agreements with landowners for fallowing or land retirement, the SVBGSA will secure and record as appropriate the necessary agreements or deed restrictions to implement the management action. Depending on the type of repurposing project, permits may be required for some restoration activities.

9.4.3.5 Implementation Schedule

In 2022, the Salinas Valley MLRP project partners received a grant to begin the development and implementation of land repurposing. The grant concludes in 2027 and along with several parcels being repurposed, will include a MLRP. The Plan can be refined as the cost, benefits, and Program interest are further assessed.

The DM Framework short-term triggers will be evaluated annually, and long-term stages will be assessed at least every 5 years for subbasins that have not already been determined to be in Stage 3 or Stage 4 based on long-term conditions. Evaluation of triggers can consider whether a DM measure is necessary if other projects are planned to improve groundwater conditions. The DM measure may be temporary based on the timeline for project implementation.

The first implementation step is to determine a feasible, equitable, and verifiable combination of measures that can achieve the target pumping reduction. Program development will begin by defining the baseline pumping period, geographic boundary, participating wells and users, and the accounting metric.

Fallowing and agricultural land use retirement will be implemented as needed.

9.4.3.6 Legal Authority

Legal authority for the GSA to implement PMAs is guided in CWC Part 2.74 Chapter 5, which identifies the powers and authorities of GSAs. CWC §10725.2 provides the GSA with the powers and authorities to "perform any act necessary or proper" to implement SGMA regulations and allows the GSA to adopt rules, regulations, ordinances, and resolutions necessary for SGMA implementation. Authorities related MA3: Fallowing, Fallow Bank, Agricultural Land Retirement, and MLRP are identified in §10725.4, §10726.2 and §10726.4. The Joint

Exercise of Powers Agreement establishing the SVBGSA includes powers to establish and administer projects and programs for the benefit of the Basin [Subbasin].

9.4.3.7 Estimated Cost

The cost for voluntary fallowing, land retirement and land repurposing depends on extent, duration, and management such as annual fallow banks or more permanent land retirement. There are regional economic impacts from decreases in farming acreage such as losses in income and jobs. There are also project-level economic impacts where the losses in net returns of farming activities of the growers are directly affected. Table 9-4 summarizes an example of the direct economic cost of annual temporary land fallowing under example 10% and 20% reductions in applied water use. The results represent direct economic costs associated with fallow banking with temporary fallowing and also permanent agricultural land retirement (Table 9-5). These estimates are for the entire Salinas Valley and reflect the changes in returns to management, risk, and non-cash capital overhead (ERA Economics, 2026a). The cost estimates for permanent fallowing assumes that the land is idle (repurposing cost not included and no applied irrigation water) and that the land is purchased outright. The cost estimates reflect the expected range of costs to compensate the landowner for the market value of the land in irrigated crop production and would ultimately be dependent on the actual property.

Table 9-4. Direct Cost of Temporary Land Fallowing

Subbasin	10% Reduction Range		20% Reduction Range	
180/400	$1,750	$2,100	$2,150	$2,600
Eastside	$1,500	$1,800	$1,800	$2,150
Forebay	$1,500	$1,750	$1,800	$2,050
Upper Valley	$1,400	$2,150	$1,550	$2,400
Langley	$1,350	$1,550	$1,650	$1,850

($/AF of Applied Water)

Table 9-5. Direct Cost Permanent Land Fallowing

Subbasin	Land Value ($/acre)		Applied Water (AF)		Direct Cost ($/AF)	
	Range		Range		Range	
180/400	$38,000	$64,000	1.92	2.06	$645	$1,010
Eastside	$43,000	$55,000	2.08	2.36	$670	$760
Forebay	$36,000	$55,000	2.36	3.06	$500	$585
Upper Valley	$35,000	$55,000	2.52	3.6	$450	$500

($/AF of Applied Water)

9.4.3.8 Public Noticing

As part of the approval of Fallowing, Fallow Bank, Agricultural Land Retirement, and MLRP programs, public notice will be necessary to ensure that all groundwater users and other

stakeholders have the opportunity to comment. SVBGSA will share information about the project and opportunities to comment on its website and in newsletters and will maintain an interested parties list for electronic notification about the programs. Development of the program will occur at public meetings of the SVBGSA Board and committees, and public notice will be conducted in accordance with the Brown Act.

The general steps in the public notice process for approval of the program will include SVBGSA staff bringing the proposed program to the SVBGSA Board in a publicly noticed meeting. SVBGSA will notify stakeholders in the subbasin or area of the proposed program and allow at least 30 days for public input to the SVBGSA Board. After the 30-day public review period, the SVBGSA Board will vote whether to approve the implementation of the management action and notify the public if approved via announcement on the SVBGSA website and mailing lists.

All appropriate documentation for any agricultural land retirement achieved through a land sale, agreement or deed restriction will be recorded with the County of Monterey Assessor – Clerk – Recorder's Office. All agricultural land retirement by any means through the GSA will be recorded and publicly accessible.

9.4.4 MA4: Conservation and Agricultural BMPs

In the original GSP this was Management Action A2. MA4 would be a program to incentivize and/or assist with conservation and agricultural BMPs to reduce groundwater pumping. It may also improve groundwater quality. SVBGSA acknowledges that BMPs are being developed as part of Ag Order 4.0 and will work to complement and not replicate those efforts. Potential practices that will be part of a program include:

- **ET Data.** ET data indicate crops' theoretical water needs as determined by crop type and weather conditions. Some ET datasets are 100% automated, relying on satellite imagery and weather stations to provide affordable data for large areas of land. Other ET datasets are generated automatically but then subject to expert verification, resulting in higher quality data at higher cost. The incorporation of ET data with soil moisture sensors, soil nutrient data, and flow meter data can help inform more efficient irrigation practices. The GSA could support the development and utilization of these tools through securing funding or coordinating with existing local agricultural extension specialists who conduct research and provide technical assistance to growers.

- **Education and Outreach.** SVBGSA will support existing local agricultural extension specialists with their education and outreach on BMPs that would increase water conservation and decrease pumping. Efforts will promote irrigation practices to reduce water use. Efforts could also include supporting practices to increase water retention such as compost application and use of cover crops. These BMPs could also support compliance with Ag Order regulations applicable to groundwater. Effective

implementation of BMPs will require buy-in from growers. SVBGSA will work with local agricultural extension specialists and growers to understand preferred BMPs and those that could yield the greatest water savings. SVBGSA could partner with existing organizations or technical assistance providers to help growers identify which BMPs they could pursue and analyze the potential savings from their implementation. Technical workshops and professional referrals can be utilized with partners to accomplish outreach effectively and efficiently with growers.

9.4.4.1 Relevant Measurable Objectives

The main measurable objectives benefiting from outreach and education include:

- **Groundwater levels measurable objective.** Promoting pumping reductions will result in higher groundwater levels than otherwise would occur.
- **Groundwater storage measurable objective.** Promoting pumping reductions will result in higher groundwater levels, and therefore greater groundwater in storage, than otherwise would occur.

9.4.4.2 Expected Benefits and Evaluation of Benefits

The primary benefit of implementing this management action is to provide the latest technologies and opportunities to modify agricultural practices that would allow farmers to reduce pumping needs but realize the same crop yields. This program could also be a mechanism for grant opportunities, funded through the SVBGSA to identify pilot programs and other innovative technological advancements that could provide an overall groundwater basin benefit.

Improving ET data allows for improved modeling and sets more accurate expectations for climate change impacts on crops. This in turn is translated into expected water demand for the crops. With more accurate data and information, pumpers can work with the SVBGSA to improve water extractions and potentially keep more water in the ground. This would result in protected groundwater elevations and storage. Furthermore, education and outreach activities can help inform farmers about innovative technology that would help maximize irrigation efficiency. This would also improve groundwater elevations and storage. Benefits cannot be quantified until specific BMPs are identified and promoted.

Quantification of the benefits will be assessed as part of evaluation of specific measures. Because it is unknown how many landowners will willingly enter these types of programs, it is difficult to quantify the expected benefits at this time.

Benefits will be evaluated using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR,. Reductions in groundwater

pumping will be tracked through the GMP. Additional methods for measuring and verifying pumping reductions and their effects on groundwater conditions may be incorporated as part of specific programs.

9.4.4.3 Circumstances for Implementation

Conservation and Agricultural BMPs is a priority PMA in the Upper Valley Subbasin and will be implemented throughout GSP implementation. The circumstance for implementation is for willing farmers to participate in an education and outreach program and to work with the SVBGSA to identify opportunities. No other triggers are necessary or required.

9.4.4.4 Permitting and Regulatory Process

No permitting or regulatory processes are necessary for an education and outreach program.

9.4.4.5 Implementation Schedule

This management action was initiated during the first phase of GSP implementation through development of an Ag BMP website with other agency partners. This program will be ongoing.

9.4.4.6 Legal Authority

Legal authority for GSA to implement PMAs is guided in CWC Part 2.74 Chapter 5, which identifies the powers and authorities of GSAs. CWC §10725.2 provides the GSA with the powers and authorities to "perform any act necessary or proper" to implement SGMA regulations and allows the GSA to adopt rules, regulations, ordinances, and resolutions necessary for SGMA implementation. The Joint Exercise of Powers Agreement establishing the SVBGSA includes powers to establish and administer projects and programs for the benefit of the Basin [Subbasin].

9.4.4.7 Estimated Cost

The Conservation and Agricultural BMP activities would be conducted as an ongoing program funded annually. This would cost approximately $100,000 to promote opportunities for education seminars, grant writing tasks, demonstration projects, and other activities focused on BMPs in the agricultural industry.

9.4.4.8 Public Noticing

Public noticing about Conservation and Agricultural BMP programs will be necessary to ensure that all groundwater users and other stakeholders have the opportunity to comment on the program development. Development of the program will occur at public meetings of the SVBGSA Board and committees, and public noticing will be conducted in accordance with the

Brown Act. SVBGSA will share information about the programs and opportunities to comment on its website and in newsletters and will maintain an interested parties list for electronic notification about the project. The SVBGSA will endeavor to have the broadest possible public educational and outreach to inform stakeholders, interested parties, landowners, and agricultural interests of conservation and agricultural BMPs.

9.4.5 MA5: Rural Residential Demand Management Water Use Efficiencies

SVBGSA recognizes that DM should include opportunities for all groundwater user groups to improve water use efficiency. Rural residential users, many of whom rely on individual domestic wells or small water systems, often do not have access to the services and incentives offered by urban water suppliers. Although this sector represents a relatively small share of total groundwater pumping, targeted efficiency measures can reduce localized demand, lower household costs, and improve resilience to drought and groundwater level declines. Building on SVBGSA's Water Efficiency Pilot Program conducted during the first phase of GSP implementation, this management action establishes an ongoing, voluntary, and incentive-based program focused on rural residential users.

This management action will provide a near-term, equitable, and relatively low-cost complement to the other priority PMAs by expanding voluntary water use efficiency services and incentives for these users. The initial program will build on lessons from SVBGSA's Water Efficiency Pilot Program and existing regional water efficiency programs. It will focus on rural households and small systems that are not otherwise well served and supported.

Potential measures include home water-use assessments, leak detection and repair, direct installation or rebates for efficient fixtures and appliances, outdoor irrigation audits and equipment, turf or high-water-use landscape replacement, and technical assistance. Program design will prioritize measures with verifiable savings and will address barriers faced by low-income households, renters, non-English-speaking residents.

Because many private wells and small systems do not have readily available customer-level use records, SVBGSA will consider a tiered measurement approach. Participation and installation will be documented for all measures; standardized or deemed savings may be used for well-established devices; and pre- and post-installation metering or monitoring could be used for higher-cost measures.

9.4.5.1 Relevant Measurable Objectives

The main measurable objectives benefiting from rural residential DM include:

- **Groundwater levels measurable objective.** Reducing pumping will result in higher groundwater levels than otherwise would occur.

- **Groundwater storage measurable objective.** Reducing pumping will result in higher groundwater levels, and therefore greater groundwater in storage, than otherwise would occur.

9.4.5.2 Expected Benefits and Evaluation of Benefits

No uniform mandatory household reduction or fixed percentage target is proposed at this stage. A quantifiable program target will be established after a user inventory, baseline, and pilot evaluation are completed. Expected benefits include reduced local pumping, lower household water and energy costs, greater drought resilience, and reduced vulnerability of domestic wells to declining groundwater levels.

Benefits will be evaluated using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR. Reductions in groundwater pumping will be tracked through the GMP. Additional methods for measuring and verifying pumping reductions and their effects on groundwater conditions may be incorporated as part of specific programs. Quantification of the benefits will be assessed as part of evaluation of the rural residential DM programs.

9.4.5.3 Circumstances for Implementation

During the first phase of GSP implementation, SVBGSA conducted a water use efficiency pilot program for rural residents. Rural Residential DM Water Use Efficiencies is a priority PMA in the Upper Valley Subbasin. Further water savings will depend on the willingness of rural residents to participate in the program. It will be evaluated annually and adjusted by changing outreach methods, eligible measures, incentive levels, and priority areas.

9.4.5.4 Permitting and Regulatory Process

No permitting or regulatory processes are necessary to develop a rural residential demand management water use efficiency program.

9.4.5.5 Implementation Schedule

Building on the initial pilot phase, continued development of the program is planned over approximately 3 years, and implementation will be ongoing thereafter.

9.4.5.6 Legal Authority

Legal authority for GSA to implement PMAs is guided by CWC Part 2.74 Chapter 5, which identifies the powers and authorities of GSAs. CWC §10725.2 provides the GSA with the powers and authorities to “perform any act necessary or proper” to implement SGMA

regulations and allows the GSA to adopt rules, regulations, ordinances, and resolutions necessary for SGMA implementation. The Joint Exercise of Powers Agreement establishing the SVBGSA includes powers to establish and administer projects and programs for the benefit of the Basin [Subbasin].

9.4.5.7 Estimated Cost

Rural residential demand management and water use efficiency activities will be conducted as an ongoing Valley-wide program funded annually. Program costs will range from year to year, with a range for implementation in all rural residential areas within SVBGSA's jurisdiction. An estimated range of $25,000 to $50,000 will be needed for program development, outreach, and initial implementation. Additional funding may be needed for ongoing implementation and rebates depending on the scale at which the program is implemented.

Presenting costs on a $/AF basis allows direct comparison across very different types of conservation investments, ranging from fixture retrofits to more capital-intensive outdoor landscape conversions. Table 9-6 summarizes typical unit costs for domestic water use efficiency measures (ERA Economics, 2026b). The values are planning-level ranges compiled from published California conservation studies and are intended to illustrate relative costs, not define program-specific costs for any 1 agency or service area. Actual costs will vary depending on local program design, rebate levels, customer participation rates, baseline water use, and other factors.

