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# **Groundwater Sustainability Plan**

## **Monterey Subbasin**

**Marina Coast Water District Groundwater Sustainability Agency**

**Salinas Valley Basin Groundwater Sustainability Agency**

**DRAFT Chapter 10**

**Plan Implementation**

**September 2021**

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## **10 PLAN IMPLEMENTATION**

This section describes the activities that will be performed by Marina Coast Water District (MCWD) and Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) as part of Groundwater Sustainability Plan (GSP) implementation within the Monterey Subbasin. The activities described herein focus on the first five years of GSP implementation (i.e., through 2027). Key GSP implementation activities to be undertaken by the Subbasin Groundwater Sustainability Agencies (GSAs) over the next five years include:

- Data collection, monitoring, and reporting;
  - Annual monitoring and reporting
  - Updating the Data Management System
  - Improving monitoring networks
  - Addressing identified data gaps in the Hydrogeologic Conceptual Model (HCM)
- Conducting intra-basin and inter-basin coordination;
- Continuing communication and stakeholder engagement;
- Conducting periodic evaluations of the GSP;
- Implementing projects and management actions and preparing grant applications; and
- Developing a funding strategy.

Each of these activities is discussed in more detail below. The implementation plan is based on the best data available regarding groundwater conditions in the Subbasin and potential management actions and projects described in Chapter 9. This plan considers management actions defined by the MCWD GSA and SVBGSA in their respective management areas, as well as coordinated management of the subbasin as a whole. The level of understanding regarding subbasin conditions and proposed project and management actions will evolve over time based on future data collection, model development, and input from Subbasin stakeholders.

### **10.1 Implementation Agreement**

MCWD GSA and SVBGSA intend to coordinate implementation of the GSP, through the Implementation Agreement. MCWD GSA will implement the GSP within the Marina-Ord Management Area and the SVBGSA will implement the GSP within the Corral de Tierra Management area. These efforts may overlap with regard to regional projects and implementation actions, and in places where management areas are very hydrogeologically linked such as the Reservation Road portion of the Corral de Tierra area.

## **10.2 Data Collection, Monitoring, and Reporting**

Successful sustainable groundwater management relies on a foundation of data to support decision making. As such, collection of data within the Subbasin will be a key part of GSP implementation. These data collection efforts include monitoring of each Sustainability Indicator from the Sustainable Groundwater Management Act (SGMA) monitoring network, as well as well as other data and information required for management and reporting under the SGMA, as described below.

Beginning in the first year of GSP implementation, SGMA requires submittal of annual monitoring data and development of an annual report. This annual process tracks groundwater conditions with respect to the Sustainable Management Criteria (SMCs) established in Chapter 8. The GSAs will hire consultant(s), form agreements with agencies, and/or hire staff to implement the monitoring and reporting functions. Monitoring of the six sustainability indicators will begin upon adoption of the GSP. The GSAs will coordinate on monitoring data collection and reporting.

Chapter 7 discusses the SGMA monitoring network, associated Representative Monitoring Sites (RMS) wells, and protocols that will be used in the Subbasin. Those protocols will be followed as part of GSP implementation. Most of the monitoring networks described in Chapter 7 rely on existing monitoring programs, which includes quarterly or monthly monitoring of groundwater elevations and annual monitoring of seawater intrusion indicators (e.g., water quality sampling and geophysical surveying). Where possible, MCWD and SVBGSA will leverage data collection and analysis completed by existing water management agencies (e.g., Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), and the U.S. Army<sup>1</sup>) to avoid duplication of efforts.

Data collected will be incorporated into the Subbasin's Data Management System (DMS) and will be used to support Annual Reporting (see Section 10.2.2 below). Furthermore, monitoring results will be evaluated against applicable Sustainable Management Criteria (SMCs; i.e. undesirable results, minimum thresholds, and measurable objectives) to support groundwater management decisions on management actions and projects in the subbasin.

### **10.2.1 Annual Monitoring and Reporting**

The GSAs anticipate that within the first five years of GSP implementation (i.e., in the 2022 to 2027 timeframe), the following monitoring related efforts will be performed:

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<sup>1</sup> It is anticipated that groundwater monitoring will continue to be conducted by the U.S. Army within the former Fort Ord for the near future. MCWD plans to obtain ownership of RWS wells and potential additional wells for continued monitoring once the Army's remediation efforts terminate.

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- Collection and/or compilation of water level data at least on a quarterly basis at groundwater elevation RMS wells, with the potential for monitoring of additional well site(s);
- Collection and/or compilation of water quality data at least on an annual basis at seawater intrusion RMS wells, with the potential for monitoring of additional well site(s);
- Water quality data compilation from the State Water Resources Control Board’s (SWRCB) GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) groundwater information system for Division of Drinking Water (DDW) and Irrigated Lands Regulatory Program (ILRP) wells;
- InSAR data compilation from the California Department of Water Resources (DWR) SGMA Data View to assess land subsidence;
- Collection and/or compilation of quarterly water level data at the shallow RMS wells for interconnected surface waters to inform groundwater conditions near groundwater dependent ecosystems (GDEs);
- Quality assurance and quality control (QA/QC) checks;
- Data Management System (DMS) importation; and
- Data gap filling as it pertains to the monitoring network (see Section 10.2.5 below).

