PLAN IMPLEMENTATION

16 PLAN IMPLEMENTATION

§ 351(y). Definitions

"Plan implementation" refers to an Agency's exercise of the powers and authorities described in the Act, which commences after an Agency adopts and submits a Plan or Alternative to the Department and begins exercising such powers and authorities.

☑ 23 CCR § 351(y)

Per the California Code of Regulations Title 23 (23 CCR) § 351(y), "plan implementation" refers to "an [Groundwater Sustainability] Agency's exercise of the powers and authorities described in the Act, which commences after an Agency adopts and submits a Plan or Alternative to the Department and begins exercising such powers and authorities". This section describes the activities that will be performed by the Groundwater Sustainability Agencies (GSAs) as part of Groundwater Sustainability Plan (GSP) implementation within the Delta-Mendota Subbasin (Basin), with a focus on the first five years (i.e., through 2029). Key GSP implementation activities to be undertaken by the Basin GSAs over the next five years include:

- Implementation of the Basin's Pumping Reduction Plan (PRP; **Section 16.1.1**);
- Monitoring and data collection;
- Projects and/or Management Action (P/MA) implementation, funding, financing, and grant application(s);
- Addressing data gaps;
- Intra-basin and inter-basin coordination;
- Continued outreach and engagement with stakeholders;
- Response to the California Department of Water Resources (DWR) and State Water Resources Control Board (SWRCB) comments on the GSP;
- Continued monitoring, data collection, and annual reporting;
- Enforcement and response actions; and
- Evaluation and updates of the GSP as part of the required Periodic Evaluation.

Each of these activities is discussed in more detail below.

16.1 Plan Implementation Activities

16.1.1 Pumping Reduction Pan

In addition to the implementation of the planned supply augmentation projects, the Basin will need to reduce pumping by approximately 42,000 acre-feet per year (AFY), primarily from the Lower Aquifer, to achieve sustainable conditions based on the calculated historical overdraft (**Sections 9.3.4** and **15.6**). The

overdraft is estimated over a long hydrological period and characterizes the excess groundwater demand not supplied through natural hydrologic processes, surface water deliveries, and other planned P/MAs. To address this overdraft, the Basin developed a coordinated PRP, which includes a clear implementation plan and schedule to support successful execution by January 2025. The implementation plan requires the Basin GSAs to determine specific technical approaches and triggers by October 2024. The Basin GSAs are also required to implement and develop the needed monitoring, administrative, and technical tools, and to conduct the necessary education and outreach by January 2025.

Implementation of the PRP is supported by Exhibit C of the Memorandum of Agreement (MOA) between the Basin GSAs (**Appendix D**) which states in the event of a Minimum Threshold (MT) exceedance, "the GSA shall present a plan of action to the Coordination Committee to address how the GSA will mitigate an exceedance and in what timeframe."

The PRP is comprised of six components that when collectively implemented should ensure successful compliance with the GSP's Sustainable Management Criteria (SMCs) and pumping within the Sustainable Yield:

1) Monitoring and Data Collection Plan (**Section 16.1.1.1**);
2) Overdraft Mitigation Plan (**Section 16.1.1.2**);
3) Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan (**Section 16.1.1.3**);
4) Water Quality Minimum Threshold (WQ-MT) Exceedance Plan (**Section 16.1.1.4**); and
5) Subsidence Mitigation Plan (**Section 16.1.1.5**).
6) Groundwater Allocation Backstop (**Section 16.1.1.6**)

16.1.1.1 Monitoring and Data Collection Plan

Successful implementation of the PRP requires a minimum level of monitoring and data collection that facilitates decision-making, investigations, policy implementation, and enforcement. The *Monitoring and Data Collection Plan* outlines these requirements under a set implementation schedule and affirms the GSAs' commitment to providing the standardized and consistent measurement and reporting needed for fair and equitable implementation of the PRP. These data collection efforts include monitoring of applicable Sustainability Indicators to be collected from the Basin-wide Monitoring Network (**Section 14**), as well as other data and information required for management and reporting under the Sustainable Groundwater Management Act (SGMA), as described below.

As part of the Basin-wide PRP, each GSA will commit to accomplishing the following by the identified deadlines as prerequisites to successful management of the Basin. The Coordination Committee will review Basin-wide compliance with these commitments.

1) Conduct an assessment of the density of the monitoring network and make as-needed adjustments if required. This assessment will focus on aquifer-specific monitoring density using the monitoring network spatial distribution guidance presented in the DWR Monitoring Network *Best Management Practices* (BMP) document (DWR, 2016b).