Table 9-6. Domestic Water Conservation Cost Summary

Conservation Practice	Typical $/AF Range
Leak detection and repairs	$100 - $500
Faucet aerators / showerheads	$200 - $700
High-efficiency toilets	$300 - $800
High-efficiency clothes washers	$400 - $1,000
Smart metering / billing improvements	$500 - $1,500
Public outreach and education	$300 - $1,500
Smart irrigation controllers	$800 - $1,800
Irrigation system upgrades (drip, etc.)	$1,000 - $2,500
Turf replacement / landscape conversion	$1,500 - $3,500+

9.4.5.8 Public Noticing

Public noticing about Conservation and Agricultural BMP programs will be necessary to ensure that all groundwater users and other stakeholders have the opportunity to comment on the program development. Development of the program will occur at public meetings of the

SVBGSA Board and committees, and public notice will be conducted in accordance with the Brown Act. SVBGSA will notify the public about the program at public meetings and on SVBGSA website and mailing lists. The SVBGSA will endeavor to have the broadest possible public educational and outreach through ongoing communications and engagement activities targeting rural residents.

9.4.6 MA6: Rural Residential Well Mitigation Program

The Well Mitigation Program is a management action intended to assist rural residential drinking water users if the PMAs implemented under this GSP are not able to maintain access to reliable domestic water supplies. The program is not intended to replace or substitute for the implementation of groundwater sustainability PMAs. Rather, it provides a framework for responding to localized impacts that may occur despite broader efforts to improve groundwater conditions.

The primary objective of the Rural Residential Well Mitigation Program is to ensure that these domestic users continue to have access to safe and reliable drinking water while SVBGSA works toward achieving and maintaining groundwater sustainability. It is not intended to solve existing water quality exceedances that are unrelated to groundwater management but could help document the need for mitigation for those instances. The program builds upon implementation activities already identified in this GSP, including monitoring network improvements, groundwater level tracking, well registration, dry well reporting and notification systems, demand management planning, groundwater recharge projects, and coordination with agencies and organizations involved in drinking water assistance.

This MA focuses on rural residential users that rely on domestic wells for individual households, small local or small state water systems (2-15 connections) and may have limited ability to respond to declining groundwater levels. Mitigation measures may include short-term emergency assistance, intermediate-term solutions, and permanent measures, depending on the nature and severity of the groundwater conditions. It will be developed to complement existing support programs, such as the SWRCB Safe and Affordable Funding for Equity and Resilience program and avoid SMC undesirable results.

Potential mitigation measures may include:

- Providing temporary water supplies, such as bottled water or water storage tanks.
- Facilitating water hauling services.
- Lowering well pumps, where appropriate.
- Assessing opportunities to connect affected users to a nearby public water system or consolidate with other water systems, where feasible.

- Installing point-of-entry or point-of-use treatment systems if needed to address water quality concerns associated with groundwater conditions.
- Coordinating with local, state, federal, and nonprofit assistance programs that provide drinking water support.
- Providing technical assistance to affected well owners, including support for deepening, modifying, repairing, or replacing existing domestic wells, where no alternative supplies are available and these types of well improvements are determined to be necessary appropriate.

SVBGSA will coordinate with the County of Monterey, water system operators, nonprofit organizations, and other partners to leverage existing programs and funding sources whenever possible before developing new mitigation mechanisms.

9.4.6.1 Relevant Measurable Objectives

The main measurable objectives benefiting from the Rural Residential Well Mitigation Program include:

- **Groundwater level measurable objective.** The program provides a mechanism to address impacts to rural residential users if groundwater level declines are affecting domestic well reliability. It is not intended to raise groundwater levels to measurable objectives, but rather to mitigate the effects of low groundwater levels.
- **Groundwater quality measurable objective.** The program provides a mechanism to address drinking water quality concerns if groundwater quality undesirable results affect domestic well water quality. It is not intended to improve groundwater quality, but rather to help mitigate negative effects on rural residential users.

9.4.6.2 Expected Benefits and Evaluation of Benefits

The primary benefit of this management action is maintaining access to drinking water for rural residential users while longer-term groundwater sustainability PMAs are implemented.

This management action does not directly improve groundwater elevations, seawater intrusion, groundwater quality, or land subsidence. Instead, it mitigates impacts that may occur if groundwater conditions affect domestic water supplies before sustainability goals are achieved.

Program effectiveness will be evaluated through:

- GMP tracking of reported dry or impaired domestic wells.
- Monitoring the number and type of mitigation actions implemented.

- Evaluating response times for addressing reported impacts.
- Reviewing trends in domestic well impacts relative to groundwater conditions.

Monitoring information described in Chapter 7, together with information collected through the Dry Well Notification System and outreach to well owners, will be used to evaluate program performance.

9.4.6.3 Circumstances for Implementation

Rural Residential Well Mitigation is a contingency PMA. SVBGSA will consider implementing it if monitoring, reporting, and/or investigation indicate that groundwater conditions associated with failing to avoid undesirable results are affecting rural drinking water users. Initial program development steps will be undertaken in this next phase of GSP development, and prioritized for implementation when and where conditions warrant it.

Indicators for the need for mitigation may include:

- Documented loss of domestic well production.
- Significant reduction in domestic well yield that affects household water access
- Water quality degradation that is directly attributable to extraction or a GSA action that limits the usability of a domestic well
- Other impacts identified through monitoring, reporting, or site-specific investigation

Before implementing mitigation measures, SVBGSA will evaluate available information to determine whether the impact is reasonably related to groundwater conditions that the GSP is intended to address and has occurred post-2015.

9.4.6.4 Permitting and Regulatory Process

Development of the Well Mitigation Program does not require permits. Individual mitigation actions may require permits or approvals depending on the measure selected. For example, domestic well replacement or modification may require Monterey County well permits. Connections to existing water systems would be subject to the requirements of the receiving water system and applicable regulatory agencies.

9.4.6.5 Implementation Schedule

Development of the Rural Residential Well Mitigation Program will take 2 to 3 years. Key steps include:

- Conducting initial feasibility and a high-level cost estimate.

- Establishing coordination protocols with partner agencies and organizations.
- Developing program criteria and response procedures.
- Identifying available funding sources and assistance programs.
- Developing procedures for evaluating reported impacts.
- Implementing mitigation measures as needed.

The Program will be refined as needed throughout GSP implementation.

9.4.6.6 Legal Authority

Legal authority for GSA to implement PMAs is guided by California Water Code (CWC) Chapter 5, which identifies the powers and authorities of GSAs. CWC §10725.2 provides the GSA with the powers and authorities to "perform any act necessary or proper" to implement SGMA regulations and allows the GSA to adopt rules, regulations, ordinances, and resolutions necessary for SGMA implementation. The Joint Exercise of Powers Agreement establishing the SVBGSA includes powers to establish and administer projects and programs for the benefit of the Basin [Subbasin].

The Well Mitigation Program will be implemented in coordination with agencies and organizations that have additional authorities and responsibilities related to drinking water supplies and domestic wells. Actions involving well construction, repair, or replacement will be performed in accordance with applicable state and local requirements.

9.4.6.7 Estimated Cost

Costs will depend on the number and severity of domestic well impacts and the mitigation measures implemented.

Initial program development costs are anticipated to be relatively low and primarily associated with program administration, coordination, outreach, planning and evaluation. Costs will vary substantially depending on whether assistance involves temporary water supplies, technical assistance, water system connections, or other measures.

Funding strategies will be evaluated during program development and may include coordination with existing local, state, federal, or third-party funding sources.

9.4.6.8 Public Noticing

As part of the approval of the Rural Residential Well Mitigation program, a public notice process will be necessary to ensure that all groundwater users and other stakeholders have the opportunity to comment. Development of the Rural Residential Well Mitigation program will

occur at public meetings of the SVBGSA Board and committees, and public noticing will be conducted in accordance with the Brown Act. SVBGSA will share information about the project and opportunities to comment on its website and in newsletters. Stakeholder engagement will occur throughout the process and will include public workshops, Advisory Committee or subbasin committee meetings, meetings with affected water systems, agricultural representatives, and other interested parties.

The general steps in the public notice process will include GSA staff bringing the proposed program to the SVBGSA Board in a publicly noticed meeting. This will include an estimated cost and schedule for implementation. The SVBGSA Board will notify stakeholders in the subbasin or area of the proposed program and allow at least 30 days for public input to the SVBGSA Board. After the 30-day public review period, the SVBGSA Board will vote whether to approve the implementation of the management action and notify the public if approved via announcement on the SVBGSA website and mailing lists.

Once developed, SVBGSA will conduct ongoing outreach regarding the Rural Residential Well Mitigation Program through its website, mailing lists, stakeholder meetings, and coordination with local agencies and community organizations. Information on program eligibility, reporting procedures, available assistance, and program updates will be made publicly available. Annual reporting on program implementation will be incorporated into GSP implementation and adaptive management activities, as appropriate.

9.4.7 MA7: MCWRA Reservoir Operation

In the original Upper Valley GSP this is Management Action A4 and it consists of SVBGSA collaborating with MCWRA and other interested parties to evaluate reservoir operation scenarios that promote groundwater sustainability of the Upper Valley Subbasin and other subbasins in the Valley should a project advance that necessitates altering reservoir operations. Sustainability includes consideration of beneficial users dependent on reservoir flows, such as steelhead trout. This management action is focused on the operation of the Nacimiento and San Antonio Reservoirs under the prevailing reservoir operational rules and future Salinas River Operations HCP that regulate reservoir releases to manage reservoir storage, provide groundwater recharge, operate the SRDF and account for the multiple other reservoir operational considerations including dam safety, established agreements, and permits. The management action for drought operations of reservoirs is included in the description for the MCWRA Drought Reoperation.

This management action includes a feasibility study, which will involve working with MCWRA using updated models or developing model updates to simulate reservoir operations and groundwater-surface water interactions along the Salinas River.

Details of this management action are dependent on the outcome and progress of other activities, including the Salinas River Operations HCP that is under development by MCWRA. Given the

importance of reservoir operations for groundwater sustainability, this management action will be undertaken if new capital projects necessitate reoperation of the reservoirs. While other capital projects could spur the need for reservoir reoperation, the only capital project under consideration as of GSP Amendment 1 is the Interlake Tunnel and San Antonio Spillway Modification (ILT). ILT is an example that relies on infrastructure owned and operated by MCWRA and any analysis of the potential benefits from reservoir operation or implementation would require a cooperative effort between SVBGSA and MCWRA.

Interlake Tunnel and San Antonio Spillway Modification. The proposed Interlake Tunnel (ILT) project consists of design, permitting, construction, and maintenance of a tunnel that would divert water from Nacimiento Reservoir to San Antonio Reservoir. San Antonio and Nacimiento Reservoirs have storage capacities of 335,000 and 377,900 AF, respectively; however, the Nacimiento River watershed produces nearly 3 times the average annual flow of the San Antonio River watershed. Consequently, more available storage capacity must be maintained in Nacimiento Reservoir to prevent downstream flooding during storm events than must be maintained in San Antonio Reservoir. Initial modeling shows the proposed Interlake Tunnel project would transfer 30,000 AF/yr of water on average from Nacimiento Reservoir to San Antonio Reservoir, which is the same as in the Tunnel-Only alternative (MCWRA, 2023). The proposed project would increase the average annual combined reservoir storage by 54,000 AF, or 39,000 AF with the Tunnel-Only Alternative. The reservoir operating rules employed for this modeling reflect the current Nacimiento Dam Operations Policy (MCWRA, 2018), and therefore reflect changes due to the project as compared to current reservoir operations, not considering any potential reductions in reservoir capacity that may be required if deferred maintenance does not occur.

This project is intended to minimize flood control releases and increase the overall surface water supply available from Nacimiento and San Antonio Reservoirs by maximizing the opportunity for water to be collectively stored in the reservoirs and released for beneficial uses and users. Under both the proposed project and the Tunnel-Only Alternative, model results show average annual SRDF diversions would increase by approximately 1,000 AF. With the proposed project, model results show that combined reservoir releases would result in approximately 18,000 AF/yr of additional groundwater recharge along the Salinas River upstream of the SRDF. With the Tunnel-Only Alternative, there would be approximately 14,000 AF/yr of additional groundwater recharge (MCWRA, 2023).

This GSP is primarily concerned with project benefits that maintain groundwater sustainability in the Upper Valley Subbasin. However, ancillary benefits and relative costs of the example project or others that might be proposed must also be addressed and carefully evaluated. These projects will affect the entire Salinas Valley, and the analyses of these projects must consider the impact on all subbasins. This GSP includes review of reservoir operations as a management action to help maintain groundwater sustainability along the Salinas River, including some portion that

augments groundwater in the Upper Valley Subbasin. This management action will likely need to consider any new flow regime and reservoir operations resulting from the planned HCP, and subject to any biological opinion or incidental take permit issued by NMFS, or other regulations issued by applicable regulatory agencies. MCWRA is currently negotiating with NMFS and U.S. Fish and Wildlife Service (USFWS) to develop an HCP for MCWRA's water operations and management activities, including facility maintenance, water supply operations, and flood management. The HCP is a planning document and part of MCWRA's application for a Section 10(a)(1)(B) incidental take permit under the Endangered Species Act. California Department of Fish and Wildlife (CDFW) will also be involved in permitting MCWRA's activities that relate to state regulated species. The HCP will include protocols for reservoir operations to meet MCWRA's mission and obligations while minimizing effects to species covered under the HCP. The relationship between groundwater levels and surface water flow, including reservoir releases, will be further examined once the guidance for ISW is available.

9.4.7.1 Relevant Measurable Objectives

Should a capital project prompt review and refinement of reservoir operations, the main measurable objectives that could benefit include:

- **Groundwater levels measurable objective.** With a new capital project, optimizing reservoir releases to manage storage between reservoirs and groundwater recharge could result in increased groundwater recharge, which will result in higher groundwater levels than otherwise would occur.
- **Groundwater storage measurable objective.** Higher groundwater levels will help improve groundwater in storage.
- **ISW measurable objective.** Increased recharge near locations of ISW will result in higher shallow groundwater levels in ISW monitoring wells.

9.4.7.2 Expected Benefits and Evaluation of Benefits

Reservoir operations are important to groundwater sustainability. Should reservoirs be operated differently, the benefits will depend on how they are reoperated. Quantification of the benefits will be assessed as part of evaluation. Because it is unknown how they would be reoperated, it is not possible to quantify the expected benefits at this time.