**10.2.2 Annual Reporting**

SGMA requires completion of annual reports to document Subbasin conditions relative to the SMC presented in Chapter 8. Starting on April 1, 2022, MCWD and SVBGSA will submit annual reports for the Monterey Subbasin to DWR and make 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 SMCs, and adaptively manage actions and projects implemented to achieve sustainability.

Chapter 7 outlines the data collected through the monitoring programs that will be used to complete annual reports. Where possible, the GSAs will leverage data collection and analysis completed by MCWRA to avoid duplication of efforts.

Annual reports will include, but not be limited to, the following:

- Groundwater elevation contour maps for both Spring and Fall conditions;
- Hydrographs of groundwater elevations in the groundwater elevation and interconnected surface water RMS wells;
- Seawater intrusion isocontour maps drawn using data collected in seawater intrusion RMS wells;

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- Annual change in subsidence maps based on InSAR data;
- Annual groundwater extraction volumes by water use sector for the entire Basin, an explanation as to how groundwater extraction volumes were estimated, an accounting of accuracy, and an explanation as to how accuracy was determined;
- Estimates of annual change in groundwater storage. The Monterey Subbasin Groundwater Model will be updated to include new groundwater elevation data, groundwater extraction volumes, and hydrology datasets (i.e., precipitation and evapotranspiration) to estimate the annual change in groundwater storage.

#### **10.2.3 Updating the Data Management System**

The MCWD and SVBGSA have developed 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 that reports these data is available on the SVBGSA's website for stakeholders to view. The DMS will be updated as new information is collected for annual reports, developed as part of GSP implementation, and provided by stakeholders. New data that will be added to the DMS includes, but is not limited to, the following:

- Water level data at groundwater elevation RMS wells and other potential additional monitoring well site(s);
- Groundwater water quality data at seawater intrusion RMS wells and other potential additional monitoring well site(s);
- Groundwater water quality data from the SWRCB's GeoTracker GAMA groundwater information system for DDW and ILRP wells;
- InSAR data from the DWR SGMA Data View, which will be used to assess land subsidence; and
- Water level data at shallow RMS wells for interconnected surface waters to inform groundwater conditions near groundwater dependent ecosystems (GDEs).

#### **10.2.4 Improving Monitoring Networks**

As discussed in Chapter 7, data gaps have been identified in the groundwater elevation, seawater intrusion, and interconnected surface water monitoring networks.

##### **10.2.4.1 Groundwater Elevations**

Chapter 7 identifies spatial data gaps in the groundwater level monitoring network in both the Marina-Ord Area and the Corral de Tierra area as shown on Figures 7-7 through 7-9.

In the Marina-Ord Area, additional groundwater elevation monitoring is necessary near the ocean and subject to seawater intrusion, particularly along the central coastline in the 400-Foot and Deep Aquifers. As a first phase, MCWD plans to install two 400-Foot Aquifer monitoring wells and one Deep Aquifer monitoring well in this area to fill this data gap.

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In the Corral de Tierra Area, additional groundwater monitoring is needed near areas where substantial groundwater withdrawals occur in the upper El Toro Creek area. There are three general data gaps in the groundwater level monitoring network shown on Figure 7-9 that would require at least three new monitoring wells to fill. If possible, SVBGSA will first incorporate existing wells into the monitoring network to fill this data gap. SVBGSA will contact well owners to gain permission and secure access agreements to incorporate their wells into the groundwater elevation monitoring network. All existing wells that are candidates for incorporation into the monitoring network will be inspected to (a) ensure they are adequate for monitoring, and (b) determine depth, perforated intervals, and assign an aquifer designation. If an existing well cannot be identified to fill a data gap or permission to use data from an existing well cannot be secured, then a new monitoring well will be drilled and added to the monitoring network. The GSAs will obtain required permits and access agreements before drilling new wells. The GSAs will retain the services of licensed geologists or engineers and qualified drilling companies for drilling new wells. To the extent possible, grant funds and technical assistance support services through DWR or other entities will be used for installation of new wells. Once drilled, the new wells will be tested as necessary and equipped with dedicated data loggers for monitoring. All new monitoring wells identified as RMS locations will be added to MCWRA's monitoring network for continuity and consistency in data collection.

Additionally, the SVBGSA is coordinating closely with MCWRA to expand and enhance the Groundwater Extraction Management System (GEMS) network as detailed in Chapter 9. Expanding the GEMS network will add more wells into the monitoring network, and potentially fill in currently identified data gaps.