2) Conduct quarterly groundwater level measurements at Representative Monitoring Wells for Chronic Lowering of Groundwater Levels (RMW-WLs), starting in Fall 2024 (e.g., with monitoring occurring in October, January, April and July).
3) Conduct annual water quality sampling for constituents defined in the GSP at all Representative Monitoring Wells for Degraded Water Quality (RMW-WQs), starting in Summer 2024.
4) Adopt a policy for mandatory metering and groundwater pumping measurement and reporting at all production wells or use of an equivalently sufficient method at the required resolution (*de minimis* users and small volume pumpers excluded) by October 2024, with complete implementation of meters no later than January 2026. Pumping measurements will ultimately be by metering.
5) Adopt a policy for the development and maintenance of a GSA well registry that, at a minimum, defines the location, perforated interval, and active status of a well. The registry shall be fully catalogued by 2030.
6) Aquifer-specific pumping from composite wells to be calculated by a method agreed upon by the Coordination Committee.
7) Ensure that well construction information for all Representative Monitoring Wells (RMWs) is provided to the Coordination Committee by January 2025.
8) Replace composite RMW-WLs and active production RMW-WLs that have inaccurate measurements with aquifer-specific dedicated monitoring wells:
    - All composite RMW-WLs are to be replaced with aquifer-specific RMW-WLs by December 31, 2029.
    - Active production RMW-WLs from which groundwater elevation measurements have been determined to be unreliable are to be replaced with aquifer-specific dedicated monitoring wells[54] by the submittal of the second GSP Periodic Evaluation.

The GSAs will import quarterly groundwater elevation and annual groundwater quality measurements within one month of data collection/availability, subject to the availability of test results from analytical laboratories, into the Basin's data management system (DMS) for the Coordination Committee to review. Monitoring frequencies outlined under this plan indicate minimum requirements for data collection. GSAs may need to increase the frequency of monitoring for groundwater elevations and/or water quality at selected RMWs due to the existence of known hotspots and/or triggering of the *GWL-MT Avoidance Plan* and/or *Water Quality MT (WQ-MT) Exceedance Plan*. At the minimum, and if not required otherwise, the GSAs will report their water year's aggregated groundwater pumping volumes, updates to their monitoring network, and their overall compliance status with the PRP to the Coordination Committee by the end of November of each year for inclusion in the Basin Annual Report.

[54] Repurposed or inactive production wells screened in a single principal aquifer may also be used as a substitute for an aquifer-specific dedicated monitoring well.

16.1.1.2 Overdraft Mitigation Plan

As discussed above, the GSAs will collectively reduce total groundwater pumping by an estimated 42,000 AFY or implement additional projects to reduce overdraft in the Basin by 2030 to address the Basin's historical overdraft. Groundwater pumping will be reduced from the average pumping from the overdraft evaluation period (Water Year [WY] 2003 to WY 2023). Starting in January 2025 and annually during the subsequent five years, the Basin will accomplish at least 20% of its total apportioned pumping reduction, accomplishing the total minimum reduction of 42,000 AFY by the end of 2030, as shown in **Table PI-1**.

Minimum Pumping Reduction Required Under Overdraft Mitigation Plan

Implementation Year	Minimum Reduction in Overdraft Pumping (%)	Minimum Basin-wide Reduction in Total Upper Aquifer Overdraft Pumping (AFY)	Minimum Basin-wide Reduction in Total Lower Aquifer Overdraft Pumping (AFY)	Minimum Basin-wide Reduction in Total Overdraft Pumping (AFY)
Jan 2025 (starting point)	0%	0	0	0
2026	20%	1,900	6,500	8,400
2027	40%	3,800	13,000	16,800
2028	60%	5,700	19,500	25,200
2029	80%	7,600	26,000	33,600
2030	100%	9,500	32,500	42,000

Abbreviations:
AFY = acre-feet per year

By October 2024, each GSA or GSA Group will determine and adopt the technical framework(s) under which they collectively achieve the minimum pumping or overdraft reduction for each principal aquifer as shown in **Table PI-1**. The adopted technical framework(s) must detail the technical approach, criteria, and tools that will be used to determine the extent and magnitude of the pumping or overdraft reduction, and present sufficient justification that they will meet the minimum requirements under this *Overdraft Mitigation Plan*. The GSAs may count pumping reductions implemented under the *GWL-MT Avoidance Plan* (**Section 16.1.1.3)**, *WQ-MT Exceedance Plan* (**Section 16.1.1.4**), and *Subsidence Mitigation Plan* (**Section 16.1.1.5**) towards their minimum reductions. The GSAs may not propose plans that impose reductions on other GSAs unless coordinated and agreed upon.

16.1.1.3 Groundwater Levels MT (GWL-MT) Avoidance Plan

Each GSA or GSA Group will develop and adopt a *GWL-MT Avoidance Plan* by October 2024 that complies with the general framework outlined under this Basin-wide PRP and will implement that plan on or before January 2025. In this *GWL-MT Avoidance Plan* each GSA or GSA Group will define RMW-WL-specific groundwater level triggers based on the exceedance of an MT or projected exceedance of MT in a year following a four-year declining trend in seasonal low (Fall) groundwater levels.

By the end of February of each year, the GSAs will compare the water level data at each RMW-WL to the defined trigger levels under the MT avoidance plan. If the groundwater level at an RMW-WL does not

exceed the established trigger level, the RMW-WL is not projected to exceed its MT and the GSA will follow its normal management procedures. If the groundwater level at an RMW-WL exceeds the established trigger level, or is projected to exceed an MT, an investigation will be conducted to determine whether an area should be designated as an MT "hotspot" and will require an RMW-WL specific PRP. The PRPs will define the pumping reduction and/or other management actions to be implemented in the designated "hotspot" during the year to correct a potential MT exceedance. The PRP will evaluate the groundwater level deficit, define lands to be restricted, and develop an allowable pumping limit on an acre-foot per acre basis by principal aquifer to be implemented and maintained up to the end of the water year or until monitoring indicates the groundwater level recovers to be above the established trigger level.