Benefits will be evaluated using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR. Additional methods for measuring and verifying pumping reductions and their effects on groundwater conditions may be incorporated as part of specific programs.

9.4.7.3 Circumstances for Implementation

Reservoir Operation is a contingency PMA, with studies to be undertaken if a project necessitates a review of and potentially modifications to reservoir operations. In order for this management action to move ahead, MCWRA and SVBGSA would need to agree to coordinate on such an analysis and SVBGSA would lead the effort to source associated funding. Ultimately, MCWRA would determine whether such an effort would be pursued under their role as owner and operator of the reservoirs.

9.4.7.4 Permitting and Regulatory Process

The initial phase of this management action is a feasibility study, which does not require permitting or meeting regulatory requirements.

Operating the reservoirs requires coordination with permits from NMFS, USFWS, CDFW, SWRCB, or other agencies that have authority over Salinas River flows.

9.4.7.5 Implementation Schedule

With a new capital project, the feasibility study associated with this management action will be conducted in coordination with that project.

9.4.7.6 Legal Authority

Legal authority for GSA to implement PMAs is guided by CWC Part 2.74 Chapter 5, which identifies the powers and authorities of GSAs. CWC §10725.4 specifically provides GSAs with the authority to conduct investigations. The Joint Exercise of Powers Agreement establishing the SVBGSA includes powers to establish and administer projects and programs for the benefit of the Basin [Subbasin].

No legal authority is required to undertake the feasibility study. MCWRA, SVBGSA, NMFS, and other project partners will participate in the study. Implementing reservoir operations is under the authority of MCWRA. The SVBGSA does not have any authority over their surface water facilities or reservoir operations.

9.4.7.7 Estimated Cost

This management action is estimated to cost approximately $400,000 - $500,000 (2022 GSP estimate).

9.4.7.8 Public Noticing

The work associated with this effort would be under the purview of MCWRA. SVBGSA will provide information about this management action at meetings of the SVBGSA Board of

Directors, Advisory Committee, and Subbasin Committees to update the public on such analysis and outcomes from model efforts. Public notice of these meetings will be conducted in accordance with the Brown Act.

9.4.8 MA8: MCWRA Drought Reoperation

This management action was included in the original GSP as Management Action A5. MCWRA formed a Drought Operations Technical Advisory Committee (D-TAC) to provide, when drought triggers occur, technical input and advice regarding the operations of Nacimiento and San Antonio Reservoirs. The D-TAC developed Standards and Guiding Principles to be used in the development of a proposed reservoir release schedule triggered under specific, seasonally defined conditions. This management action would result in decisions on reservoir operation and flow releases during a drought.

The proposed reservoir release operations schedule triggered under specific, seasonally defined conditions of drought will be developed based on the best available scientific knowledge, data, and understanding of the environmental biology, hydrology, and hydrogeology of the Salinas Valley; under the technical expertise of the members of the D-TAC. If adopted by the MCWRA Board of Directors or MCWRA Board of Supervisors, the proposed reservoir release schedule will be implemented based on specific tools and templates made available to the D-TAC. These are discussed further in the Implementation Procedures. The proposed reservoir release schedule will acknowledge, address, and balance the water needs of various stakeholders for limited resources during a drought.

The D-TAC will use a MCWRA provided template when developing the release schedule. The specific actions will also be described in a narrative form to expound upon the actions taken for each month shown in the release schedule. Reservoir releases will be made under direction of the MCWRA Board of Directors or Board of Supervisors through the adoption of a reservoir release schedule or dry winter release priorities, to be executed by MCWRA staff. Appendix 9B outlines the D-TAC Standards, Guiding Principles, and Implementation Procedures. The recommendations of the D-TAC may change with the development and adoption of a Habitat Conservation Plan (HCP), but the D-TAC Standards, Guiding Principles, and Implementation procedures will remain in place unless modified by an HCP.

Summary Actions

The Standards and Guiding Principles Document and any recommended release schedule prepared by the D-TAC will first be received by the Water Resources Advisory Committee (WRAC). The WRAC will meet to discuss recommended release schedules and will solicit information, data, and public comment regarding appropriate MCWRA operations during droughts. Following receipt of public input regarding any subsequent release schedule, the WRAC will then prepare a written recommendation regarding reservoir operations which will be

transmitted to the MCWRA Board of Directors for consideration and action. Any interested party that dissents from the WRAC's recommendation may submit separate written comments to the MCWRA Board of Directors. The MCWRA Board of Directors will determine, in accordance with applicable law, whether MCWRA will adopt a release schedule, provided the MCWRA General Manager may, in his sole discretion, refer the question of whether MCWRA should implement a recommended release schedule to the MCWRA Board of Supervisors for final determination. In the event the MCWRA General Manager elects not to refer the question of implementation of a recommended release schedule to the MCWRA Board of Supervisors, the decision of the MCWRA Board of Directors regarding such questions shall constitute final agency action for all purposes. The MCWRA Board of Directors (or MCWRA Board of Supervisors, if applicable) will retain full discretion and authority to accept or reject, in whole or in part, the written recommendations of the WRAC.

9.4.8.1 Relevant Measurable Objectives

The main measurable objectives benefiting from MCWRA drought reoperation include:

- **Groundwater levels measurable objective.** Reservoir release schedules during multi-year droughts aims to provide annual groundwater recharge and help prevent lowering of groundwater elevations..
- **Groundwater storage measurable objective.** Reservoir release schedules during multi-year droughts aims to provide annual groundwater recharge and help prevent lowering of groundwater elevations, and therefore increase groundwater in storage from what would otherwise occur.

9.4.8.2 Expected Benefits and Evaluation of Benefits

The D-TAC will help develop a release schedule aimed at mitigating negative effects from droughts, including from surface water flows and groundwater recharge. The proposed reservoir release schedule will be based on scientific data and will acknowledge, address, and balance the water needs of various stakeholders for limited resources during a drought. The proposed reservoir release schedule will maintain geographic equity, avoid adverse impacts to Valley-wide agricultural operations, and avoid, to the extent possible, consecutive years where only minimum releases are made from the reservoirs. Annual reservoir releases will help recharge the aquifers in the Salinas Valley, which will help prevent declines in groundwater elevations and storage during drought periods overall.

This GSP is unable to quantify the benefits at this time because the D-TAC recommendation will be different each time it convenes.

- If and when D-TAC does convene and the recommendation is implemented by the MCWRA Board of Directors or MCWRA Board of Supervisors, benefits will be

measured using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR. Additional methods for measuring and verifying pumping reductions and their effects on groundwater conditions may be incorporated as part of specific programs. ISW will be measured through shallow groundwater wells near locations of ISW.

9.4.8.3 Circumstances for Implementation

The D-TAC is already established and is a priority PMA convened by MCWRA. Its convening will occur when conditions trigger it on an annual basis.

9.4.8.4 Permitting and Regulatory Process

This management action follows the ongoing permitting and regulatory process used by MCWRA for reservoir operations.

9.4.8.5 Implementation Schedule

The D-TAC is already established. Its convening will occur when conditions trigger it on an annual basis.

Annually, the D-TAC will meet any time a "drought trigger" occurs to develop a recommended release schedule for Nacimiento and San Antonio Reservoirs. MCWRA presents the annual reservoir release schedule at the October meeting of the MCWRA WRAC. If the December 1 forecasted combined reservoir storage volume is below 220,000 AF and the San Antonio Reservoir forecasted storage is below 82,000 AF, the D-TAC release schedule process will begin. MCWRA will schedule a D-TAC meeting to occur no earlier than February 15 and the D-TAC will meet as needed through March 31. The release schedule will be developed for April through December of the current year. If significant inflow occurs during this period, then modifications to the release schedule will be made through existing MCWRA protocols. The D-TAC will develop a recommended release schedule consistent with its Standards and Guiding Principles. The D-TAC's Standards and Guiding Principles and any subsequent release schedule will be presented to the MCWRA Board of Directors and/or Board of Supervisors for consideration and decision.

9.4.8.6 Legal Authority

MCWRA, which owns and operates the reservoirs, is implementing the D-TAC. The SVBGSA will participate in and work in cooperation with MCWRA on the D-TAC. No additional legal authority is needed.

9.4.8.7 Estimated Cost

This management action is already underway. MCWRA is already funding costs associated with facilitation of the D-TAC. SVBGSA costs include consultant participation in the D-TAC.

9.4.8.8 Public Noticing

Because this management action is already underway, MCWRA has already completed initial public noticing. Public noticing will occur for the October WRAC meeting that activates the D-TAC and when the reservoir release schedule developed by the D-TAC goes to Reservation Operations and/or the Board of Directors for consideration.

9.5 Projects

9.5.1 P1: Multi-benefit Stream Channel Improvements

This project was originally included in the 2022 GSP as Project B1 and is now referred to as a program. Over the past half century, the Salinas River has been impacted by the construction of the San Antonio and Nacimiento Dams and flood control levees intended to move water away from agricultural fields. While the dams provide flood protection and groundwater recharge, they have also changed natural river geomorphology, resulting in changes in sediment transport and allowing vegetation density to increase on the historically dynamic channels of the Salinas River. The invasion and expansion of dense stands of *Arundo donax*, originally planted to stabilize banks, has been a major driver in loss of channel capacity. While managed reservoir releases can increase groundwater recharge, the alteration of natural floodplains and geomorphology, along with continued agricultural development on lower river terraces, has increased flood risk to adjacent agricultural land during minor flow events, decreased direct groundwater recharge, and contributed to increased ET through vegetation build-up. Targeted, informed stream maintenance and floodplain enhancement can improve stream function both morphologically and biologically.

This program takes a 3-pronged approach to stream channel improvements. First, it addresses vegetation growth and geomorphic conditions in the river channel by removing perennial native and non-native vegetation in designated maintenance channels (and removing *Arundo donax* (arundo) and *Tamarix sp.* (tamarisk) throughout the river corridor). Second, the program smooths sediment to reduce flow impediments and/or removes sediment in secondary channels to create functioning secondary channels. Third, it enhances secondary channel floodplains to increase groundwater recharge.

This 3-pronged approach increases greater river channel capacity by removing dense native and non-native vegetation, provides vegetation free areas within the greater river channel for infiltration, and stabilizes stream banks and earthen levees by reducing downstream velocities. This program's activities also benefit native species throughout the river ecosystem. By

improving geomorphological function through vegetation and sediment removal activities, the coordinated efforts allow native species to reestablish in areas where invasive species have become dominant. River maintenance activities enhance groundwater recharge efforts by providing additional open areas on lower riparian terraces for infiltration. Infiltration through the streambed accounts for a significant portion of the groundwater budget. Invasive species such as arundo, which transpires more than most common native riparian species in the Salinas River riparian zone, negatively impacts water availability and river flows (Zefferman and Barker, 2024; Cal-IPC, 2011).

Surface water flows, and notably minor flood flows for flows occurring on intervals of 2 – 10 years, can be impacted by the density of vegetation. Native riparian species, which are typically less dense than non-native arundo, allow for more dynamic action that scours the riverbed and allows natural secondary channels to form, which can convey water across a broader spatial area during low flow events and conveyance of flood waters in the broader active flood terraces in the river. This wider use of the floodplain can slow velocities and distribute minor flood waters over a broader spatial area of the greater river channel.

Stream channel vegetation removes water from the riparian zone through ET. Water loss through ET from invasive species such as arundo transpires 3.5 (+/- 0.4) AF/yr per acre, whereas native riparian vegetation can transpire 1.7 - 4 AF/yr per acre (Zefferman and Barker, 2024; Melton and Hang, 2021; Cal-IPC, 2011). The differences in water consumption between vegetation types can have impacts on water in the river and can be shifted through overall vegetation management (Zefferman and Barker, 2024; Cal-IPC, 2011). The Salinas River is characterized by a braided channel in some areas of the floodplain and a confined channel in other areas. Plants can take root in locations that adversely impact the flow of water, resulting in either a channelized river or in creating directional velocities that can cause localized damages including levee failure. Sedimentation of fine-grained material can also impede infiltration to the subsurface. Geomorphological processes are important to managing a natural riverbed and floodplain to enhance recharge, groundwater levels, and groundwater storage. An increase of recharge potential from the excavation of secondary channels ranges from 435 to 3,473 AF/yr for the length of the river depending on the estimated infiltration rates, with no increases in recharge estimated in some areas of the downstream reaches where the channel is constricted and the Salinas Vally Aquitard is present (Montgomery & Associates, 2026e).

This program includes 4 main types of tasks: vegetation maintenance, non-native vegetation removal, sediment management, and floodplain enhancement and recharge.

- **Vegetation Maintenance.** Vegetation, both native and non-native, will be removed within designated maintenance areas using a scraper, mower, bulldozer, excavator, truck, or similar equipment to remove the vegetation above the ground. Discing may be conducted to break up roots and further mobilize the channel bottom. Vegetation

maintenance includes pruning lower tree limbs in select areas and removing dead mass. Maintenance activities will not include disturbance of emergent wetland vegetation that provides suitable habitat for threatened California red-legged frogs or for the endangered tidewater gobies. In instances where native vegetation needs to be removed for site-specific conditions or tie-ins, these impacts can be compensated with replanting and revegetation in other areas, or by removing arundo outside of secondary channels, as mitigation for stream channel maintenance. Native trees will be planted during the rainy season to enhance their rate of success.

- **Non-Native Vegetation Removal.** Non-native vegetation removal primarily focuses on the arundo present in the region but may include *Phragmites australis* (phragmites), *Nicotiana glauca* (tree tobacco) and *Tamarix spp.*(tamarisk) shrubs as well. Arundo is a grass that was introduced to the Americas in the 1800s for construction material and for erosion control purposes (Cal-IPC, 2011). In 2011, the California Invasive Plant Council determined that the Salinas Watershed had the second largest invasion in the state, with approximately 1,500 infested acres. While arundo thrives near water, in locations such as wetlands and rivers, it grows in many habitats and soil types. It requires a substantial amount of water, making it 1 of the thirstier plants in a given region and outpacing the water demands of most native vegetation. To manage this invasive species, arundo biomass is typically masticated or hand cut if needed, and then treated with multiple applications of herbicide over several years. Permits allow arundo treatment in the entire riparian corridor, including along the low-flow channel.