**10.2.4.2 Seawater Intrusion**

Spatial data gaps within the seawater intrusion monitoring network in the Marina-Ord Area are located in the same general area as the data gaps identified within the groundwater elevation network. Therefore, the aforementioned new monitoring wells to be constructed in the Marina-Ord Area will be monitored for both groundwater elevation and seawater intrusion.

**10.2.4.3 Interconnected Surface Water (ISW)**

Depletion of interconnected surface water will be monitored through shallow wells adjacent to locations of interconnected surface water. There is no entity that currently monitors ISW within the Corral de Tierra Area and no existing shallow wells that can be added to the ISW monitoring network. Thus, SVBGSA plans to install a new shallow well where preliminary model results indicate there is interconnected surface water as shown in Figure 8-8. The ISW monitoring wells will be incorporated into MCWRA's existing monitoring network and MCWRA will make these data available to SVBGSA. A monitoring well will be paired with USGS stream gauges to evaluate groundwater gradient and effects of groundwater levels on surface water depletion. These wells will be added to MCWRA's groundwater elevation monitoring programs. This information will also help determine the extent of interconnection.

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**10.2.4.4 Groundwater Extraction Information**

Accurate extraction data is necessary to meet SGMA requirements for reporting annual groundwater extractions within the subbasin. The area encompassed by the current GEMS includes Zones 2, 2A, and 2B; and provides sufficient coverage of the Marina-Ord management area. However, the GSAs and MCWRA will work together to potentially improve the existing GEMS Program outside of these areas as outlined in Chapter 9.

As described in Chapter 9, accurate extraction data is necessary to meet SGMA requirements to manage groundwater extractions within the Subbasin's sustainable yield.

The existing publicly reported data from water systems within the Corral de Tierra area will continue to be used until the GEMs program can be expanded, or more small systems and private wells can be included in extraction monitoring programs.

**10.2.4.5 Inter-basin Monitoring Programs**

Beyond filling data gaps in the SGMA monitoring network, the Subbasin GSAs will support monitoring network improvement efforts within the adjacent 180/400-Foot Aquifer and Seaside Subbasins. Although monitoring wells outside the Monterey Subbasin cannot be included in the Subbasin's monitoring network and evaluated against SMCs, data collected from these adjacent Subbasins will inform groundwater elevation and seawater intrusion analyses in Annual Reports and Periodic GSP Updates, as well as multi-basin planning of projects and management actions.

Within the Seaside Subbasin, the Watermaster is proposing to replace monitoring well FO-09 Shallow where casing leakage has been identified. The monitoring well is located near the coastline just south of the Seaside-Monterey Subbasin boundary. It is used to (a) monitor groundwater levels relative to seawater intrusion protective groundwater elevations and (b) monitor chloride concentrations in groundwater to detect occurrences of seawater intrusion into both Subbasins. MCWD GSA recognizes the importance of monitoring at this location and is in discussions to participate in a cost-share arrangement to destroy and replace this well per request of the Seaside Watermaster. The Subbasin GSAs will continue to evaluate and partner to improve monitoring in adjacent Subbasins to the extent that such efforts benefit multi-basin groundwater management.

**10.2.5 Address Identified Data Gaps in the Basin Setting**

MCWD GSA and SVBGSA will prioritize and begin to fill the key data gaps identified in this GSP related to the hydrogeological conceptual model, groundwater conditions, water budgets (numerical modeling), among other things. Filling these data gaps would allow the GSAs to improve understanding of the basin setting and thus, the characterization of the Subbasin and the principal aquifers. Earlier chapters of this GSP have identified the following data gaps:

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- Location and magnitude of recharge to the Deep Aquifers, including the connectivity with the ocean, adjacent Subbasins, upper principal aquifers, and current and potential seawater intrusion;
- Limited subsurface information in the southern Marina-Ord Area, including groundwater elevation and water quality data to characterize the extent of groundwater elevation decline and seawater intrusion near MPWMD#FO-10 and MPWMD#FO-11;
- Limited subsurface information in the Corral de Tierra Area along the 180/400-Foot Aquifer Subbasin boundary;
- Limited subsurface information in the eastern Fort Ord hills area to characterize the hydrostratigraphy and the connectivity between Marina-Ord Area and the Corral de Tierra Area principal aquifers;
- Location of seawater intrusion between the front and MCWD production wells. As discussed in Section 5.3.3, no additional total dissolved solids (TDS) measurements exist between MCWD production well MCWD-30 and the cluster of wells located northwest of MCWD's production wells, where TDS concentrations exceed 10,000 mg/L.