In addition, an increased frequency of groundwater level and groundwater extraction monitoring and reporting (at least monthly) will be triggered for the RMW-WL that is designated as "hotspot" and additional nearby RMW-WLs. Increased monitoring will facilitate a better assessment of groundwater level recovery and the potential need for additional corrective actions for the following years or an opportunity to provide possible relief. The GSA Group(s) impacted by the MT hotspot may collectively decide to suspend their previously set allowable pumping limit if groundwater level trends increase to levels that ensure GWL-MT avoidance in the upcoming Fall season. This proposed process will be repeated in February of each year, providing annual adaptive management guidance for beneficial users of groundwater.

16.1.1.4 Water Quality MT (WQ-MT) Exceedance Plan

The GSAs will adopt a Basin-wide *WQ-MT Exceedance Plan* by October 2024 that complies with the general framework outlined under this Basin-wide PRP and will be implemented on or before January 2025. This *WQ-MT Exceedance Plan* will require the GSAs to consider the occurrence of any of the following criteria as an exceedance trigger for constituents of concern (COCs) as specified in the GSP:

- Exceedance of water quality MT at any RMW-WQ; or,
- Statistically significant[55] increasing trend in water quality concentration in three consecutive years of data at any RMW-WQ such that an MT exceedance is projected to occur within the next year.

Upon exceedance of the trigger at an RMW-WQ, GSAs will conduct an investigation within a 60-day period to assess if the degradation of water quality at the site is correlated with local and regional groundwater level changes or groundwater movement caused by the Basin's groundwater management. An investigation would include statistical and/or spatial analyses between water levels and water quality to determine causation, depending on the availability of data. For example, in an RMW-WQ that has at least five sampling points with water level data that temporally overlaps with water quality data, a granger causality test between water levels and water quality could be conducted. If such correlation is confirmed, the RMW-WQ is designated as an MT "hotspot" and the GSAs overlying the "hotspot" will have 60 days to provide the Coordination Committee with one of the following mitigation programs:

- If it is determined that management actions of the Basin related to groundwater recharge are the primary cause of the water quality degradation, the mitigation plan will include a short-term

[55] To determine statistical significance, hypothesis testing will be performed and the p-value will be calculated.

implementation schedule with identified action items including ceasing recharging temporarily to address or mitigate the impact; or

- If it is determined that groundwater level declines or groundwater migration due to pumping are the primary cause for the degradation of water quality, the mitigation plan will designate the location as a temporary GWL-MT hotspot, with a temporary trigger equal to the seasonal high groundwater level measurement in the previous water year at the same RMW-WQ or a nearby RMW-WL, to be maintained according to the GWL-MT avoidance plan and an established PRP for at least three years.

In addition, the frequency of monitoring at the RMW-WQ and at least one upgradient and one downgradient RMW-WQ (or other existing well) will be increased to quarterly measurements for the impacted COC(s). The increased monitoring frequency will help assess the source, movement, and trend of exceeding COC(s) and facilitate corrective actions or adapting the PRP.

16.1.1.5 Subsidence Mitigation Plan

The GSAs will each individually develop and adopt a *Subsidence Mitigation Plan* by October 2024 that will be implemented on or before January 2025 to mitigate any projected exceedance of the subsidence MTs. The *Subsidence Mitigation Plan* will be comprised of two components: a critical infrastructure protection component and subsidence hotspot mitigation component.

Critical Infrastructure Component: The critical infrastructure protection component will be triggered if the 3-year moving average rate of subsidence exceeds 0.2 feet per year (ft/year) at any location within 0.5 miles of critical infrastructure that is attributed to in-Basin pumping using a consistent source of monitoring data (Interferometric Synthetic Aperture Radar [InSAR] data and/or Representative Monitoring Site-Land Subsidence [RMS-LS]). A modeling exercise will be conducted to estimate the relative contributions of within-Basin and out-of-Basin pumping to the subsidence rate. Following a trigger exceedance, a management zone will be determined.

Lower Aquifer pumping will be reduced beyond current extraction volumes within an area of influence and construction of new Lower Aquifer wells[56] will be prohibited until after the 4-year moving average rate of subsidence falls below 0.1 ft/year. The pumping reduction may be incrementally reversed to obtain a 4-year moving average rate of subsidence in the management area above 0.05 ft/year. Reduction of Lower Aquifer pumping will be applied proportionally to all wells in the management zone known to extract from below the Corcoran Clay, including composite wells and wells with unknown depths of extraction. The critical infrastructure protection plan will be implemented by January 2025.

Hotspot Mitigation Component: The subsidence hotspot mitigation component will be triggered within areas projected to exceed 2 feet (ft) of cumulative subsidence by 2040 (calculated using the previous 5-years as the baseline) using consistent and comprehensive sources of monitoring data (such as InSAR, RMS-LS, and local subsidence monitoring). Within such areas, a modeling exercise will be conducted by January each year beginning in 2025 to estimate the relative contributions of within-Basin and out-of-Basin pumping to the subsidence rate. Lower Aquifer pumping will be limited proportional to the

[56] Replacement wells with similar design or operational use are exempted from this requirement.

respective annual average rate of subsidence calculated between 2016-2023 that is attributable to in-Basin pumping, as follows:

- Areas that are projected to exceed the 2030 Interim Milestone (IM) will immediately reduce pumping of the Lower Aquifer. The pumping reduction and resultant mitigation will be evaluated annually and incrementally increased until subsidence due to Lower Aquifer pumping is eliminated.