- **Sediment Management.** Sediment management includes secondary channel bed grading and sediment removal. Sediment grading and removal may occur exclusively, or after vegetation maintenance activities described above. Sediment removal and grading activities help reestablish proper gradients to allow for improved drainage downstream, encourage preferential flow into and through secondary channels, and minimize resistance to flow (MCWRA, 2016). Sediment removal will follow best practices to protect native species while producing maximum benefit for flood reduction and groundwater recharge.

- **Floodplain Enhancement and Recharge.** Floodplain enhancement restores areas along the River, creeks, and floodplains and modifies levees/berms to create a larger area for infiltration of flows and encourage groundwater recharge. Restored floodplain and riparian habitat can slow down the velocity of the River and creeks and encourage greater infiltration. Due to agricultural and urban encroachment, streams have become more highly channelized, flow has increased in velocity, particularly during storm events, and there has been a loss of functional floodplains.

Program Components

This multi-benefit stream channel improvement program is implemented through 3 program components. These build off existing programs and permits to undertake the 4 main types of tasks. During GSP implementation, these components may be modified as needed to accomplish the program goals most efficiently.

Component 1: Stream Maintenance Program

The first component continues the Salinas River SMP, which maintains the river corridor to reduce minor flood risk and minimize bank and levee erosion while supporting and improving ecological conditions for fish and wildlife consistent with other priorities for the Salinas River (MCWRA, 2016). It is a coordinated SMP that includes MCWRA, the RCDMC, and the RMU Association representing approximately 50 landowner members along the river corridor. Project benefits include increased water availability, flood risk reduction, reduced velocities during high flows to lessen bank and levee erosion, and enhanced infiltration by managing vegetation and sediment throughout the river and its tributaries.

The SMP occurs along the area of the Salinas River in Monterey County. The 92 miles of the river in Monterey County are broken into 7 River Management Units from San Ardo in the south to Highway 1 in the north. The management activities are focused on the secondary channels of the Salinas River located outside of the primary low-flow channel and are preferentially aligned with low-lying undeveloped areas that are active during times of higher flow (MCWRA, 2016). The SMP includes 3 main activities as part of stream maintenance: native and non-native vegetation maintenance and sediment management in secondary channels, and non-native arundo removal outside secondary channels.

Component 2: Invasive Species Eradication

The second component supports and/or undertakes removal of arundo, tamarisk, and other invasive plant species by the RCDMC. RCDMC is the lead agency on an estimated 20-year effort to fully eradicate arundo from the Salinas River Watershed, working in a complementary manner with the SMP. This project is called the Salinas River Arundo Eradication Program or the Salinas River Invasive Plan Control and Restoration Program and focuses on removal of woody invasive species such as arundo, tamarisk (*Tamarix sp*.), and tree tobacco (*Nicotiana glauca*) along the Salinas River, as well as retreatments needed to keep it from coming back. It includes 3 distinct phases: mechanical biomass reduction and initial herbicide treatment, re-treatment, and ongoing monitoring and maintenance treatments. As of April 2026, total net acreage of arundo under treatment was 1,100 acres. Arundo that remains untreated from the original 1,500 mapped acres has expanded by approximately 20%, leaving approximately 650-700 arundo acres remaining to be treated. The initial treatment phase typically includes mechanical reduction (mastication or hand cutting) in all areas of the river that have yet to be

treated. Initial herbicide treatment will be conducted on any mechanically reduced arundo, or as the first phase of treatment. The re-treatment phase includes herbicide spot treatment of the approximately 700 acres that will be initially treated and typically includes 2-3 treatments within the first 5 years following initial treatment. The final phase is the ongoing monitoring and maintenance treatment phase. This phase requires monitoring for regrowth of the invasive species or new invasive species and chemical treatment where needed every 3 to 5 years.

Component 3: Floodplain Enhancement and Recharge

The third component complements the first 2 by restoring and enhancing floodplains to enable high flows to be slowed and directed toward areas where water can infiltrate into the ground. For this component, SVBGSA will partner with the Greater Monterey County IRWMG, Central Coast Wetlands Group (CCWG) and other organizations that are already undertaking creek and floodplain restoration efforts and encourage inclusion of features that would enhance recharge.

Restored floodplain and riparian habitat along creeks and rivers can slow down water velocity and encourage greater infiltration, especially with small to moderate flows. Due to agricultural and urban encroachment, streams have become more highly channelized, and flow has increased in velocity, particularly during storm events. This flow has resulted in greater erosion and loss of functional floodplains. With a new water right, potential recharge basins adjacent to the primary and secondary channels could be created by notching levees to allow river flow to enter and by building additional levees to hold water and allow time for recharge. Levees would not exceed 6 feet, and there would be no excavation. Off-channel recharge basins studied for recharge potential receiving flow through the notched levees during 22,000 cubic feet per second (cfs) flow events, indicated a range of 0.25 – 1.00 AF/yr per acre of recharge basin (Montgomery & Associates, 2026e).

9.5.1.1 Relevant Measurable Objectives

The main measurable objectives benefiting from this project include:

- **Groundwater levels measurable objective.** Removing invasive species, better managing streams, and directing minor high flows into restored floodplains or off-channel recharge basins will facilitate more water infiltrating and percolating into the subsurface to raise groundwater elevations.
- **Groundwater storage measurable objective.** Adding water to the principal aquifer will ultimately have the effect of increasing groundwater in storage.
- **ISW measurable objective.** Removing vegetation pathways for ET will result in higher shallow groundwater levels near locations of ISW.

9.5.1.2 Expected Benefits and Evaluation of Benefits

The groundwater-related expected benefits are increased groundwater elevations in the vicinity of the river channel due to increased infiltration and percolation to the principal aquifers, increased groundwater in storage, and increased groundwater elevations near locations of ISW. In addition, the project provides habitat restoration, increased connectivity for wildlife, and minor flood risk reduction.

Increased storage of flood waters from minor events can increase groundwater elevations in the vicinity of the Salinas River where shallows clays do not inhibit recharge. This typically will be seen as groundwater mounding subparallel to the river corridor. However, as more water infiltrates into the subsurface, more water will flow laterally, thereby expanding the zone of influence from the river outward and raise groundwater elevations laterally. With continued removal of arundo, ET will decrease over time, allowing for more water to remain in the system.

Assuming removed arundo will be replaced by native herbaceous vegetation, there will be an estimated average water savings of 1.76 (+/- 0.25) AF/yr of area treated. Removal of arundo on an additional 700 acres along the entire Salinas River, leading to a total of 1,800 acres removed and maintained, will decrease ET by approximately 3,161 AF/yr throughout the Salinas Valley. The actual net water savings will depend on the type of vegetation that replaces arundo, the frequency of drought, floods, and vegetation scouring events, climate, and other factors. This will enhance recharge from the Salinas River within the southern part of the Subbasin and leave more water in the River to get down to the CSIP, where surface water is used in lieu of groundwater to help address seawater intrusion and declining groundwater elevations. With this reduction of non-productive water consumption, less water can be released from the reservoirs to get the same amount of water downstream, which increases the Valley's sustainable yield and drought resilience. It also results in indirect recharge as removal reduces groundwater use by the plants.

Component 3 of this project includes various floodplain enhancement features, restoration activities and off-channel recharge basins. Preliminary project scoping includes the development of 6 recharge basins along the Salinas River where there is suitable recharge potential. Initial estimates of the combined benefit of the 6 recharge basins covering 1,340 acres is expected to be 367 to 1,334 AF/yr in increased recharge.

This program will also enhance streamflow by returning patterns of flow to a more natural state. Arundo infestation decreases the natural channel migration and complexity of sandy-bottomed streams by confining the channel to an armored, single stem with faster flowing water, which then becomes susceptible to erosion and incision. A narrowing channel with reduced capacity also heightens flood risk. Removing arundo will allow greater normalization of natural geomorphic processes and sediment transport by de-armoring low-flow channel banks and adjacent floodplain areas to enable channel migration and braiding.

Stream channel improvements will provide many additional ecosystem benefits, including:

Habitat restoration. This project will help restore riparian habitat. Results from 4 years of plant community monitoring of arundo sites initially treated in 2016 show that diversity and abundance of native plants have increased over this time period, and this trend is expected to continue. Field biologists conducting pre-activity surveys have also observed increased wildlife activity post-arundo removal. Since the large flow events in 2023, former arundo-dominated areas that had received multiple treatments are largely indistinguishable from non-invaded areas in terms of plant species diversity and structure.

Increased connectivity for wildlife. Within the Central Coast region there are several mountain ranges, coastal areas, valley floors, and upland habitats that need to be connected to allow for the wildlife movement necessary for gene flow and healthy populations (Thorne *et al.,* 2002). The Salinas River riparian area is an important linkage for wildlife movement between upland habitat via tributaries. Removal of dense arundo stands will reduce physical impediments to movement for wildlife species such as mountain lion, bobcat, deer, and American badger. RCDMC has documented this through wildlife camera monitoring, which has shown increased detections of large mammals such as deer, bobcat, and coyote after arundo removal. This project will promote habitat use and movement of wildlife by increasing availability of food and nesting resources.

Flood risk reduction. Stream maintenance has the societal benefit of reducing minor flood risk to neighboring lands, which are mostly agricultural fields. Arundo's dense structure creates increased surface roughness, thus backing up water and causing flooding during minor high flow events. When agricultural fields are flooded with river water, farmers lose crops and thus considerable income, and must leave their fields fallow for months after flooding due to food safety concerns. Flooding can also damage levees which then have to be repaired and bring weed seeds and propagules (including arundo) into fields which then have to be controlled.

Enhanced conveyance and infrastructure protection. The maintenance of secondary channels through the SMP improves conveyance of storm flows which protects levees from scour, erosion and overtopping.

Benefits will be evaluated using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR. ISW will be measured through shallow monitoring wells near locations of ISW.

9.5.1.3 Circumstances for Implementation

Multi-benefit Stream Channel Improvements is a priority PMA. The SMP and Salinas River Arundo Eradication Program are ongoing projects with MCWRA, the RCDMC, and the RMU Association. Program administration is provided by the RCDMC and the RMU Association. Landowners currently pay for maintenance activities in the maintenance channels and for associated biological monitoring and reporting, with supplemental support for administrative and biological expenses from federal, state, and local funding. SVBGSA could support the program, become an administrative partner in the program with other program partners, or fund maintenance and monitoring activities.

Floodplain enhancement projects are included as contingency projects and will be implemented if additional water is required to maintain sustainability. A number of agreements and rights must be secured before individual projects are implemented. Primarily, a more formal cost/special benefit analysis must be completed to determine how many site options are preferable. Water diversion rights may need to be secured to divert stormwater, which may take a significant number of years.

9.5.1.4 Permitting and Regulatory Process

For Components 1 and 2, the permitting process has already been initiated by MCWRA and RCDMC, and permits are in place until 2035 for the program. Invasive species eradication will be continued under existing permitting. All participants in the SMP must enter into an agreement with RCDMC and comply with all terms, conditions, and requirements of the permits and Program Guidelines.

Component 3 may require a CEQA environmental review process and an Environmental Impact Report (EIR) or a Mitigated Negative Declaration (the review could also result in a Negative Declaration or Notice of Exemption). Additionally, permits from a variety of state and federal agencies may be necessary, and any project that coordinates with federal facilities or agencies may require National Environmental Policy Act (NEPA) documentation.

Permits for all 3 components are detailed below.

Component 1 Permits:

- ***U.S. Army Corps of Engineers (USACE)*** – The Department of the Army Regional General Permit 20 for the SMP, Corps File No. 22309S, was executed on September 28, 2016, by the USACE. The original RGP was authorized under §404 of the Clean Water Act (33 U.S.C. §1344) through November 15, 2021, and a 5-year extension was granted. The NMFS and the USFWS concurred with the USACE determination that the project was not likely to adversely affect the following federally endangered

or threatened species: the San Joaquin kit fox (*Vulpes macrotis mutica*), the California tiger salamander (*Ambystoma californiense*), the Monterey spineflower (*Chorizanthe pungens* var. *pungens*), the yellow-billed cuckoo (*Coccyzus americanus*), or the South-Central California Coast (S-CCC) steelhead (*Oncorhynchus mykiss*). The USFWS issued a Biological Opinion on August 22, 2016, for the federally endangered least Bell's vireo (*Vireo bellii pusillus*) and tidewater goby (*Eucyclogobius newberryi*) and its critical habitat and the federally threatened California red-legged frog (*Rana draytonii*). As of August 2026, the RGP is undergoing a renewal process, and the Biological Opinion will be revised.

- ***NMFS*** – The RCDMC also has a letter of concurrence in which NMFS supports USACE's decision that the SMP "is not likely to adversely affect species listed as threatened or endangered or critical habitats designated under the Endangered Species Act."
- ***CCRWQCB*** – The Clean Water Act §401 Water Quality Certification for Discharge of Dredged and/or Fill Materials, Certification No. 32716WQ02, was approved on August 31, 2016, with an original expiration date of November 30, 2025. This permit was amended and extended through November 30, 2035.
- ***CDFW*** – The SMP is authorized under a Routine Maintenance Agreement (RMA) 1600-2016-0016-R4, approved October 14, 2016, and held by the RCDMC. The RMA has been amended several times, most recently (amendment 6) on July 18, 2025. The RMA covers all impacts under the program from the original date of approval through December 31, 2026. RCDMC will seek an extension of the permit for 5-10 years beyond the current expiration date.
- ***CNRA*** – An EIR was completed by MCWRA in compliance with the CEQA.

Component 2 Permits:

- ***CDFW*** – The invasive species eradication is authorized under a Restoration Management Permit # RMP-2026-0032-R4 approved July 30,2026, for a term of 10 years, and held by the RCDMC.
- ***EPA*** Discharge Elimination System (NPDES) permit CAG990005 allows the Salinas River Arundo Control Program to apply pesticides to waterways.

In addition, the RCDMC Salinas River Arundo Control Program filed a CEQA Mitigated Negative Declaration in 2011, received a technical assistance letter from NMFS, completed a USFWS No Take Request, and received a technical assistance letter from USFWS.

Component 3 Permits that may be required for floodplain enhancement include:

- ***USACE*** – A Regional General Permit may be required if there are impacts to wetlands or connections to waters of the United States.
- ***CDFW*** – A Standard Agreement is required if the project could impact a species of concern.
- ***EPA*** – NEPA documentation must be submitted for any project that coordinates with federal facilities or agencies. Additional permits may be required if there is an outlet or connection to waters of the United States.
- ***NMFS*** – A project may require authorization for incidental take, or another protected resources permit or authorization from NMFS.
- ***CNRA*** – Projects of a magnitude capable of having a demonstrable impact on the environment will require a CEQA environmental review process. Projects will require either an EIR, Negative Declaration, or a Mitigated Negative Declaration.