During the first five years of GSP implementation, the GSAs will prioritize and fill key data gaps that have been identified, including:

- Installation of new 400-Foot Aquifer and Deep Aquifers monitoring wells in the southern Marina-Ord Area. A geochemical analysis and coring of the deep aquifer may be conducted concurrently with construction of the new deep monitoring well to better characterize these two aquifers and their connectivity with the Seaside Subbasin.
- Implementation of the multi-party Deep Aquifers Investigation, which will be managed by SVBGSA. As described in Section 9.5.2, the primary tasks of the study include describing the hydrogeology and extents of the multi-subbasin Deep Aquifers, completing a water budget, and initiating a Deep Aquifers monitoring program.
- Establishment of an annual induction logging program of Deep Aquifers monitoring well clusters. There are currently five monitoring well clusters within the Subbasin. Induction logging provides an effective way to profile water quality changes and signs of vertical migration of seawater intrusion into the Deep Aquifer.
- Installation of monitoring wells in the Corral de Tierra Area along the 180/400-Foot Aquifer Subbasin boundary, in northern portion along Highway 68 north of the USGS gauge, and along boundary with the Seaside Subbasin. Data from these monitoring wells will better characterize inter-basin flows and help refine the basin's water budget.
- Conducting pumping tests in the aforementioned areas to collect aquifer property information and refine groundwater modeling efforts.

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- Collecting well registration and groundwater extraction information (as described in Sections 9.5.7 and 9.5.8) in the Corral de Tierra Area to refine groundwater modeling efforts and the water budget;
- Assisting DWR's airborne electromagnetic (AEM) study within the Salinas Valley and utilizing these results to refine the hydrogeological conceptual model in the eastern Fort Ord hills area.

### **10.3 Intra- and Inter-basin Coordination**

Both intra- and inter-basin coordination will continue to be conducted between MCWD GSA and SVBGSA, which covers the Monterey Subbasin and the adjacent 180/400-Foot Aquifer Subbasin. In addition, the basin GSAs have and will continue to coordinate with other entities on water management efforts that involve the larger Salinas Valley Basin.

Intra- and inter-basin coordination efforts between MCWD and SVBGSA are anticipated to include continued technical committee meetings. It is anticipated that such meetings will be held approximately monthly to facilitate regional projects planning (Section 9.4) and implementation activities (Section 9.5), and will incorporate Implementation Agreement requirements as described in Section 10.1.

### **10.4 Communications and Engagement**

The GSAs will routinely report information to the public about GSP implementation and progress towards sustainability and the need to use groundwater efficiently, as described in Chapter 2. The GSAs' websites will be maintained as a communication tool for posting data, reports, and meeting information. An interactive mapping function for viewing Salinas Valley Groundwater Basin-wide data that were used during GSP development is hosted on the SVBGSA website.

MCWD and SVBGSA's Stakeholder Communication and Engagement Plans (SCEPs) will continue to be refined, updated, and executed during GSP implementation. Anticipated stakeholder engagement activities include, but are not limited to:

- Public meetings including GSA Board meetings, Advisory Committee meetings, subbasin planning committee meetings, and stakeholder workshops;
- One-on-one stakeholder communications;
- Posting of relevant announcements and information on the respective websites (mcwd.org and svbgsa.org) and other direct mailings, as needed;
- Interested parties list maintenance; and
- Stakeholder Communication and Engagement Plan (SCEP) evaluation and updates.

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The GSAs will continue to inform the public on GSP implementation progress and implementation of projects through the stakeholder engagement activities identified above. In addition, each project or management action may be subject to specific public noticing requirements as detailed in their respective project descriptions in Chapter 9. The Annual Reports to be prepared by April 1 each year will assess progress towards sustainability and will provide an important opportunity to reengage subbasin stakeholders in its review.

### **10.5 Project and Management Action Implementation**

To prevent potential Undesirable Results, projects and management actions are planned as part of GSP implementation. As described in Chapter 9, a portfolio of projects and management actions has been developed with the goal of proactively addressing relevant Sustainability Indicators.

#### **Implementation Actions**

Several of the implementation actions described in Chapter 9 involve regional coordination that are current ongoing and will continue to be implemented post GSP adoption. These actions include supporting groundwater management in adjacent subbasins, as well as supporting the Deep Aquifer Investigation, the Seawater Intrusion Working Group, and the Deep Aquifer Well Moratorium.

A numerical modeling tool needs to be developed that can assess the impacts of proposed projects that address seawater intrusion over multiple subbasins. The SVBGSA will finish the development of a variable density flow model during the first year of GSP implementation that can be extended to cover multiple coastal subbasins of the Salinas Valley Basin. This modeling construction effort will build upon the existing Monterey Subbasin Groundwater Flow Model and be coordinated with the Salinas Valley Integrated Hydrologic Model (SVIHM) developed by the USGS.

Data collection and analysis are critical for the implementation of all GSPs. These actions, as highlighted in the sections above, are a top priority to be able to better understand the groundwater conditions and necessity of projects and management actions. Along with the expansion of monitoring networks, including updating and enhancing GEMS to improve the collection of extraction data, SVBGSA will consider registering wells to gain more information on active wells, especially de minimis users. In addition, it will begin standing up the Dry Well Notification System within the first 2 years of GSP implementation, which will assist well owners whose access is jeopardized through declining groundwater elevations. SVBGSA plans to undertake the development of these actions within the first 2 years after GSP submittal, and fully implement them through years 3 and 4 through actively reaching out to well owners, visiting and checking wells, and inputting data.