The reduction of Lower Aquifer pumping will be applied proportionally to all wells within the subsidence hotspot known to extract from below the Corcoran Clay, including composite wells and wells with unknown depths of extraction. The Coordination Committee will actively meet with representatives from adjacent basins to seek reductions in out-of-Basin pumping that contributes to subsidence hotspots within the Basin.

In areas where both critical infrastructure protection and subsidence hotspot mitigation are triggered, the most stringent restrictions will apply. The GSAs can count pumping reduction as the result of the subsidence mitigation plan implementation towards their required total Lower Aquifer pumping reduction under the *Overdraft Mitigation Plan*.

16.1.1.6 Groundwater Allocation Backstop

Per Exhibit C of the MOA between the Basin GSAs, "In the event that the GSA is unable to mitigate or avoid future MT exceedances with its existing projects and management actions ("P&MAs") and within the timeframe presented to the Coordination Committee, the GSA may seek assistance from the Coordination Committee. The Coordination Committee may recommend policies or programs to the GSA that the GSA could, in its discretion, adopt to remedy the existence of an MT exceedance and to avoid undesirable results. Furthermore, the Coordination Committee may consider setting triggers in the GSP for GSAs to implement management actions [e.g., sequencing P&MAs] or work on alternative options."

Therefore, consistent with the process outlined in the MOA and the Undesirable Results definition for Chronic Lowering of Groundwater levels, if the GSA(s) have MT exceedances for two consecutive years due to groundwater management within their respective jurisdictional areas, and/or if GSA(s) fail to achieve their minimum pumping reduction required under the *Overdraft Mitigation Plan* by 2030, the relevant GSA(s) will be required to implement a groundwater allocation program to limit groundwater pumping to within the local Sustainable Yield[57].

16.1.2 Project and Management Action Implementation

To prevent potential Undesirable Results, P/MAs are planned as part of GSP implementation. As described in **Section 15**, a portfolio of P/MAs has been developed with the goal of proactively addressing relevant Sustainability Indicators. **Table PMA-1** and **Table PMA-2** provide the required details about each P/MA, including the circumstances under which they may be implemented.

The GSAs plan to begin implementation of selected P/MAs (**Table PMA-1**) based on the general "glide path" developed in 5-year increments (**Section 15.6**). In some cases, initial steps in implementation will

[57] The GSAs in the Basin acknowledge that there are several additional local and State rules, regulations, requirements, mandates, permits, and statutes applicable to the various public water suppliers and municipalities within the Basin, including, but not limited to, the "Human Right to Water" (CWC § 106.3). These will be considered as part of the Basin's adaptive management process, which is designed to prevent an MT exceedance and Undesirable Results.

include performing various studies or analyses to refine the concepts into actionable projects. Studies and work efforts may include, but are not limited to, California Environmental Quality Act (CEQA) studies and documentation, engineering feasibility studies, and preliminary design. The planning of P/MAs will be supported by the best available information and science.

In some cases, initial steps in implementation will include applying for grant funding to conduct pilot studies or demonstration projects. For example, the Basin received over $6 million in grant funding to implement planned P/MAs through DWR's Sustainable Groundwater Management (SGM) Program SGMA Implementation – Round 1 in 2022.

Once the necessary initial studies are completed and funding mechanisms are established, P/MAs will undergo, as necessary, final engineering design (in the case of infrastructure projects), permitting, and public noticing and outreach. At that point, construction of projects will occur, followed by ongoing operations and maintenance, as necessary. It is anticipated that each implemented P/MA will have its own set of monitoring or data collection components to allow for P/MA assessment and, if necessary, modification.

16.1.3 Data-Gap Removal Efforts

The Basin GSAs will prioritize and begin to fill the key data gaps identified in this GSP related to the hydrogeologic conceptual model (HCM), groundwater conditions, water budget, and monitoring network. These efforts to fill data gaps will include the following.

Hydrogeologic Conceptual Model

As discussed in **Section 7.1.5**, there is greater uncertainty in the characterization of the Lower Aquifer as compared to the Upper Aquifer in terms of its thickness, hydraulic properties, and definable bottom (particularly the base of fresh water in the northern and central portions of the Basin) since fewer wells have been drilled to the deepest depth zones. As new borings are drilled in the Lower Aquifer or existing boring logs become available, the GSAs will refine the HCM to incorporate information collected from those borings and wells, including aquifer properties, significant stratigraphic horizons, and general water quality.

Groundwater Conditions

The GSAs will conduct additional data compilation and analysis of groundwater conditions using other public datasets and tools as they become available. Data gaps identified related to each Sustainability Indicator are detailed in **Section 8.9** and will be addressed as follows.