9.5.1.5 Implementation Schedule

If selected, the components of this program may be implemented on different schedules. The annual implementation schedule for Component 1 is outlined in Table 9-7. Approximately 40 new acres could be added to the program each year, taking about 10 years to add the remaining acres if selected for full implementation. Annual maintenance needs to be continued indefinitely. For Component 2, up to 100 of the remaining 700 acres of uncontrolled arundo could begin treatment each year, as shown in Table 9-8. Component 3 could be initiated anytime. This schedule is shown in Table 9-9.

Table 9-7. Annual Implementation Schedule for Stream Maintenance

Task Description	Dec 1	Mar 31		Sep 1	Nov 30
Phase I – Annual RMU report, Work Plan, and noticing					
Phase II – Pre-maintenance surveys					
Phase III – Maintenance activities					

Table 9-8. Implementation Schedule for Invasive Species Eradication

	Year												
Task Description	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Treat and retreat first 100 acres													
Treat and retreat second 100 acres													
Treat and retreat third 100 acres													
Treat and retreat fourth 100 acres													
Treat and retreat fifth 100 acres													
Treat and retreat sixth 100 acres													
Treat and retreat seventh 100 acres													

Table 9-9. Implementation Schedule for Floodplain Enhancement and Recharge

Task Description	Year				
	1	**2**	**3**	**4**	**5**
Studies/Preliminary Engineering Analysis					
Agreements/Right of Way/Water Rights					
CEQA					
Permitting					
Design					
Bid/Construct					

9.5.1.6 Legal Authority

RCDMC has legal authority over the Component 1 SMP for program administration and permitting. Private landowners and local cities that conduct maintenance in the permitted work areas must agree to permit conditions and execute an agreement with RCDMC. Private landowners and local cities currently pay for all maintenance activities including heavy equipment work, while a combination of private and public funding support administration and biological surveys and monitoring.

For Component 2 invasive species removal, the RCDMC has legal authority for program administration and permitting. The RCDMC obtains Landowner Access Agreements with property owners or managers (tenants) to allow them to do the work or to allow the RCDMC to oversee landowner-conducted work.

Legal authority for GSA to implement PMAs is guided by CWC Part 2.74 Chapter 5, which identifies the powers and authorities of GSAs. For floodplain restoration activities, the SVBGSA has the right to divert and store water once it has access to the appropriate water rights. Pursuant

to California Water Code §10726.2 (b), SVBGSA has the right to acquire and hold real property, and to divert and store water once it has acquired any necessary real property or appropriative water rights. The Joint Exercise of Powers Agreement establishing the SVBGSA includes powers to establish and administer projects and programs for the benefit of the Basin [Subbasin].

9.5.1.7 Estimated Cost

Component 1 SMP program permits have been completed and renewed or were in the process of renewal as of August 2026. The annual administrative and biological survey/monitoring costs of Component 1 of this program are approximately $100,000 - $150,000, excluding the cost of stream maintenance activities (equipment operation and other implementation work), which varies from year to year based on number of participants and work site conditions. These costs are currently paid by program participants; however, the SMP program could cover the costs of stream maintenance activities, biological monitoring, and/or reporting to reach higher participation rates from landowners and therefore increase project benefit. Prevailing wage does not apply to individual program participants conducting SMP activities, therefore the cost per acre is lower than for the Invasive Species Eradication Program. Some of the programmatic costs for Component 1 are covered through the Invasive Species Eradication activities. The cost for the vegetation management is approximately $2,200/acre for the first year and $400/acre for annual maintenance thereafter. This does not include the cost of sediment management, which can be high. The cost estimate for SMP activities, required biological monitoring, and reporting is included in Table 9-10. As of 2025, 289 acres of native and non-native vegetation have been treated at least once under the SMP, though not all areas are treated every year.

Table 9-10. Cost Estimate of SMP Vegetation Management

	Acres	First year of vegetation management ($2,200/acre)	Subsequent years of vegetation management ($400/acre)
Upper Valley	250	$550,000	$100,000
Forebay	263	$578,600	$105,200
180/400	137	$301,400	$54,800
Subtotal	650	$1,430,000	$260,000

For Component 2, Invasive Species Eradication, the total cost of initial treatment of arundo, retreatment and herbicide application, program administrative costs, biological surveys, monitoring and permitting is $25,000/acre. These costs include a prevailing wage contractor, administrative expenses related to grant management, and certain Component 1 programmatic costs. If additional acres are treated, the cost per acre will go down. The indirect projected yield for the invasive species eradication project is estimated at 1.7 AF/yr. per acre of invasive species removed. With the costs and estimated project benefits, the amortized cost of water for this project is estimated to be $15,000/AF.

Component 3 includes the construction of 6 recharge basins, with an expected benefit of an average of 140 AF/yr in increased recharge per basin and a capital cost of $1,116,000 each, for a total of $6,696,000. Spread over 25 years and assuming a 6% discount rate, the annualized cost is $93,300 per recharge basin, including yearly maintenance. The unit cost is $666/AF (2022 GSP estimate). These costs are approximate; exact costs will depend on site specifics.

9.5.1.8 Public Noticing

The work associated with this effort would be under the purview of MCWRA and RCDMC. SVBGSA will provide information about this project at meetings of the SVBGSA Board of Directors, Advisory Committee, and Subbasin Committees to update the public on such analysis and outcomes from these efforts. Public notice of these meetings will be conducted in accordance with the Brown Act.

If SVBGSA leads any project components, public notice will be necessary to ensure that all groundwater users and other stakeholders have the opportunity to comment on the project during its development. SVBGSA will maintain proactive stakeholder engagement at public meetings of the SVBGSA Board and committees on the project, and public notice will be conducted in accordance with the Brown Act. SVBGSA will share information about the project and opportunities to comment on its website and in newsletters and will maintain an interested parties list for electronic notification about the project.

Environmental review will follow the public noticing requirements of CEQA or NEPA. Additional public notice may be required to obtain permits or project approval, pursuant to the regulatory requirements of the permitting agency.

Depending on the funding strategy, SVBGSA will also provide public notices that may be required to obtain external (grant) funding or to establish new local funding or revenue mechanisms to implement the project, with adequate time and opportunity for public comment.

9.5.2 P2: Managed Aquifer Recharge with Overland Flow

This program was Project B2 in the original GSP and it incentivizes development of groundwater recharge basins that recharge overland flow and stormwater runoff from the Coastal Ranges before they reach streams and the Salinas River. This program is structured similar to the program instituted in Pajaro Valley, whereby agricultural landowners dedicate a portion of their land to recharge ponds and direct overland flood flows into the ponds. This could include some type of incentive for recharge basins that would be situated to collect runoff before it enters a local stream and allowed to infiltrate. It could also be combined with Project 2 and include multi-benefit projects along the floodplain to increase recharge capacity, since floodplains generally have high recharge.

This program will require additional analysis on actual available runoff from each of the watersheds. It assumes that the stormwater is not being diverted upstream; however, many of the mountain ranges have diversion operations already occurring upstream in the watershed. Rain gauges and studies will be required to determine the true estimate of water available from each subwatershed.

This project currently plans for 4 recharge basins, each with a recharge capacity of about 100 AF/yr. Their locations will be chosen based on site availability and suitability. The most suitable sites have clean soil and high recharge potential. Soil tests will guide site selection so that contaminants do not leach into groundwater and contaminate drinking water. Aquifer recharge potential is highest where there are areas of highly permeable soils, good connection to underlying aquifers, and topography that directs surface runoff toward retention/catchment areas. The SVBGSA will investigate where recharge ponds would yield the greatest amount of groundwater recharge, combining data on soil permeability, stratigraphy, and land use to map areas of high potential recharge.

The program would reach out to landowners to increase awareness of the benefits of recharge basins and work with local stakeholders to identify lands with high recharge capacity. It could also work with interested landowners to identify sites, undertake potential site analyses with cone penetration tests (push tests), and design recharge basins. This program will involve monitoring water quality and could potentially improve stormwater quality and reduce stormwater volume, which is regulated under the ILP. Water recharged will comply with regulatory standards. The project could potentially include development of a permit coordination program for recharge projects. The program could also work with various organizations and government agencies to connect existing incentivization programs and funding to landowners interested in collaborative recharge projects that require land and access.

9.5.2.1 Relevant Measurable Objectives

Relevant measurable objectives benefiting from this project include:

- **Groundwater elevation measurable objective.** By routing stormwater and runoff from streams into recharge facilities and restored floodplains, more water will be added to the principal aquifer. This water will be slowed down and allowed to infiltrate, which will result in higher groundwater elevations than otherwise would occur.
- **Groundwater storage measurable objective.** Adding water to the principal aquifer will ultimately have the effect of increasing groundwater in storage. Groundwater storage is also calculated from measured groundwater elevations. By raising groundwater elevations, the change in storage will be positive.
- **Land subsidence measurable objectives.** Increasing both groundwater elevations and groundwater storage will have the added benefit of preventing any potential land

subsidence. Maintaining and adding water in the subsurface will keep pore spaces saturated with positive pressure and inhibit land surface collapse associated with groundwater depletion.

9.5.2.2 Expected Benefits and Evaluation of Benefits

This project will help increase groundwater elevations compared to where they otherwise would be through enhanced infiltration of runoff. Runoff occurs when the rate of rainfall exceeds the soil infiltration rate. This runoff then flows over the land surface before accumulating into washes and streams as measurable stream flow. In the initial phases of overland flow, this water often infiltrates into the soils, which enhances soil moisture and facilitates recharge to the aquifer. The benefits to increased soil moisture go beyond increased opportunity for recharge. Enhanced soil moisture contributes to erosion protection as well as near-surface temperature regulating processes (Rivas, 2006; Mittelbach *et al.*, 2011). Four recharge basins sized at 100 AF/yr are planned for this project with a combined benefit of about 400 AF/yr in increased recharge.

Benefits will be evaluated using the monitoring networks described in Chapter 7. Groundwater level responses will be assessed using the MCWRA groundwater monitoring well network. Land subsidence will be tracked using InSAR data provided by DWR.

9.5.2.3 Circumstances for Implementation

The Overland Flow MAR project is a contingency project. A number of agreements and rights must be secured before the project is implemented. Primarily, a more formal cost/benefit analysis must be completed to determine if the on-farm modifications will provide quantifiable benefits to the principal aquifer. Recharge basins installed as part of this project could be directly funded by the SVBGSA or grant funding, or SVBGSA could develop an incentive program. Funding must be approved by the SVBGSA Board of Directors.

9.5.2.4 Permitting and Regulatory Process

Projects described in this section may require a CEQA environmental review process and may require an Environmental Impact Report (EIR) or a Mitigated Negative Declaration (the review could also result in a Negative Declaration or Notice of Exemption). Additionally, permits from a variety of state and federal agencies may be necessary, and any project that coordinates with federal facilities or agencies may require National Environmental Policy Act (NEPA) documentation.

In addition, permits from the following government organizations that may be required for overland flow MAR projects include:

- ***USACE*** – A Regional General Permit may be required if there are impacts to wetlands or connections to waters of the United States.
- ***CDFW*** – A Standard Agreement is required if the project could impact a species of concern.
- ***EPA*** –NEPA documentation must be submitted for any project that coordinates with federal facilities or agencies. Additional permits may be required if there is an outlet or connection to waters of the United States.
- ***NMFS*** – A project may require authorization for incidental take, or another protected resources permit or authorization from NMFS.
- ***SWRCB Stormwater Pollution Prevention Plan*** – A General Permit to Discharge Stormwater may be required depending on how stormwater is rerouted.
- ***California Department of Transportation*** – An Encroachment Permit is required if any state highway will be obstructed.

9.5.2.5 Implementation Schedule

If selected, the schedule will depend on whether programmatic permitting can be obtained or whether each individual project needs its own feasibility, permitting, and design. It will take up approximately 5 years to design, permit, and construct the project.

9.5.2.6 Legal Authority

Pursuant to California Water Code § 10726.2 (a) and (b), the SVBGSA has the right to acquire and hold real property, and to divert and store water once it has acquired any necessary real property or appropriative water rights. Some right in real property (whether fee title, easement, license, leasehold or other) may be required to implement a recharge project. A permit to appropriate water may not needed to infiltrate overland flow if constructed on a parcel without a USGS blue line stream. If a blue line stream crosses the parcel, SVBGSA will evaluate whether a permit is needed. SVBGSA recognizes that this process takes several years to complete. If a permit is needed, SVBGSA will pursue a SWRCB 5-year temporary permit under the Streamlined Permit Process while it applies for the diversion permit.

9.5.2.7 Estimated Cost

This project was costed during the development of the 2022 GSP. The construction of 4 recharge basins, each with an expected benefit of 100 AF/yr, is expected to have a capital cost of $1,032,000 for a total of $4,128,000. Spread over 25 years and assuming a 6% discount rate, the annualized cost is $86,700 per recharge basin, including annual maintenance. The unit cost is $870/AF. These costs were estimated assuming that only 1 recharge basin would be built, but

there may be economies of scale that lower the cost if more are built. These costs are approximate; exact costs will depend on site specifics.

9.5.2.8 Public Noticing

If this contingency project is prioritized for further development, public notice will be necessary to ensure that all groundwater users and other stakeholders have the opportunity to comment on the project during its development. SVBGSA will maintain proactive stakeholder engagement at public meetings of the SVBGSA Board and committees on the project, and public notice will be conducted in accordance with the Brown Act. SVBGSA will maintain information about the project and opportunities to comment on its website and in newsletters and will maintain an interested parties list for electronic notification about the project.

Environmental review will follow the public noticing requirements of CEQA or NEPA. Additional public notice may be required to obtain permits or project approval, pursuant to the regulatory requirements of the permitting agency.

Depending on the funding strategy, SVBGSA will also provide public notices that may be required to obtain external (grant) funding or to establish new local funding or revenue mechanisms to implement the project, with adequate time and opportunity for public comment.

9.6 Other Groundwater Management Activities

Although not specifically funded or managed by this GSP, a number of associated groundwater management activities will be promoted and encouraged by the GSAs as part of general good groundwater management practices. If any particular action is scoped further and shown to significantly improve groundwater conditions, SVBGSA may consider implementing it as a project or management action under this GSP.

9.6.1 Continue Urban and Rural Residential Conservation

Existing water conservation measures should be continued, and new water conservation measures promoted for residential users. Conservation measures may include the use of low flow toilet fixtures, or laundry-to-landscape greywater reuse systems. Conservation projects can reduce demand for groundwater pumping, thereby acting as in-lieu recharge.