The Water Quality Partnership is also a critical implementation action to coordinate with other agencies that have responsibilities affecting domestic water quality and access. After undertaking

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preliminary planning work in the first 2 years after implementation, SVBGSA plans to establish the Partnership in years 3 and 4.

#### **New Water Supply and Regional Municipal Supply Projects**

Chapter 9 describes projects that involve new water supplies for recharge (injection) or direct use in-lieu of groundwater extraction. These projects include:

- Two of the proposed regional projects, the Winter Release for Aquifer Storage and Recover (ASR) and Direct Use project and the Regional Municipal Supply project,
- One of the proposed projects in the Marina-Ord Area (Recycled Water Reuse), and
- All six proposed projects in the Corral de Tierra Area.

Chapter 9 outlines the estimated cost and benefit for each project; however, more detailed scoping and analysis needs to be undertaken.

During the first 2 years of GSP implementation, the GSAs will undertake further scoping and analysis of potential project benefits and feasibility. The GSAs will evaluate if water rights permits are needed and take that into consideration in project selection and planning. Multiple projects may be needed to mitigate overdraft. With stakeholder input, the GSAs will determine (a) which projects to move forward first, (b) which projects to implement if the first set of projects do not reach sustainability goals, and (c) which projects should not be prioritized for implementation. After initial project selection, more detailed analyses and potential discussions with landowners will need to occur to determine project specifics, such as locations of recharge and distribution systems. During years 3 and 4, GSAs will secure access agreements, undertake permitting and CEQA, and develop funding mechanisms for projects that are selected. The GSAs will continue an iterative, ongoing process to evaluate the effectiveness of projects post implementation, including assessment of groundwater conditions, and the need for additional projects.

#### **Other Marina-Ord Area Projects and Management Actions**

Two local on-going management actions within the Marina-Ord Area will continue to be implemented after GSP submittal. These management actions include MCWD Demand Management Measures and Stormwater Recharge Management.

The local project entitled: Drilling and Installation of Monitoring Wells is critical for filling data gaps and informing project selection and design in the southern Marina-Ord Area. MCWD GSA plans to initiate the project immediately after GSP submittal and anticipates the project will be completed within the first 2 years of GSP implementation.

#### **Other Corral de Tierra Management Actions**

Demand management provides options if supply-side projects are not sufficient to reach sustainability. During GSP development, the SVBGSA Monterey Subbasin Planning Committee prioritized pumping allocations and control as the top project or management action within the Corral de Tierra Management Area. SVBGSA will begin establishment of pumping allocations and

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controls immediately following GSP implementation. The establishment of pumping allocations will involve robust stakeholder input to ensure appropriate planning timelines and landowner engagement. At that time, stakeholders could also evaluate potential funding mechanisms or incentives that could be developed as part of a pumping allocations program.

The implementation of all projects and management actions will be a dynamic, adaptive process. Refinement of the projects and actions will occur simultaneously with adjustment of the funding mechanism that supports the projects and actions. A start-up budget that covers required actions such as data, monitoring, and reporting could also cover pre-financing stages of project selection and design. Projects and management actions will be approved by the respective Board of Directors and will be implemented in a coordinated manner across the entire Salinas Valley.

#### **10.6 Periodic Evaluations of GSP**

Per the GSP Regulations (23-CCR § 356.4), the Subbasin GSAs will conduct a periodic evaluation of its GSP, at least every five years, and will modify the GSP as necessary to ensure that the Sustainability Goal for the Subbasin is achieved. The GSP elements that will be covered in the periodic evaluation are described below.

The 5-year update will include updating the Monterey Subbasin Groundwater Flow Model (MBGWFM) with newly collected data. Section 6.7 discussed several limitations with the MBGWFM while recognizing that the model was developed using best available data at this time. As additional groundwater elevation, aquifer properties, and groundwater extraction data becomes available, the GSAs anticipate refining and recalibrating the MBGWFM as part of the 5-year update. Additionally, model scenarios will be updated to reflect both the additional data and refinements in project design or assumptions. It will also include a reevaluation of climate change to ensure assumptions in the GSP are still valid.

##### **10.6.1 Sustainability Evaluation**

This section will evaluate the current groundwater conditions for each sustainability indicator, including progress toward achieving interim milestones and measurable objectives.

##### **10.6.2 Plan Implementation Progress**

This section will evaluate the current implementation status of projects and management actions, along with an updated implementation schedule and any new projects and management that are not included in this GSP.

##### **10.6.3 Reconsideration of GSP Elements**

Per 23-CCR § 356.4(c), elements of the GSP, including the basin setting, SMCs, and projects and management actions sections will be reviewed and revised if necessary.