- **Groundwater Levels**: There are fewer groundwater level data available both temporally and spatially from the Lower Aquifer as compared to the Upper Aquifer. In both the Upper and Lower Aquifers, low spatial density of the prior monitoring networks in the central eastern portion of the Basin, specifically within the Grassland GSA Group and in the eastern portion of the San Joaquin River Exchange Contractors (SJREC) GSA Group limited historical data collection. As described in **Section 14**, the GSAs have significantly expanded the Representative Monitoring Network for groundwater levels. Data collected from the expanded monitoring network will help to fill existing identified data gaps. During GSP implementation, the GSAs will evaluate the potential to add additional RMW-WLs if more spatial coverage is needed.

Additionally, as shown on **Figure GWC-3**, there is a potential cone of depression in the southwest portion of the Basin under Fall 2015 conditions. Given that MTs for Chronic Lowering of Groundwater Levels are based on 2015 Low groundwater elevations, this apparent depression warrants further investigation to understand if it is caused by groundwater pumping, local hydrostratigraphy, data errors, or other hydrogeologic conditions that could influence groundwater levels in this area.

- **Groundwater Storage**: Data gaps for groundwater storage generally coincide with those noted above for groundwater levels. Additionally, uncertainty in the estimated aquifer storage properties and their spatial variability affects model calculations of change in storage. The distribution of pumping from the Upper and Lower Aquifers is generally determined using available well construction information and can be improved through measured pumping data, incorporation of the GSA's well census data, and better characterization of aquifer properties.

  Additionally, existing uncertainties in model input data, including western boundary subsurface flows, boundary conditions, and the implementation of surface water diversions and deliveries within the modeled stream network, influence the simulation of groundwater levels, calculations of streamflow, surface water deliveries, and seepage, and ultimately the estimation of change in groundwater storage for each aquifer. As more data become available, these inherent uncertainties will be proportionally improved to better reflect the actual conditions in the Basin.

- **Groundwater Quality**: Limited water quality data are available for the Lower Aquifer, and in some portions of the Basin, for both aquifers. Extensive water quality testing of groundwater served to municipal customers by public water systems is required under Title 22, resulting in significant amounts of water quality data in urban areas within the Basin. In contrast, relatively fewer data are available in non-urban areas and for COCs that have not historically been a concern or whose appearance is highly localized, such as 1,2,3-trichloropropane (1,2,3-TCP) or gross alpha radioactivity. Additionally, much of the available water quality data comes from wells whose total depths and/or screen depths are unknown, making it impossible to determine which aquifer or aquifers the wells sample. This particularly limits the amount of data that can be definitively associated with the Lower Aquifer.

  As described in **Section 14**, the GSAs have significantly expanded the Representative Monitoring Network for groundwater quality. Collection of monitoring data for all COCs from the expanded Representative Monitoring Network will help address these data gaps.

- **Land Subsidence:** As shown in **Figure GWC-48**, InSAR data collected by DWR do not fully cover the Basin, and significant gaps in coverage exist in the central portion of the Basin. These areas are partially covered by survey data collected by the United States Bureau of Reclamation (USBR) and DWR along the Delta-Mendota Canal (DMC) and California Aqueduct, respectively, as well as subsidence information retrieved from the San Joaquin River Restoration Program (SJRRP) Global Positioning System (GPS) stations and collected by individual GSAs. Therefore, this GSP has sufficient data to characterize subsidence conditions in the vicinity of critical infrastructure, but there is greater uncertainty in characterizing subsidence conditions in areas of the Basin further away from critical infrastructure, including the area south of Los Banos and west of Dos Palos. The

GSAs will regularly evaluate DWR's InSAR data and information collected by other programs, such as the SJRRP's local surveying, to assess subsidence conditions in this area.

- **Interconnected Surface Water (ISW):** Insufficient groundwater elevation data exist in the shallow Upper Aquifer zone near the potential ISW and insufficient streamflow data (stage and flow rate) exist along the likely ISW. In response to these data gaps and uncertainties, the GSAs have substantially expanded the Basin's Representative Monitoring Network and are taking other measures to fill data gaps, as described in **Section 14.2.6**. As more data become available, these inherent uncertainties will be proportionally improved to better reflect the actual conditions in the Basin.

Water Budget

As highlighted in the Water Budget section of this GSP (**Section 9**), the Basin's integrated hydrological model (Model) adequately represents the Basin's groundwater conditions and water budget. However, the Model requires further calibration to improve its simulation of groundwater levels, subsidence, and stream flows as it currently lacks the resolution needed for local and GSA-level planning and operational decision-making. Such refinements are required for successfully implementing the PRP and tracking progress towards compliance with SMCs for Depletion of ISW.

To address this data gap, the Model will be calibrated prior to implementation of the PRP, focused on better representation of groundwater levels and subsidence rate and extent in the Basin. As needed for annual report development and tracking of depletion of ISW SMCs, the Model will be extended with additional data to represent current conditions in the Basin. Additionally, and upon further data collection, the Model will be recalibrated at least for each Periodic Evaluation of the GSP, or more frequently if needed for implementation of the PRP.

Monitoring Network

Within the Basin-wide monitoring network, there are several RMWs missing well construction information, such as total depth or screen interval information. The GSAs will continue to fill in missing well construction information for the Basin-wide Representative Monitoring Network during GSP implementation.