9.6.2 Promote Stormwater Capture

Stormwater and dry weather runoff capture projects, including Low Impact Development (LID) standards for new or retrofitted construction, should be prioritized and implemented. The Storm Water Resource Plan outlines an implementation strategy to ensure valuable, high-priority projects with multiple benefits (Hunt *et al.*, 2019). While not easily quantified and therefore not

included as projects in this document, stormwater capture projects may be worthwhile and benefit the Valley.

9.6.3 Watershed Protection and Management

Watershed restoration and management can reduce stormwater runoff and improve stormwater recharge into the groundwater basin. While not easily quantified and therefore not included as projects in this document, watershed management activities may be worthwhile and benefit the Valley.

9.6.4 Support Reuse and Recharge of Wastewater

Wastewater collection and treatment provides opportunities to use and reuse water in various ways. Each wastewater treatment facility has unique infrastructure with different plans for expansion or upgrades. Potential upgrades could result in greater reliability, improved water quality, the ability to reuse treated wastewater or increase water reuse yields, or increased recharge to groundwater. These upgrades may directly or indirectly affect groundwater conditions.

10 GROUNDWATER SUSTAINABILITY PLAN IMPLEMENTATION

This chapter describes how the GSP for the Upper Valley Subbasin will be implemented. The chapter serves as a roadmap for activities needed for GSP implementation to achieve sustainability by 2042 but focuses on the next 5-year implementation cycle and activities between 2027 and 2032.

Implementing this GSP will require the following activities, each of which is detailed in a subsequent subsection:

- Refinement and development of PMAs
- Development of funding mechanisms and financing plans for selected PMAs
- Data collection, monitoring, and SGMA compliance
    - Annual monitoring and reporting
    - Updating the DMS
    - Improving monitoring networks
    - Addressing identified data gaps in the HCM
- Coordination with interested parties and ongoing community outreach
- General administration of the SVBGSA and ongoing GSP implementation work streams

In addition, this chapter outlines a schedule for GSP implementation and an estimate for the GSP implementation cost and an overview of potential funding mechanisms. It also provides for adaptive management to occur throughout GSP implementation to achieve groundwater sustainability.

The implementation approach is based on the best available data as of the development of GSP Amendment 1 that is used to evaluate groundwater conditions and prepare the current assessment of PMAs described in Chapter 9. The Subbasin's conditions and the details of the projects and actions will evolve over time based on future data collection, model development, policy decisions, project engineering and permit requirements, and input from interested parties and stakeholders.

GSP Amendment 1 updates implementation activities based on work completed in the first 5 years of GSP implementation, which was the focus of Chapter 10 in the original GSP. This update continues SVBGSA's approach to managing multiple subbasins, describes the Valley-wide implementation pathway that will be revised as needed over time, and summarizes how SVBGSA will manage this Subbasin's groundwater sustainably. It identifies SGMA

implementation activities through the GSP planning horizon, which will be adjusted as needed to adaptively manage groundwater in the Salinas Valley.

10.1 Projects and Management Actions to Manage Groundwater Sustainably

The Upper Valley Subbasin is part of the larger Salinas Valley. Although each subbasin has unique characteristics, they are hydraulically interconnected to varying degrees. As a result, groundwater management actions in the Upper Valley Subbasin can affect neighboring subbasins, just as management decisions in other subbasins may influence conditions within the Upper Valley Subbasin. To address these interconnections, the SVBGSA is managing across all 6 subbasins through an Integrated Implementation Strategy (IIS), in collaboration with partner GSAs and other agencies.

Management of groundwater and surface water resources is related. SVBGSA is focused on groundwater management and coordinating groundwater management with other agencies that have water management responsibilities and authorities. In particular, SVBGSA works closely with MCWRA, which has water management authority countywide, including surface water management and operation of key water projects and infrastructure. A comprehensive approach to management of both surface and groundwater resources in the Salinas Valley is essential to maintaining a reliable water supply. Implementation of the GSPs and the analysis of the effects of proposed PMAs is based on the premise that the operation, maintenance, and management of existing reservoirs and other water infrastructure that influence groundwater conditions throughout the Valley will continue.

SVBGSA recognizes that sustainable water management depends on individual water users and the coordinated efforts and investments of multiple local agencies, and those agencies' activities are funded by the same set of landowners and taxpayers. SVBGSA strives to take a collaborative, efficient, and integrated approach to water resource management, recognizing the complementary roles of numerous interested parties and agencies involved with groundwater management, surface water operations, water supply projects, water quality management, and ecosystem stewardship in achieving long-term sustainability goals for the Salinas Valley.

A summary of the IIS is presented below, followed by the key PMAs relevant to the Upper Valley Subbasin GSP and how they address SMC and help mitigate overdraft.

10.1.1 Integrated Implementation Strategy

SVBGSA has a unique structure and approach to multi-subbasin coordination that differs from other regions in California. While the inter-subbasin agreement provisions of SGMA do not directly apply to SVBGSA's jurisdiction, SVBGSA believes establishing a collaborative

framework is the appropriate approach for the Salinas Valley in Monterey County. SVBGSA remains committed to working cooperatively to achieve and maintain groundwater sustainability across the 6 subbasins it fully or partially manages. This commitment will be further reflected and advanced through the development and implementation of the IIS.

A multi-subbasin approach is necessary and appropriate for GSP implementation in the Salinas Valley due to the following factors:

- Aquifers across the 6 Salinas Valley Subbasins are hydraulically connected to varying degrees and cross subbasin boundaries.
- Salinas River connects 4 of the subbasins (180/400, Monterey, Forebay, and Upper Valley) and is the main source of groundwater recharge for the Valley.
- Nacimiento and San Antonio Reservoirs store water under MCWRA water rights, and reservoir releases provide groundwater benefits across subbasins.
- Potential costs and repercussions of failing to avoid undesirable results are of regional importance and a Countywide concern.

SVBGSA will use the IIS to manage the 6 Salinas Valley subbasins jointly. As part of the IIS, SVBGSA evaluated comprehensive portfolios of PMAs to identify the most effective and coordinated path to sustainability. The evaluation weighed various factors including technical feasibility, cost-effectiveness, stakeholder impacts, and the ability of each project or management action to contribute to meeting sustainable management criteria within SGMA-mandated deadlines. This integrated approach recognizes that sustainability cannot be achieved across the entire Salinas Valley by addressing each subbasin in isolation. A coordinated strategy spanning SVBGSA's jurisdiction is essential to long-term groundwater management success.

In 2026, a comprehensive evaluation of portfolios of PMAs resulted in identification of the most effective and coordinated path to sustainability. The process started with presenting the completed studies of individual PMAs that were components of the portfolios. The SVBGSA Advisory Committee considered proposed portfolios, provided feedback to staff, and forwarded their input to the SVBGSA Board of Directors.

On August 13, 2026, the SVBGSA Board of Directors selected a preferred IIS portfolio of PMAs to guide further development and refinement of the preferred implementation pathway. The portfolio addresses undesirable results throughout the Salinas Valley, including seawater intrusion and chronic lowering of groundwater levels in multiple subbasins. Although individual PMAs may affect specific areas, the portfolio was developed to help avoid undesirable results across the entire Salinas Valley.

Selection of a preferred portfolio identifies the long-term implementation pathway for further development and refinement but does not lock the SVBGSA into a fixed project configuration, authorize individual projects, or commit funding. Each project and management action will continue to require separate planning, environmental review, permitting, financing, and future Board approvals before implementation. SVBGSA will continue to refine projects, evaluate alternatives, and revise the preferred portfolio as needed during GSP implementation.

Other PMAs identified in Chapter 9 may also be implemented if a component of the selected portfolio proves infeasible or if further analysis indicates an alternative approach would better achieve GSA objectives, including meeting GSP goals, maintaining affordability, and addressing other key considerations. In addition, Chapter 9 includes ongoing and as-needed contingency PMAs that are necessary to prevent worsening conditions, improve groundwater conditions beyond minimum thresholds, advance progress toward measurable objectives, and address specific local issues. Together, these actions support ongoing assessment and adaptive management throughout GSP implementation.

PMAs in the preferred IIS portfolio include the following:

- Demand Management – Deep Aquifers Allocations / Pumping Limits
- Seawater Intrusion Response Plan
- Demand Management – 10% Agricultural Pumping Reduction (180/400, Eastside, Langley, and Monterey Subbasins)
- Demand Management – Rural Residential Water Efficiency Programs
- Castroville Seawater Intrusion Project Optimization
- Brackish Groundwater Restoration Project (Small)
- Eastside Recharge Basins (100 cfs diversion)

These PMAs constitute the core actions that will avoid SGMA undesirable results within SVBGSA's jurisdiction. SVBGSA will continue to refine the scale, location, design, and implementation details of the PMAs. A funding strategy will be developed and applied for individual projects in the IIS portfolio. As part of upcoming phased implementation, additional investigations, field and pilot testing, environmental review, permitting, and design activities, SVBGSA will continue improving its understanding of projects and management action design and implementation and modify them appropriately. Furthermore, additional analysis may provide opportunities for better PMA integration and cost savings. SVBGSA is committed to adaptive management, modifying the approach to sustainability as additional data and analyses become available.

Modeling of the portfolio's effects on groundwater conditions include assumptions based on the continuation of current conditions, including existing land use patterns, reservoir operations, and climate conditions. Changes to any of these factors could affect the ability of the Salinas Valley to achieve and maintain sustainable groundwater management and will continue to be evaluated as PMAs are developed. Contingency PMAs may be considered as needed, drawing from a range of options identified in Chapter 9.

Funding for PMAs can follow multiple cost allocation approaches. These could be based on physical benefits, proportional contribution to the problem being assessed, joint and separable costs associated with each project component, or a negotiated allocation.

10.1.2 Key Projects and Management Actions for the Upper Valley Subbasin

Most PMAs in the IIS are located within and prioritized for the northern Salinas Valley subbasins.

The priority PMAs for the Upper Valley Subbasin GSP either contribute to preventing undesirable results, reaching measurable objectives, or otherwise addressing the needs of beneficial users. This priority does not imply that PMAs in other subbasins have no influence on groundwater conditions in the Upper Valley Subbasin, nor that PMAs within the Upper Valley Subbasin do not affect conditions in other subbasins. Rather, the PMAs identified in this section are those most directly relevant to the Upper Valley Subbasin GSP. Refinements to the PMAs identified in the Upper Valley Subbasin GSP will be incorporated into annual reports and periodic evaluations.

The PMAs in the IIS portfolio that are a priority for the Upper Valley Subbasin are Rural Residential Water Use Efficiencies (MA5) and Conservation and Agricultural BMPs (MA4), which are Valley-wide management actions. Demand Management and Planning (MA2) is also a priority in all subbasins, and the triggers and stages will continue to be evaluated, and demand management will be pursued if needed; however, in the Upper Valley Subbasin the priority is drought planning. There is no set target pumping reduction for the Subbasin. In addition, the Forebay and Upper Valley GSPs include the SMC TAC, which will review annual report results and identify when additional PMAs are needed.

MCWRA Drought Reoperation (MA5) and components of the Multi-benefit Stream Channel Improvements (P1) are underway and will be continued.

Table 10-1 summarizes the PMAs described in Chapter 9, identifying those prioritized for the Forebay Subbasin, as well as those that are contingency and will be implemented on an as-needed basis. SVBGSA will continue to further scope, develop, and advance any of these PMAs as appropriate.

Table 10-1. Summary of Upper Valley Projects and Management Actions

Priority PMAs	Contingency PMAs
SMC TAC (MA1)	Fallowing, Fallow Bank, Agricultural Land Retirement and Multi-benefit Land Repurposing (MA3)
Demand Management and Planning (MA2)	Rural Residential Well Mitigation (MA6)
Conservation and Agricultural BMPs (MA4)	Reservoir Operation (MA7)
Rural Residential Water Use Efficiencies (MA5)	Managed Aquifer Recharge with Overland Flow P2)
MCWRA Drought Reoperation (MA8)	
Multi-benefit Stream Channel Improvements (P1)	

Under SGMA, GSAs need to avoid undesirable results and mitigate long-term overdraft by 2042 for medium- and high-priority basins. In addition, GSAs evaluate their GSPs and implementation progress and prepare an assessment every 5 years or with each plan amendment. In reviewing these SGMA documents, DWR considers whether failure to meet any interim milestones are likely to affect the ability of the GSA to achieve the sustainability goal of the basin.
As discussed in Chapter 6, the Upper Valley Subbasin is in long-term overdraft; however, the groundwater level decline is slight, and groundwater levels are not anticipated to reach the minimum thresholds on average prior to 2042. As of GSP Amendment 1, the SMC TAC had identified the groundwater level declines and begun discussing potential causes and PMAs.

PMAs will be refined over time, and PMA planning will be adjusted in alignment with the IIS. Updates or changes will be documented in 5-year GSP periodic evaluations. Chapter 9 includes contingency PMAs that can be implemented if future conditions are worse than anticipated or additional actions are needed for adaptive management.

Table 10-2 summarizes the baseline projected modeling scenario for the Upper Valley Subbasin with respect to SMC. Under the baseline scenario, on average 7% of RMS wells are projected to fall below the groundwater level minimum thresholds by 2042. This well is screened in the Paso Robles Formation, rather than the river alluvium where most production wells are screened. During the next phase of GSP implementation, the relationship between the river alluvium and Paso Robles Formation will be further investigated. In addition, the PMAs will be refined and adjusted to avoid undesirable results and ensure groundwater conditions either achieve or are progressing toward the measurable objectives.

Table 10-2. Projected Baseline Effect on SMC in Upper Valley Subbasin

SMC	Summary of IIS Portfolio Effect on Upper Valley Subbasin SMC
Chronic Lowering of Groundwater Levels	7% minimum threshold exceedances
Reduction in Groundwater in Storage	7% minimum threshold exceedances
Degraded Water Quality	No degradation of groundwater quality due to pumping or GSA action
Land Subsidence	Low risk of subsidence; groundwater levels maintained above historical lows
Degradation of ISW	No minimum threshold exceedances of ISW monitoring wells

10.2 Project and Management Actions Funding Strategy

SVBGSA commissioned development of a funding strategy (ERA Economics, 2026) for the IIS portfolio and other portfolios that were considered. The funding strategy standardized project costs and presented alternative financing approaches, SVBGSA revenue needs, and cost allocation approaches. This analysis supported preliminary evaluations of individual project financial feasibility. The funding strategy defines individual project costs in addition to overall portfolio costs.