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**10.6.4 Monitoring Network Description**

This section will provide a description of the SGMA monitoring network, including identification of data gaps, assessment of monitoring network function with an analysis of data collected to date, identification of actions that are necessary to improve the monitoring network, and development of plans or programs to fill data gaps.

**10.6.5 New Information**

This section will provide a description of significant new information that has been made available since the adoption or amendment of the GSP, or the last five-year assessment, including data obtained to fill identified data gaps. As discussed above under *Reconsideration of GSP Elements*, if evaluation of the Basin Setting or SMCs definitions warrant changes to any aspect of the GSP, this new information would also be included.

**10.6.6 Regulations or Ordinances**

The Subbasin GSAs possesses the legal authority to implement regulations or ordinances related to the GSP. This section will provide a description of relevant actions taken by the GSAs, including a summary of related regulations or ordinances, as appropriate.

**10.6.7 Legal or Enforcement Actions**

This section will summarize legal or enforcement actions taken by the GSA in relation to the GSP, along with how such actions support sustainability in the Basin.

**10.6.8 Plan Amendments**

This section will provide a description of proposed or complete amendments to the GSP.

**10.7 Plan Implementation Costs**

Per the GSP Regulations (23-CCR § 354.6(e) and 354.44(b)(8)), this section provides estimates of the costs to implement this GSP and potential sources of funding to meet those costs.

Cost herein are estimated and discussed for each GSA. A presumed contribution from each GSA is estimated for certain activities that will be carried out via collaboration, such as preparation of annual reports, DMS hosting and maintenance, and preparing the 5-year GSP update. These costs may shift during GSP implementation depending on how the GSAs decide to undertake each specific task.

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**10.7.1 MCWD GSA Start-up Budget and Funding to Meet Costs**

Table 10-1 summarizes the conceptual planning-level costs for the initial 5 years of GSP implementation (i.e. 2022-2027) by MCWD GSA within the Monterey Subbasin. These costs are developed for Subbasin specific activities, including

- Monitoring and data collection beyond tasks already undertaken by other agencies;
- Annual analysis and reporting of sustainability conditions;
- GSA staff overhead and legal support;
- Continued stakeholder outreach and coordination;
- Periodic evaluation and five-year update of the GSP, including updates to the MBGWFM;
- Improvements to the monitoring networks and hydrogeologic investigations to address data gaps;
- Refinement and implementation of projects and management actions, as well as implementation actions.

These planning level costs include implementation actions envisioned to occur within the first 5 years of GSP implementation. It does not include funding for development or implementation of projects and management actions; however, it does include some funding for refinement and selection of projects and management actions. When projects and management actions move forward with implementation, they 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.

As shown in Table 10-1, direct costs for GSP implementation are estimated to be a total of \$3,745,000 over the next five years, including GSA staff time. The MCWD GSA will likely meet the estimated costs through a combination of contributions through rate payers and from grant funding, if available.

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**Table 10-1. MCWD GSA Monterey Subbasin Specific Estimated Planning-Level Costs for First 5 Years of Implementation**

Activity	MCWD Estimated Annual Cost	Total MCWD Cost for 5 years or Lump Sum	Assumptions
<b>Annual Monitoring and Reporting</b>		<b>\$400,000</b>	
Monitoring	\$25,000	\$125,000	Includes efforts supplemental to existing Fort Ord, MCWRA, and Seaside monitoring programs
Induction Logging	TBD	TBD	Anticipated to be conducted as part of the SVB-wide Deep Aquifer Study and proposed Monitoring Program
Voluntary monitoring of non-RMS wells	\$5,000	\$25,000	Additional specific conductivity monitoring
Reporting	\$50,000	\$250,000	Assumed contribution to subbasin cost shared between GSAs
<b>Data Management System</b>		<b>\$35,000</b>	
Establish a basin-wide DMS	-	\$10,000	One-time cost to import existing RMS data into a basin-wide DMS
DMS Hosting and Maintenance	\$2,000	\$10,000	Assumed contribution to subbasin cost shared between GSAs; includes hosting fee and updating information
Upload Marina-Ord Area data to DMS	\$3,000	\$15,000	Obtain data from local agencies, process, and upload
<b>Administration and Legal</b>		<b>\$1,125,000</b>	
Administration	\$200,000	\$1,000,000	-
Legal	\$25,000	\$125,000	-
<b>Coordination and Outreach</b>		<b>\$270,000</b>	
Stakeholder engagement	\$30,000	\$150,000	Ad hoc meetings and workshops, website maintenance
Intra- and Inter-basin coordination	\$24,000	\$120,000	Attending meetings, regular communication, etc.