There is an approximately 50 square mile area in the southeastern portion of the Lower Aquifer that does not include any RMW-WLs. However, this is not considered a data gap since there is very little pumping, and this area is not expected to cause an Undesirable Result. Additionally, several RMW-WLs are production wells that may have limited monitoring frequencies due to pumping activities, and/or provide inaccurate results if insufficient time is given for recovery after a pumping event. Per the Basin's *Monitoring and Data Collection Plan,* all active production RMW-WLs that have inaccurate measurements are to be replaced with aquifer-specific dedicated monitoring wells by the submittal of the second five-year update after GSP submittal.

16.1.4 Intrabasin and Interbasin Coordination

As discussed in **Section 3.2.1**, the Memorandum of Agreement (MOA) between the 23 Basin GSAs establishes a Coordination Committee to provide a forum for the GSA Groups to work collaboratively and to develop recommendations for technical and substantive Basin-wide activities. The Basin Coordination

Committee meets regularly to discuss topics related to the implementation of this GSP, including data collection, management efforts, and planning for stakeholder engagement.

Inter-basin coordination efforts with the adjacent basins will occur on an as-needed basis. The Subbasin Points of Contact (POCs) for the groundwater basins in the San Joaquin Valley have a regularly scheduled quarterly meeting that includes DWR staff. These meetings are an opportunity for DWR to inform the POCs about SGMA-related topics and for the POCs to discuss topics of mutual interest, including interbasin coordination. Past meetings have also involved representatives from GSAs in the discussions and stakeholders.

16.1.5 Stakeholder Engagement

The Basin's SGMA Communications Plan (**Appendix F**) is used as a framework for conducting the stakeholder outreach and engagement activities described in this document. Anticipated stakeholder engagement activities include, but are not limited to:

- Continued Coordination Committee and GSA Board meetings;
- Hosting as-needed stakeholder workshops; and,
- Posting of relevant announcements and information on the GSA's website (https://deltamendota.org/) and other direct mailings, as needed.

16.1.6 Annual Reporting

☑ **23 CCR § 356.2(b)(1)(2)(3)**

Per 23 CCR § 356.2, an annual report on Basin conditions and GSP implementation status is required to be submitted to DWR by April 1 of each year following GSP adoption. These annual reports will be prepared by the GSA using data collected during GSP implementation, as described above. 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 RMW-WLs and RMW-ISWs;
- 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;
- Annual surface water supply volumes used for the entire Basin, quantified by source type;
- Annual total water use for the entire Basin, quantified by water use sector and type, with an explanation for the method of measurement (direct or estimate) and accounting of accuracy; and
- Estimates of annual change in groundwater storage. The Model will be updated and extended to include the groundwater elevation data, groundwater extraction volumes, and hydrology datasets (i.e., precipitation and evapotranspiration) to estimate the annual change in groundwater storage.
- Evaluation of Basin conditions relative to SMCs established herein.

16.1.7 Enforcement and Response Actions

16.1.7.1 GWL-MT Avoidance Plan, WQ-MT Exceedance Plan, and Subsidence Mitigation Plan

Although the implementation of the *Overdraft Mitigation Plan* (**Section 16.1.1.2**) is expected to ensure long-term operation of the Basin within its Sustainable Yield, it lacks the adaptiveness to control adverse conditions due to localized impacts. Therefore, the *GWL-MT Avoidance Plan* (**Section 16.1.1.3**), *WQ-MT Exceedance Plan* (Section **16.1.1.4**), and *Subsidence Mitigation Plan* (**Section 16.1.1.5**) are proposed to facilitate local and/or short- to mid-term mitigation of adverse conditions and ensure consistent operation of the Basin within its defined SMCs, avoiding Undesirable Results.

16.1.7.2 Well Mitigation Policy

The Basin GSAs have adopted a Well Mitigation Policy (Policy) to address impacts to domestic and small community well owners associated with declining groundwater levels, as detailed in **Appendix M**. The Policy was developed in consideration of recommendations found in DWR's *Considerations for Identifying and Addressing Drinking Water Well Impacts* (DWR, 2023b) and Self-Help Enterprises' *Framework for a Drinking Water Well Impact Mitigation Program* (Self-Help Enterprises et al., 2022).

The framework of this Policy, including implementation details, eligibility, public notification, and funding are discussed below.

Eligibility

At minimum, this Policy addresses impacts to domestic and small community water system wells. Individual GSAs may consider including additional well uses, and owners of all well types are eligible to apply for assistance. GSA assistance is not guaranteed and will be subject to analysis by the applicable GSA and pursuant to the provisions of Executive Order (EO) N-3-23. This Policy does not apply to wells installed after the date of adoption of this GSP at screen intervals depth shallower than MT groundwater levels designated by the applicable GSA during the well construction application process.

Public Notification

GSAs will conduct public education and outreach to notify landowners of the policy, provide information on how to file a claim for assistance, and the information that the GSA will require to evaluate the mitigation claim. Policy status and implementation will be discussed at Basin Coordination Committee and individual GSA Board/City Council meetings regularly during the first year of the implementation of this GSP. The Policy will be available on the Delta-Mendota Subbasin SGMA website (www.deltamendota.org) with relevant information such as electronic instructions for filing a claim and a form to submit the claim electronically via the website. GSAs may also place the policy on their own websites or have a link on their websites that direct interested persons to the Delta-Mendota Subbasin SGMA website.