The IIS PMA portfolio includes a mix of PMAs with different cost structures, funding opportunities, implementation responsibilities, and beneficiaries. As a result, SVBGSA anticipates that funding strategies will be developed for individual projects or PMAs as project scopes, costs, implementation roles, and funding needs are refined. Project-specific funding strategies will allow SVBGSA and its partners to evaluate the appropriate combination of external funding, local funding mechanisms, financing approaches, and cost allocation methods based on the specific purpose, beneficiaries, and implementation structure of each project. This will be guided by the foundational information in the SVBGSA funding strategy.

Implementation of the IIS portfolio will involve multiple agencies and organizations with different responsibilities for project development, project funding, infrastructure ownership, operations, and water management. Some PMAs may be implemented directly by SVBGSA, and others may be led by partner agencies, water suppliers, or other entities with specific facilities, service areas, or legal authorities. As project scopes and implementation roles are refined, SVBGSA will evaluate the most appropriate funding mechanisms for projects it implements, funds, or supports through funding contributions. This evaluation will be conducted in coordination with stakeholders and the Board of Directors to ensure that funding approaches reflect project beneficiaries, legal authorities, and implementation feasibility.

Potential funding sources include but are not limited to:

- **Grant funding**. SVBGSA will pursue federal, state, and local grants to the extent possible.
- **Contributions from local jurisdictions, partner agencies, organizations, and companies.** Where appropriate, SVBGSA will work with partners to coordinate implementation and funding for projects or components of projects.
- **Benefit assessment (Proposition 218 vote)**. For projects with substantial capital costs or benefits that extend across multiple subbasins, SVBGSA may consider a Proposition 218-compliant local funding mechanism, depending on the project purpose, beneficiaries, legal authority, and method of cost recovery. If structured as an assessment, SVBGSA would evaluate the parcels receiving special benefit, distinguish special benefits from general benefits, define the applicable assessment area or zone of benefit, and develop a proportional method for calculating each parcel's assessment. If structured as a property-related fee or charge, SVBGSA would instead evaluate the cost of providing the applicable service, identify the parcels subject to the charge, and calculate charges so that revenues do not exceed the cost of the service and each parcel's charge does not exceed its proportional cost responsibility. The appropriate structure, procedural requirements, and supporting documentation would be developed in consultation with legal counsel before initiating any Proposition 218 proceeding.
- **Fee.** Fees may be collected for a variety of purposes, such as funding a regulatory program or providing a product or service (e.g., Proposition 26). Fees are not subject to a vote or protest proceeding, but they cannot exceed the cost of running the program or providing the product or service. Some regulatory programs need to be implemented via ordinance.
- **Fines and penalties.** With the establishment of an ordinance, SVBGSA has the authority to impose fines and penalties, such as may be associated with a regulatory program. Imposition of a fine or penalty must provide due process, usually a hearing after notice/citation and before assessment of the fine or penalty, and funds must be put back into the program.
- **Special tax.** SVBGSA has the authority to levy a special tax for a specific purpose, such as a parcel tax or some sales tax components. This requires a two-thirds vote of the electorate.
- **Other funding mechanisms.** SVBGSA is evaluating other potential funding approaches including but not limited to private partnerships, broader assessments, and partnerships.

SVBGSA understands that PMA costs will need to be funded through a combination of external funding, local funding mechanisms, financing approaches, and partner contributions. The existing Funding Strategy provides additional detail on the PMAs under consideration, the

estimated costs and timing of those projects, potential funding sources, public-sector debt financing options, and local funding mechanisms that may be available to support implementation. As project scopes, implementation roles, and funding needs are refined, SVBGSA will continue to evaluate the appropriate funding approach for each PMA and as part of the entire portfolio. SVBGSA will also coordinate with funding agencies, partner agencies, local stakeholders, and the Board of Directors to identify feasible funding strategies and pursue available funding opportunities.

10.3 Data, Monitoring, and SGMA Compliance

SVBGSA conducts ongoing data collection, monitoring, technical evaluation, and regulatory compliance activities to support SGMA implementation across all Salinas Valley subbasins. These efforts provide the technical foundation for groundwater sustainability planning, performance assessment, decision-making, and adaptive management. Activities include groundwater monitoring, groundwater extraction reporting, well registration, data management, annual reporting, 5-year periodic plan evaluations, groundwater modeling, and coordination with partner agencies to address data gaps and improve understanding of subbasin conditions.

SVBGSA works closely with the MCWRA, other groundwater sustainability agencies, technical consultants, and regional stakeholders to expand monitoring networks, improve data quality and accessibility, refine hydrogeologic understanding, and support compliance with SGMA requirements. Ongoing activities focus on improving the collection, management, and analysis of information related to groundwater elevations, groundwater extraction, groundwater quality (including seawater intrusion), land subsidence, interconnected surface waters, groundwater-dependent ecosystems, and other indicators of subbasin conditions.

During the first phase of GSP implementation, SVBGSA completed several foundational technical initiatives that strengthened long-term groundwater sustainability planning and SGMA compliance. As described in the sections below, these efforts included development and implementation of expanded groundwater monitoring and reporting programs, significant expansion of monitoring networks to address data gaps, refinement of the HCM, groundwater-dependent ecosystem verification, and development of groundwater, river, and economic models. In compliance with SGMA, SVBGSA has established and continues to update the DMS and web-based information tools with data from completed annual reports. SVBGSA will continue to update the DMS and web map along with annual reports for data and 5-year GSP periodic evaluations for other layers. Investments made in the first 5 years of GSP implementation established a stronger technical framework for developing PMAs and tracking progress toward sustainability goals across the Salinas Valley.

10.3.1 GMP and Well Registration

The data collection networks in the GMP are designed to accomplish monitoring of groundwater levels, seawater intrusion, and groundwater extractions. Well registration is also part of the GMP, which, when coupled with other monitoring programs, aids in assessing how wells could be affected by changing groundwater conditions. All groundwater production wells, including wells used by *de minimis* pumpers, are required to be registered with MCWRA under the GMP. Well registration is intended to establish a relatively accurate count of all the active wells in the Subbasin. This implementation action will help gain a better understanding of the wells in active use, verses those that have been decommissioned. Well registration will collect information on active wells such as well owner, well operator, well location, well construction, and type of well use. Well locations and construction information supports more accurate planning that helps guide sustainable groundwater management decisions.

If a well goes dry and a new well is drilled, both the new well and inactive (dry) well must be documented during well registration. If the well is dry due to declining groundwater elevations, the SVBGSA, local partner, and state agencies are also informed through the "Household Water Supply Shortage System," which is intended to document drought impacts. If the well is dry due to declining groundwater elevations, the SVBGSA could convene a working group to assess the groundwater situation and inform the Well Mitigation management action if a number of wells are going dry in a specific area. The Well Mitigation management action is intended to assist rural residential drinking water users if PMAs are not able to maintain access to reliable domestic water supplies due to groundwater management and provides a framework for responding to localized impacts that may occur despite broader efforts to improve groundwater conditions.

SGMA requires GSAs to manage groundwater extractions within a Basin's [subbasin's] sustainable yield. Accurate extraction data is fundamental to groundwater management. MCWRA has collected groundwater extraction data through GEMS since 1993. In collaboration with SVBGSA, with the establishment of the GMP, GEMS was updated and expanded by Ordinance 5426. MCWRA provides SVBGSA annual GEMS data that can be used for groundwater management. A GSA may not require *de minimis* users (as defined) to meter or otherwise report annual extraction data. Other public agencies such as the County of MCWRA may have such authority. Currently, all non-*de minimis* are required to report extraction data. The groundwater extraction information will be used to report total annual extractions in the Subbasin.

10.3.2 Improving Monitoring Networks and Filling Data Gaps

As of GSP Amendment 1, all monitoring network data gaps have been filled. Chapter 7 shows how the monitoring networks provide sufficient spatial coverage and do not need to be

improved. However, some wells in the groundwater level monitoring network have unknown well construction information. SVBGSA will work with MCWRA to fill this data gap during GSP implementation through MCWRA's well registration effort. As part of the required periodic evaluations, SVBGSA will review the monitoring networks every 5 years to determine whether additional monitoring wells are needed.

Key data gaps related to the HCM have also been addressed through GSP Amendment 1, and SVBGSA has worked with the CCWG to conduct field verification of GDEs and monitoring protocols. If new data gaps are identified, or if additional information is needed to support project development or subbasin management, SVBGSA and its partner agencies will evaluate opportunities to collect the necessary data and improve the understanding of subbasin conditions.

10.3.3 Models

SVBGSA continues to develop, maintain, refine, and apply a suite of groundwater, surface water, seawater intrusion, flood, and economic models that support SGMA implementation throughout the Salinas Valley. These models provide the analytical framework for evaluating basin conditions, forecasting future groundwater responses, assessing the effectiveness of PMAs, supporting required reporting, and informing SVBGSA decision making. These tools can be periodically updated to incorporate new monitoring data, improved hydrogeologic understanding, and evolving management needs.

During the first phase of GSP implementation, SVBGSA invested significantly in development and enhancement of technical modeling tools to provide a consistent, valley-wide basis for evaluating groundwater sustainability. Building on previous efforts by Monterey County and MCWRA, this work included updates to regional groundwater flow models, development of predictive planning tools, advancement of seawater intrusion modeling capabilities, evaluation of surface water and flood-related processes, and development of economic models and cost analyses of PMAs. These tools also support stakeholder engagement.

SVIHM: The SVIHM, originally developed by the USGS, serves as the primary regional historical groundwater and surface water model for much of the Salinas Valley. The model simulates groundwater flow, groundwater recharge, stream-aquifer interactions, groundwater storage changes, and other hydrologic processes across multiple subbasins.

After the USGS finalized the SVIHM in April 2025, SVBGSA, MCWRA, and MCWDGSA worked together to update and refine the SVIHM in October 2025 using additional monitoring data, updated hydrogeologic information, and findings from recent technical studies. These updates improve the model's ability to represent current basin conditions and provide a stronger foundation for evaluating groundwater sustainability and future management options.

SVOM: Building upon the SVIHM, USGS developed and SVBGSA, MCWRA, and MCWDGSA updated a predictive planning tool for evaluating potential future groundwater conditions under a range of implementation scenarios. The SVOM incorporates operational assumptions related to reservoir releases, water management infrastructure, groundwater demands, and anticipated future conditions.

The model is used to evaluate projected groundwater elevations, groundwater storage, interconnected surface water conditions, and the potential benefits of PMAs through the SGMA planning horizon. Alongside the SVIHM updates, SVBGSA, MCWRA, and MCWDGSA updated the SVOM in March 2026.

HEC-RAS: For modeling related to the fluvial dynamics of the Salinas River, SVBGSA uses the HEC-RAS model developed for the SMP and supported 2026 updates to the HEC-RAS model. This model helps assess river and floodplain conditions, recharge opportunities, project hydraulics, flood-related constraints, and interactions between proposed infrastructure and surface water systems.

As project concepts advance, HEC-RAS modeling provides a tool for evaluating engineering feasibility, permitting considerations, flood conveyance requirements, and potential benefits associated with recharge and water management projects located along the Salinas River and its tributaries.

Economic Modeling: Recognizing that successful PMA implementation requires consideration of economic as well as hydrologic outcomes, SVBGSA has supported development and application of economic modeling tools to evaluate the costs, benefits, and potential regional economic effects of groundwater sustainability strategies.

Economic analyses are used to assess implementation scenarios, evaluate project or management alternatives, estimate potential economic impacts to agricultural and municipal groundwater users, and evaluate funding mechanisms. These efforts help ensure that groundwater sustainability strategies remain technically feasible as well as economically and financially, and sensitive to the importance of groundwater resources within the Salinas Valley.

Collectively, these modeling tools provide SVBGSA with an integrated framework for evaluating groundwater conditions, assessing future risks, prioritizing PMAs, supporting regulatory compliance, and advancing long-term groundwater sustainability throughout the Salinas Valley. As implementation progresses, the models will continue to be refined and applied to support adaptive management and informed decision-making.

10.3.4 Updating the Data Management System

The SVBGSA has a DMS that is used to store, review, and upload data collected from the monitoring programs outlined above, as described in Chapter 7. A web application is available on the SVBGSA's website for stakeholders to view the data. The DMS is updated as new information is collected for annual reports, developed as part of GSP implementation, or, when appropriate, provided by stakeholders.

10.3.5 Annual Monitoring and Reporting

SGMA requires completion of annual reports to document Subbasin conditions relative to the SMC presented in Chapter 8. SVBGSA submits annual reports for the Upper Valley Subbasin to DWR by April 1 each year and makes them publicly available. The purpose of the reports is to provide monitoring, groundwater extraction, and total water use data to DWR, compare monitoring data to the SMC, and adaptively manage actions and projects implemented to achieve sustainability.

The monitoring of the 6 sustainability indicators is described in Chapter 7. Chapter 7 outlines the data collected through the monitoring programs that will be used to complete annual reports. Where possible, SVBGSA leverages data collection and analysis completed by MCWRA to avoid duplication of efforts.

10.3.6 5-year Periodic Evaluations

SGMA requires the development of 5-year GSP periodic evaluations to assess whether the GSA is on track to achieve the sustainability goal in the Subbasin. The assessments include a description of significant new information that has been made available since GSP submittal, whether any new information warrants changes to any aspect of the plan, and how the GSP will be adapted accordingly.

The periodic evaluations may include updating the groundwater models with newly collected data and updating model scenarios to reflect both the additional data and refinements in designs or assumptions. They also include a comparison of the hydrology experienced to that anticipated in the GSP in the review of groundwater conditions.

SVBGSA engages stakeholders in the development of the 5-year assessment. In contrast to the annual reports, which share monitoring data and yearly progress related to the SMC, the 5-year assessment involves a more systemic reevaluation of the SMC minimum thresholds and measurable results, as well as reporting on progress meeting the interim milestones.

10.4 Interested Parties Coordination and Outreach

Successful implementation of SGMA requires ongoing coordination among agencies, groundwater users, and other interested parties throughout the Salinas Valley. Because groundwater resources, management responsibilities, and sustainability challenges extend across jurisdictional and subbasin boundaries, implementation of GSPs depends on collaboration among organizations with differing authorities, expertise, and stakeholder interests.

SVBGSA recognizes that achieving groundwater sustainability is not solely a technical or regulatory effort. It also requires effective communication, information sharing, and engagement with the communities, businesses, agencies, and organizations that rely on groundwater resources. Coordination and outreach activities help ensure that groundwater management decisions are informed by regional perspectives, local knowledge, regulatory considerations, and stakeholder input.