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Activity	MCWD Estimated Annual Cost	Total MCWD Cost for 5 years or Lump Sum	Assumptions
<b>Required Five-year Update Incl. Model Update</b>	-	<b>\$500,000</b>	
MBGWFM refinement and recalibration for the Marina-Ord Area	-	\$150,000	-
Gather and Input new data into model	-	\$30,000	-
Reevaluate climate change	-	\$10,000	-
Update future scenarios	-	\$60,000	-
Stakeholder engagement	-	\$50,000	-
Coordination with SVBGSA	-	\$50,000	-
Analysis and report-writing	-	\$150,000	Assumed contribution to subbasin cost shared between GSAs
<b>Implementation Actions</b>		<b>\$165,000</b>	
Support adjacent subbasins	TBD	TBD	Not estimated at this time
Deep Aquifer Study	-	\$50,000	MCWD funding contributions
Support Deep Well Moratorium / 2022/23 Actions	-	\$35,000	-
Seawater Intrusion Working Group	-	\$80,000	MCWD cost for participating in the SWIG and SWIG TAC for the first two years, level of effort beyond year 2 TBD
Future Modeling of Seawater Intrusion and Projects	TBD	TBD	Not estimated at this time
<b>Improving Monitoring Networks (see Projects)</b>			
<b>Refine and Implement Projects and Management Actions (1)</b>		<b>\$1,250,000</b>	
Coordinate Regional Projects (R1 and R2)	-	\$100,000	-
Refine Recycled Water Reuse Project (M3)	-	\$150,000	Assumes completion of the Recycled Water Feasibility Study
Install Monitoring Wells and Conduct Hydraulic and Geochemical Testing for Recycled Water Injection (M4)	-	\$1,000,000	-
<b>Total (2)</b>		<b>\$3,745,000</b>	

**Notes:**

- (1) This is initial funding for these activities but are not likely to fully cover these activities for all potential projects and management actions.
- (2) Costs estimated herein do include MCWD GSA staff time.

## **10.7.2 SVBGSA Start-up Budget and Funding to Meet Costs**

### ***10.7.2.1 SVBGSA Operational Fee***

SVBGSA established a Valley-wide Operational Fee to fund the typical annual operational costs of its regulatory program authorized by SGMA, including regulatory activities of management groundwater to sustainability (such as GSP development), day-to-day administrative operations costs, and prudent reserves. The Operational Fee funds GSA operational costs, and therefore covers any tasks undertaken by staff, such as planning, technical review, partnership development, communication, stakeholder engagement, and support for the selection, development and implementation of projects and management actions. The fee is a regulatory fee with the purpose of ensuring that ground water use is managed sustainably so that adequate supplies remain for all users. The Operational Fee is also used as local cost share for grants.

The Operational Fee is based on the 2018 Regulatory Fee Study (Hansford Economic Consulting, 2019) commissioned by SVBGSA. The SVBGSA has the authority to charge fees, as set forth in the California Water Code § 10730, 10730.1, and 10730.2. The Operational Fee is a regulatory fee authorized under California Water Code § 10730 and is exempt from voter approval, as it is not a tax pursuant to California Constitution Article XIII C (Proposition 26, Section 1(e)(3)). As the fee must be proportional and related to the benefits of the program, this study analyzed options and proposed a regulatory fee structure whereby agricultural beneficiaries are responsible for 90% of the cost and all other beneficiaries are responsible for 10% of the cost. The SVBGSA Board of Directors approved this fee in March 2019.

The Monterey Subbasin urban and agricultural groundwater users within the Corral de Tierra Management Area are charged the Operational Fee by domestic connection or irrigated acreage by land use code. The Operational Fee funds Valley-wide activities, including initial GSP development; however, additional funding is needed for meeting future requirements, GSP implementation, and projects and management actions.

### ***10.7.2.2 SVBGSA Start-up Budget***

Table 10-2 summarizes the conceptual planning-level costs for the initial 5 years of SVBGSA's GSP implementation for the Monterey Subbasin. This table does not include SVBGSA's Valley-wide costs for routine administrative operations and other Valley-wide costs funded through the SVBGSA operational fee outlined in 10.5.1. The Subbasin specific costs, shown on Table 10 1, include data collection and analysis focusing on the Corral de Tierra Area beyond tasks already undertaken by other agencies. These tasks could be undertaken by staff, consultants, or partner agencies. The costs comprise of annual analysis and reporting of sustainability conditions; improvements to the monitoring networks, including installation of three new monitor wells; and supplemental hydrogeologic investigations to address data gaps.

The start-up budget includes implementation actions envisioned to occur within the first 5 years of GSP implementation. It does not include funding for development or implementation of

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projects, management actions, and implementation actions; however, does include some funding for refinement, selection, and preliminary scoping of projects and management actions. Costs included will include listed activities, but are not anticipated to cover all feasibility studies, project design, and permitting associated with all potential projects and management actions. When projects, management actions, and implementation actions move forward with implementation, they 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, SVBGSA's establishment costs are split between subbasins, and initial implementation costs are estimated based on the direct costs to the Monterey 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.