Well Mitigation Process

Upon receiving a completed application, the applicable GSA will conduct a preliminary review of the application within ten (10) business days to determine completeness. The applicant will be notified within that period if further information is needed to evaluate the request for assistance. If the application is complete and appears to meet the requirements for assistance, the applicable GSA will provide a short-term emergency water supply to domestic well users as soon as reasonably possible, or within ten (10)

business days of submission of a complete application. Short-term emergency water supplies shall consist of delivered bottled water and/or water tanks at the GSA's discretion.

The GSAs may request a professional well assessment report to investigate the age of the well, well construction information (e.g., pump depth, screening intervals, and material), well maintenance information, indication of past well performance and any recent changes, any recent changes in well use or related land use, and other additional information as necessary to determine if the failure is caused by declining water levels and GSA actions.

The preliminary review of the well mitigation application shall consist of:

- A review of well construction information;
- A review of well and pump maintenance records;
- A review of historic water level data for nearby RMW-WLs;
- A review of nearby known production well information;
- A review of nearby land use and any recent land use changes; and,
- An analysis of nearby conjunctive use activity.

If the nearest RMW-WL fails to represent the applicant's well and land use, a GSA may review supplemental data from DWR and local agencies to support the preliminary review analysis.

If, after completion of the preliminary review, a GSA determines a well may be eligible for mitigation, the GSA will perform a field investigation. To be eligible for mitigation assistance, the applicant must consent to the field investigation and execute an appropriate release. Failure to consent to the field investigation and execute an appropriate release voids the application for mitigation. The field investigation may include but is not limited to:

- Removing pump to measure intake depth, well bottom, and static water level;
- Conducting video log;
- Modifying wellhead to measure static and pumping level;
- Investigating site for consolidation feasibility; and/or,
- Investigating nearby land and water use.

The field investigation may show the well as ineligible for mitigation. Such criteria indicating ineligibility include, but are not limited to pump failure, clogged screens, well pipe and/or casing failure or collapse unrelated to lowering groundwater levels, other maintenance-related well or pump issues unrelated to lowering of groundwater levels, and/or normal wear and tear based on the age of the well. If the well is ineligible for mitigation, the well owner shall reimburse the GSA for field investigation expenses.

If, after the field investigation, a GSA determines a well is eligible for mitigation, the GSA will work with the well owner on a solution appropriate for the site ("Mitigation Measure"). Such solutions may include but are not limited to:

- Lowering the well pump or otherwise modifying pump equipment;
- Deepening the well if the existing well has an open bottom;

- Installing a new well;
- Assisting landowner with facilitating a connection to an M&I or other water supply, if feasible; and/or,
- Other appropriate mitigation as agreed to by both parties.

If the applicant disagrees with the proposed Mitigation Measure, a technically qualified third-party agreed to by both the GSA and applicant may facilitate and recommend a mutually agreeable Mitigation Measure. However, the GSA has the right to identify which Mitigation Measure is optimal on a case-by-case basis. The appropriate GSA Board and/or Manager shall approve the application before well mitigation, other than provision of emergency drinking water, begins.

The applicant must sign a Mitigation and Indemnification (MI) Agreement prior to commencing the Mitigation Measure. The terms of the MI Agreement will depend on the nature of the Mitigation Measure provided. New wells will be required to meet state, county, and GSA well standards and comply with Executive Order (EO) N--3-23. The GSAs will develop minimum design criteria for new wells that may include well construction materials, minimum depth, and/or screening interval levels, among other potential criteria.

Funding

Basin GSAs intend to mitigate and compensate well owners for legitimate impacts to domestic and small community wells, as well as other well types, as determined by individual GSAs. This GSP outlines the Basin plan to achieve sustainable conditions and minimize impacts to wells. Therefore, this Policy serves as an emergency plan to mitigate potential impacts that may occur during the GSP implementation period and is not intended to be a long-term solution.

The seven GSA groups will equally fund a common reserve of $300,000. Individual GSAs are responsible for the cost of mitigation for wells within their jurisdiction and will repay any amount withdrawn from the common fund. In the event of intrabasin disagreements for determining responsibility for dewatering of a well, Basin GSAs shall follow the processes as outlined in the executed MOA. Upon completion of the Mitigation Measure, any adjustments (i.e., depreciation, etc.) to mitigation costs shall be repaid to the GSA by the well owner.

16.1.8 Periodic Evaluations of GSP

☑ **23 CCR § 356.4**

Per 23 CCR § 356.4, the Basin GSAs will conduct a Periodic Evaluation of its GSP at least every five years and will amend the GSP as necessary to ensure that the Sustainability Goal for the Basin is achieved. The GSP elements that will be covered in the Periodic Evaluation are described below and are consistent with DWR's *A Guide to Annual Reports, Periodic Evaluations, & Plan Amendments* (DWR, 2023a).

16.1.8.1 New Information Collected

This section will provide a description of significant new information that has been made available since the adoption of this GSP, including data obtained to fill identified data gaps. This section will discuss whether new information warrants changes to any aspect of the GSP, including evaluation of the Basin

Setting or SMCs, and whether those changes associated with the new information led to a Plan Amendment (**Section 16.1.8.8).**

16.1.8.2 Groundwater Conditions Relative to Sustainable Management Criteria

This section will assess the GSAs' progress toward achieving groundwater sustainability by evaluating current groundwater conditions against the SMCs for each Sustainability Indicator, including progress toward achieving IMs and MOs. If this evaluation indicates that the GSP implementation has not been effective in making progress towards achieving sustainability, this section will include an explanation for any lack of progress and strategies for improvement.