During the first phase of GSP implementation, SVBGSA established and expanded several coordination and engagement programs to strengthen relationships among participating agencies and interested parties, improve communication pathways, and support transparent implementation of the GSPs. These programs continue to evolve as implementation progresses and as groundwater management priorities, regulatory requirements, and stakeholder needs change over time.

The following subsections describe ongoing and completed efforts related to interagency coordination, integration of groundwater sustainability considerations into land use planning, coordination with water quality agencies and programs, and stakeholder outreach and engagement activities that support GSP implementation throughout the Salinas Valley.

10.4.1 Agency Coordination and Collaboration

SVBGSA continues to coordinate with partner GSAs and other groundwater management agencies to support integrated implementation of GSPs across the Salinas Valley. Coordination occurs through formal agreements, joint committees, technical working groups, staff collaboration, data sharing, project development efforts, and regular communication among agencies responsible for groundwater management and SGMA compliance.

Agency coordination supports development and implementation of monitoring programs, technical studies, groundwater models, grant-funded projects, annual reporting, periodic evaluations, and implementation of PMAs that may affect multiple subbasins. Coordination also helps ensure that groundwater management decisions account for the hydraulic interconnectedness of the Salinas Valley subbasins and the regional nature of groundwater

sustainability challenges such as overdraft, seawater intrusion, groundwater quality, and climate resilience.

Leading up to submittal of the original GSPs and during the first phase of GSP implementation, SVBGSA established multiple interagency coordination agreements and expanded collaboration through steering committees, technical committees, implementation committees, and staff collaboration. SVBGSA will continue to support coordinated groundwater management throughout the Salinas Valley through these efforts and will periodically review and adjust coordination as needed during different phases of SGMA implementation.

10.4.2 Land Use Coordination

Many decisions affecting groundwater—such as development patterns, agricultural practices, and infrastructure investments—are made through local land use processes. SGMA recognizes that sustainable groundwater management must be done in coordination with cities and counties responsible for land use decisions. Land use authority remains under the jurisdiction of counties and cities. Most land use agencies in the Salinas Valley are members of the SVBGSA Joint Powers Authority, including the County of Monterey and cities of Salinas, Gonzales, Soledad, and King. The City of Greenfield is within the ASGSA's Arroyo Seco Cone Management Area of the Forebay Subbasin. The City of Marina is within the MCWDGSA's Marina-Ord Management Area of the Monterey Subbasin. During the first phase of GSP implementation, SVBGSA requested land use plan information from each jurisdiction to update Appendix 3B Land Use Plans.

SVBGSA coordinates with the County and cities by convening meetings with each jurisdiction to review GSP amendments and the findings of the periodic evaluations, to review land use plans or projects to assess activities that may potentially create risks to groundwater quality or quantity and to consider the local groundwater conditions in relation to the GSP SMC in the planning area or development location, to consider relevant land use plans during PMA development and implementation, and as needed or as requested by any agency.

Land use changes may result in changes to groundwater pumping to support new uses and should consider the applicable subbasin conditions and SMC. Land use agencies must now consider adopted GSPs when:

- Updating or amending general plans
- Approving land use entitlements or development projects
- Revising or adopting policies related to groundwater resources or that may affect groundwater resources

Effective coordination between groundwater management and land use planning can support multiple environmental and community objectives. These strategies not only support groundwater sustainability but also improve resilience to drought, flooding, and climate change. Key opportunities include:

- Strategic location and design of new development
- Improved stormwater management to enhance groundwater recharge
- Protection and enhancement of local water resources
- Maintenance of base flows in streams
- Protection of natural recharge areas and upper watershed resources
- Restoration and protection of floodplains
- Conservation of groundwater-dependent ecosystems

10.4.3 Water Quality Coordination

SVBGSA coordinates with agencies that have primary responsibility for groundwater quality regulation and drinking water protection. The primary goal is to support implementation of SGMA, while acknowledging existing regulatory authorities and opportunities to collaborate. Under SGMA, SVBGSA monitors groundwater quality conditions and evaluates potential groundwater quality impacts associated with groundwater management activities but does not replace or assume the responsibilities of existing water quality regulatory agencies.

Key coordination partners include the Central Coast Regional Water Quality Control Board (CCRWQCB), Monterey County Health Department, non-profit Central Coast Water Quality Preservation, Inc, and other agencies and organizations as appropriate.

During the first phase of GSP implementation, SVBGSA expanded collaboration with groundwater quality agencies and initiated development of a Water Quality Coordination Group to facilitate communication among the key coordination partners. The Water Quality Coordination Group convenes at least annually to review the water quality data from the Salinas Valley Annual Reports. In addition, they discuss data coordination, trend analysis, programs available for alternative water supplies and current priorities and challenges among the partners.

Water quality coordination also supports SVBGSA's commitment to protecting beneficial uses of groundwater and advancing policies that recognize the human right to safe, clean, affordable, and accessible drinking water. SVBGSA will continue these efforts throughout SGMA implementation.

10.4.4 Outreach and Engagement

SVBGSA conducts ongoing outreach and engagement activities to promote transparency, foster stakeholder participation, and ensure that groundwater users and interested parties remain informed about groundwater conditions and GSP implementation activities. Outreach is designed to provide meaningful opportunities for public involvement and to support communication and engagement with diverse stakeholder groups throughout the Salinas Valley.

SVBGSA conducts a variety of communication and engagement activities, including public meetings, workshops, an advisory committee and subbasin committees, technical or ad-hoc working groups, website resources and informational materials, electronic newsletter communications, and direct engagement with community organizations and groundwater users. These efforts support two-way communication by providing stakeholders with information while also allowing the Agency to receive local knowledge, feedback, and recommendations.

SVBGSA also maintains communications and engagement with DACs, underrepresented communities, small water systems, and domestic well owners to help ensure that groundwater sustainability planning reflects the needs of all beneficial users and uses of groundwater. Outreach efforts support awareness of groundwater conditions and sustainability goals, PMAs, monitoring programs, reporting requirements, and opportunities for stakeholder participation in SVBGSA decision making.

During the first phase of GSP implementation, SVBGSA expanded its communication and engagement programs, strengthened stakeholder committee structures, increased opportunities for public participation, and developed additional tools and resources to improve transparency and accessibility of groundwater information. The activities described in Chapter 2 will be continued, providing a foundation for collaborative groundwater management across all Salinas Valley subbasins.

10.5 General Administration

SVBGSA conducts general administrative activities to support SGMA implementation across the Salinas Valley. These activities include governance and agency management, financial administration, stakeholder engagement and communications, grant management, regulatory compliance, and evaluation of PMAs that support groundwater sustainability objectives. Administrative and financial services are provided through SVBGSA's contracted staffing resources.

SVBGSA maintains governance and oversight through regular meetings of the Board of Directors, Board committees, subbasin committees, the Advisory Committee, and technical working groups. The Agency coordinates with partner agencies, local jurisdictions, water

providers, and other regional stakeholders to support aligned groundwater management across jurisdictional boundaries. Ongoing administrative responsibilities include management of Board and committee activities, policy review and updates, performance and staffing oversight, regulatory compliance tracking, records management, financial administration, and implementation of the Agency's annual work plans.

Financial management activities include annual budget preparation, financial reporting, grant administration, fee administration, auditing support, and long-range planning to support GSP implementation. SVBGSA administers state and regional grants, as applicable, that support planning, monitoring, data collection, technical studies, stakeholder engagement, and implementation projects throughout the Salinas Valley. Budget and financial reporting processes continue to be refined to enhance transparency, consistency, and long-term fiscal planning.

General administrative activities are performed jointly with the coordination and outreach tasks outlined above, because stakeholder engagement and transparency are central to SVBGSA.

SVBGSA also maintains administrative support for SGMA compliance activities. Administrative oversight supports the integration of technical, financial, and stakeholder input into decision-making processes and implementation planning.

During the first phase of GSP implementation, SVBGSA completed several organizational and governance improvements to strengthen Agency operations and long-term implementation capacity. These efforts included development of a communications strategy and supporting implementation plan; modernization of budget and financial reporting formats; completion of a five-year Groundwater Sustainability Fee evaluation and adoption of associated fee updates; refinement of subbasin committee roles and membership programs; updates to the Advisory Committee charter and bylaws; development of a Board Code of Conduct; implementation of Board development and training initiatives; adoption or revision of key administrative policies and procedures; establishment of performance review processes for contracted administrative services; and development of governance tools, public information resources, and communication platforms to support effective implementation of SGMA across the Salinas Valley.

SVBGSA will continue ongoing administrative activities and organizational improvements. Collectively, they demonstrate SVBGSA's commitment to effective governance, financial stewardship, transparent decision-making, stakeholder engagement, and successful implementation of groundwater sustainability programs across all Salinas Valley subbasins.

10.6 GSP Implementation Cost and Funding

10.6.1 SVBGSA Groundwater Sustainability Fee

SVBGSA established a Groundwater Sustainability Fee (pursuant to California Water Code Sections 10730 through 10730.2) to fund the regulatory activities necessary to implement SGMA and sustainably manage groundwater resources across the Salinas Valley subbasins. The fee funds ongoing activities such as groundwater sustainability planning and implementation, monitoring and reporting, technical studies, groundwater modeling, stakeholder engagement, communications and outreach, administrative operations, and support for development and evaluation of PMAs. The fee could also provide local matching funds if required by state and federal grant guidelines.

The fee was originally established in 2019 based on a study prepared by Hansford Economic Consulting. The fee structure allocates program costs between agricultural and non-agricultural beneficiaries and is reviewed annually by the SVBGSA Board of Directors in conjunction with adoption of the Agency's budget and work plan.

During the first phase of GSP implementation, SVBGSA completed several modifications to its fee structure. In 2023, the Board adopted a tiered fee approach to better align costs with the activities associated with individual subbasins. The current fee structure includes Tier 1 funding for activities that benefit all subbasins and Tier 2 funding for activities that are specific to one or more subbasins.

In 2024, the Board received and accepted a comprehensive 5-year evaluation of the Groundwater Sustainability Fee prepared by Hansford Economic Consulting. The evaluation assessed the fee structure, cost allocations, and implementation experience since adoption of the fee.

Based on the findings of the evaluation, the Board approved updates to the fee methodology in 2025, including transitioning from irrigated acreage to cropped acreage for agricultural fee calculations, refining allocation methods for parcels that span multiple subbasins, and updating the data used to determine cost allocations among groundwater user groups. These changes were incorporated into the fiscal year 2026 fee calculations and provide a more appropriate basis for supporting SGMA implementation throughout the Salinas Valley.

SVBGSA will continue to administer the fee and conduct periodic reviews to ensure that the fee meets the revenue requirements and is appropriately assessed, as well as develop other funding mechanisms, as necessary.

10.6.2 Cost of GSP Implementation

GSP implementation costs can be organized into 3 general categories. First, administration, which includes the ongoing cost of GSA governance, staffing, monitoring, reporting, stakeholder engagement, GSP updates, and other regulatory activities. Second are project development (planning and capital) and operations and maintenance, which includes the full financial costs of planning, designing, permitting, constructing, financing, operating, and maintaining PMAs in the IIS portfolio for groundwater sustainability. Finally, there are costs imposed on water users, which are the local financial or economic impacts that result from implementation actions, such as agricultural land fallowing, pumping reductions, domestic conservation, replacement water costs, or other impacts associated with changes in groundwater levels, groundwater quality, or project performance.

This section summarizes GSP implementation for the next phase of GSP implementation.

Table 10-3 summarizes the conceptual planning-level costs for the 5 years of GSP implementation following the 2027 GSP Amendment 1 for the Upper Valley Subbasin. This table does not include the Valley-wide costs for routine administrative operations and other Valley-wide costs funded through the SVBGSA operational fee outlined in Section 10.6.1. The Subbasin specific costs, shown in Table 10-3, include data collection and analysis beyond tasks already undertaken by other agencies. These tasks could be undertaken by staff, consultants, or partner agencies. The costs are comprised of tasks related to data, monitoring, and SGMA compliance; interested parties coordination and outreach; and general administration. Costs also include priority PMAs that are anticipated to be advanced during these next 5 years.

Costs are primarily related to further developing and refining project concepts, conducting pilot projects, permitting, and landowner outreach. It does not include funding for construction of projects. Individual PMAs will require additional funding for project feasibility and design studies, environmental permitting, and landowner outreach. These are initial estimates of costs and will likely change as more data become available.

These costs are independent of fees currently collected by MCWRA; no fees will be collected by SVBGSA that duplicate fees already being collected by MCWRA.

For components of this GSP being developed in coordination with other GSPs in the Salinas Valley, the establishment costs are split between subbasins, and initial implementation costs are estimated based on the direct costs to the Upper Valley Subbasin. These are initial estimates; however, the final cost and division between subbasins will be reviewed and revised as necessary prior to implementation and per approval of the SVBGSA Board.

Table 10-3. Upper Valley Subbasin Estimated Planning-Level Costs for GSP Implementation

[TO BE ADDED]

10.7 Schedule for Implementation and Adaptive Management

The SVBGSA oversees all or part of 6 subbasins in the Salinas Valley. Implementing this GSP must be integrated with the implementation of the 5 other GSPs in the Salinas Valley. The schedule for GSP implementation reflects the significant integration and coordination needed to implement all 6 SVBGSA GSPs in a unified manner. Changes to the schedule during the GSP implementation will be discussed in the 5-year periodic evaluations.

A general schedule showing the major tasks and estimated timeline during the first 5 years of GSP implementation is provided on Figure 10-1. This includes the main tasks that will comprise the next phase of GSP implementation. With a focus on the 5 years following the 2027 GSP Amendment 1. PMAs will be revisited and adjusted as needed throughout GSP implementation.

Figure 10-1. GSP Implementation Schedule

[TO BE ADDED]

Implementation of this GSP will rely on best available science and will be continually updated as new data and analyses are available. SVBGSA will adaptively manage groundwater and the implementation of the GSP. The work of SVBGSA and stakeholders to complete this GSP provides a solid base to guide groundwater management; however, certain conditions may provide the need to adapt and change management as envisioned in this plan. For example, if existing conditions change, such as a prolonged drought that affects groundwater conditions, or additional funding for specific projects becomes available, SVBGSA may adapt its management strategy. If that occurs, SVBGSA will work through an open and transparent process with stakeholders, partner agencies, and DWR to ensure it continues to meet regulatory requirements and reaches sustainability.