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**Table 10-2. SVBGSA Monterey Subbasin Specific Estimated Planning-Level Costs for First 5 Years of Implementation**

Activity	SVBGSA Estimated Annual Cost	SVBGSA Total Cost for 5 years or Lump Sum	Assumptions
<b>Data Collection, Monitoring, and Reporting</b>		<b>\$160,000</b>	
Annual Monitoring and Reporting	\$30,000	\$150,000	-
Updating the Data Management System	\$2,000	\$10,000	Assumed contribution to subbasin cost shared between GSAs; includes hosting fee and updating information
<b>Improving Monitoring Networks</b>		<b>\$352,000</b>	
Install up to 4 wells for groundwater elevation monitoring	-	\$225,000	Assume average depth 600' @ \$125/ft = \$75,000 x 3 wells total = \$225,000
Development of GEMS expansion ordinance	-	\$7,000	SVBGSA-wide cost split equally between subbasins; includes hosting fee and updating information
Implementation of GEMS expansion	-	\$100,000	Estimate for implementation in the Corral de Tierra
Install up to 1 shallow wells for monitoring ISW	-	\$15,000	-
Add Seaside wells to monitoring GWL network	-	\$5,000	-
<b>Addressing Identified Data Gaps in the HCM</b>		<b>\$16,000</b>	
Aquifer properties assessment	-	\$16,000	For three aquifer properties tests
<b>Coordination and Outreach</b>		<b>\$130,000</b>	
Coordination with MCWRA	-	\$10,000	Setting up a shared system; MCWRA time
Inter- and Intra-subbasin Coordination	\$24,000	\$120,000	-
<b>Required Five-year Update</b>		<b>\$250,000</b>	
Coordination on model updates	-	\$25,000	-
Coordination with MCWD	-	\$50,000	-
Stakeholder engagement	-	\$50,000	-
Analysis and report-writing	-	\$125,000	Assumed contribution to subbasin cost shared between GSAs

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Activity	SVBGSA Estimated Annual Cost	SVBGSA Total Cost for 5 years or Lump Sum	Assumptions
<b>Refine and Scope Projects, Management Actions, and Implementation Actions (1)</b>	-	<b>\$500,000</b>	<b>Depends on projects and management actions pursued; Could be grant or project match</b>
Engineering feasibility studies and project design	-	-	-
Permitting and environmental review	-	-	-
Cost-benefit analyses	-	-	-
<b>Total (2)</b>	-	<b>\$1,398,000</b>	-

**Notes:**

- (1) This is initial funding for these activities but are not likely to fully cover these activities for all potential projects and management actions.
- (2) Costs estimated herein do **not** include SVBGSA and member agency staff time.

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**10.7.3 Funding for Projects and Management Actions**

The start-up budget does not include funding for specific projects and management actions. Projects and management actions implemented by other agencies and organizations that contribute to groundwater sustainability will follow the funding strategies developed by those respective agencies and organizations. For projects funded by the Subbasin GSAs or funding the GSAs raise to contribute to the implementation of projects, the GSAs will evaluate the most appropriate funding mechanisms and engage stakeholders and the respective Board of Directors in this analysis. These include:

**Grant funding** – The GSAs will pursue grants to the extent possible to fund projects and management actions.

**Contributions from local jurisdictions, partner agencies, organizations, and companies** – Where appropriate, the GSAs will work with partners to solicit contributions to jointly implement a project or management action.

**Benefit assessment (218 vote)** – For projects with considerable capital cost or that benefit multiple subbasins, the GSAs will consider holding a 218 vote to levy an assessment based upon the special benefits conferred from a specific project. Before doing so, the GSAs will undertake an analysis to identify the special benefit of the conferred project, the cost of the benefit, the zone of benefit, and method of calculating the assessments to be levied. This requires a public hearing and is subject to a majority protest.

**Fee** – Fees may be collected for a variety of purposes, such as funding a regulatory program or providing a product or service. 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, the GSAs have 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** – The GSAs 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.

The GSAs acknowledges that the costs associated with projects and management actions will need to be funded through mechanisms such as these. It will work with funding agencies and local partners to do so.

**10.8 Plan Implementation Schedule**

Implementing the Monterey Subbasin GSP will be coordinated with the implementation of the five other GSPs in the Salinas Valley. The implementation schedule reflects the significant

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integration and coordination needed to implement all Salinas Valley Basin GSPs in a unified manner.

In the Marina-Ord Area, the implementation schedule reflects evaluating and prioritizing projects and management actions during the first 2 to 3 years. In the Corral de Tierra Area, the initial focus of project and management action efforts will be to begin development of pumping allocations and controls immediately, and to evaluate and prioritize supply-side projects.

A general schedule showing the major tasks and estimated timeline during the first 5 years of GSP implementation is provided on Figure 10-1.

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**Figure 10-1. General Schedule During First Five-Years of GSP Implementation**