16.1.8.3 Status of Projects and Management Actions

This section will evaluate the current implementation status of planned P/MAs, along with an updated implementation schedule and any new P/MAs that are not included in this GSP.

16.1.8.4 Basin Setting Based on New Information or Changes in Water Use

This section will provide an evaluation of the Basin Setting based on new information or changes in water use. This section will describe any changes in understanding of the Hydrogeologic Conceptual Model (HCM), Groundwater Conditions, and Water Budget and provide a description of any Model updates that have occurred since adoption of this GSP.

16.1.8.5 Monitoring Networks

This section will provide a description of the SGMA Representative Monitoring Network, including a summary of changes to the monitoring network since adoption of the GSP, 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.

16.1.8.6 GSA Authorities and Enforcement Actions

This section will describe any new authorities the Basin GSAs have gained, established, or exercised since the adoption of this GSP and summarize actions implemented to advance groundwater sustainability, such as the Basin's PRP (**Section 16.1.1**).

16.1.8.7 Outreach, Engagement, and Coordination with Other Agencies

This section will describe, as appropriate, the inter-agency coordination efforts and activities that occurred between the Basin GSAs, GSAs in adjacent basins, land use agencies, and federal, state, and local agency coordination related to SGMA implementation. Additionally, this section will describe any outreach efforts the Basin has conducted to engage interested parties, the public, and the Basin's beneficial users.

16.1.8.8 Summary of Revisions to Plan Elements

This section will summarize key takeaways from the Periodic Evaluation. Per 23 CCR § 356.4(c), elements of the GSP, including the Basin Setting, SMCs, and P/MAs sections, may be revised at the GSAs' discretion as part of a separate Plan Amendment. This section will provide the rationale for developing a Plan Amendment if a Plan Amendment is deemed necessary based on findings from the Periodic Evaluation.

16.2 Plan Implementation Costs

☑ 23 CCR § 354.6(e)

Per 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.

16.2.1 Estimated Costs

The estimated costs for the Basin to implement this GSP may be associated with the following activities:

1) GSA Administration costs, including
   - Costs of monitoring, data collection, and filling data gaps;
   - Costs associated with stakeholder outreach and coordination;
   - Costs associated with reporting;
   - Costs of enforcements and response actions; and,
2) Costs to implement P/MAs, including capital/one-time costs and ongoing costs.

Over the first 5-year period (i.e., 2025-2030), Basin-wide costs associated with GSA administration are estimated to range from $2.4M per year in 2025 to $3.9M per year in 2040, as shown in **Table PI-2**. Costs to implement individual P/MAs are included in **Table PMA-2**.

Table PI-2. Plan Implementation Costs

Groundwater Management Activity	Estimated Average Annual GSP Implementation Costs (2024 Dollars)			
	2025	2030	2035	2040
Monitoring and Data Collection				
Monitoring	$215,000	$219,000	$224,000	$229,000
Data Management System	$61,000	$64,000	$67,000	$71,000
Data Gap Removal	$125,000	$125,000	$110,000	$85,000
Intra-Basin Coordination	$67,000	$70,000	$74,000	$78,000
Stakeholder Engagement	$59,000	$61,000	$65,000	$68,000
Annual Reporting	$217,000	$223,000	$230,000	$238,000
Enforcement and Response Actions				
Well Mitigation Program	$100,000	$100,000	$100,000	$100,000
Pumping Reduction	$185,000	$466,000	$608,000	$750,000
Periodic Evaluations	$0	$700,000	$700,000	$700,000
Other Management and Administration	$1,397,000	$1,456,000	$1,527,000	$1,615,000
Average Annual Cost (Basin)	**$2,426,000**	**$3,484,000**	**$3,705,000**	**$3,934,000**
Average Annual Cost (GSA Group)	**$347,000**	**$498,000**	**$529,000**	**$562,000**

16.2.2 Sources of Funding to Meet Costs

The Basin GSAs will likely meet the estimated costs for GSA Administration through water rates, benefit assessments and a combination of grant funding, as available. Anticipated sources of funding for individual P/MAs are listed in **Table PMA-2** and described in **Section 15.12**.

16.3 Plan Implementation Schedule

This section discusses a general estimated schedule for GSP implementation. The GSP Regulations do not specifically require that a schedule for GSP implementation over the 20-year implementation period (i.e., 2020 through 2040) be provided, and any such schedule would be subject to considerable uncertainty. However, the following factors and constraints inherent to the GSP process guide the schedule for GSP implementation:

- 23 CCR § 354.24 requires the establishment of a Sustainability Goal (i.e., avoidance of Undesirable Results) that will be reached within 20 years of GSP adoption, or by 2040 (for critically overdrafted basins like the Delta-Mendota Subbasin).
- Annual reports are due by April 1 of every year following GSP submission.
- Periodic Evaluations are required at least every five years. Therefore, the first Periodic Evaluation of this GSP shall be submitted by July 2029.