PLAN IMPLEMENTATION

19. PLAN IMPLEMENTATION

> *§ 351. Definitions*
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> *(y) "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.*

Per the Groundwater Sustainability Plan (GSP) Regulations, "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" (23-California Code of Regulations [CCR] § 351(y)). This section describes the activities that will be performed by the seven Groundwater Sustainability Agencies (GSAs)[84] and, when in place, the Cosumnes Groundwater Authority (CGA) as part of GSP implementation within the Cosumnes Subbasin (Basin), with a focus on the first five years (i.e., through 2026). Key GSP implementation activities to be undertaken over the next 20 years include:

- Monitoring and data collection;
- Data gap filling;
- Intra-basin coordination between GSAs and inter-basin coordination with the South American Subbasin (SASb) and Eastern San Joaquin (ESJ) Subbasin;
- Continued stakeholder outreach and engagement;
- Annual reporting;
- Enforcement and response actions;
- GSP evaluation and updates, as necessary, as part of the required periodic evaluations (i.e., "five-year updates"); and,
- Projects and Management Actions (PMA) implementation.

Each of these activities is discussed in more detail in the sections below under "Plan Implementation Activities."

[84] The seven Groundwater Sustainability Agencies (GSAs) include Amador County Groundwater Management Authority (ACGMA), City of Galt, Clay Water District, Galt Irrigation District (GID), Omochumne-Hartnell Water District (OHWD), Sacramento County, and Sloughhouse Resource Conservation District (SRCD).

19.1. Plan Implementation Activities

19.1.1. Monitoring and Data Collection

Sustainable groundwater management relies on a foundation of data to support decision making. As such, data collection within the Basin will be a key part of GSP implementation. These data collection efforts will include collecting data from the monitoring well network to measure the depth to groundwater and/or water quality for comparisons to applicable Sustainability Indicators (e.g., Chronic Lowering of Groundwater Levels, Degraded Water Quality, and Depletions of Interconnected Surface Water) as well as collecting other data and information required for management and reporting under the SGMA, as described below. Monitoring and data collection will be done under the direction of the CGA, as the successor agency to the Working Group, it's Plan Manager (PM), and with support from the Watershed Coordinator and technical consultants, as needed.

Section 17 *Monitoring Network* discusses the SGMA Monitoring Network and associated Representative Monitoring Sites (RMS) and protocols that will be used for the applicable Sustainability Indicators in the Basin. In addition, the Reduction of Groundwater Storage and Land Subsidence indicators will be monitored by groundwater levels as a proxy. Data collected will be incorporated into the Basin's Data Management System (DMS) and used to support annual reporting (see Section 19.1.6 *Annual Reporting*). Furthermore, monitoring results will be evaluated against applicable Sustainable Management Criteria (SMCs)[85] to confirm Basin sustainability and the absence of Undesirable Results (URs).

The CGA anticipates that within the first five years of GSP implementation (i.e., in the WY 2022 through WY 2026 timeframe), the following monitoring related efforts will be performed:

- Semiannual (March and October) water level monitoring at the Representative Monitoring Well for Chronic Lowering of Groundwater Levels (RMW-WL) and Depletions of Interconnected Surface Water (RMW-ISW) networks. Additional monitoring may occur at supplemental well site(s) to provide data from a broader network to support RMWs representation;
- Where and when deemed appropriate, install datalogging pressure transducers to record water levels more frequently than semiannual manual measurements;
- Quality assurance and quality control (QAQC);
- Data Management System (DMS) updates; and,
- Data gap filling efforts that pertain to the monitoring network (see Section 19.1.2 *Data Gap Filling Efforts* below).

As discussed in Section 17.1.4 *Monitoring Network for Degraded Water Quality*, the CGA anticipates that the following water quality related monitoring efforts will be performed within the first five years of GSP implementation:

[85] The SMCs include Minimum Thresholds (MTs), Measurable Objectives (MOs), and Interim Milestones.

- Annual water quality sampling from RMW Water Quality (RMW-WQ) network wells to establish baseline water quality conditions;
    - Public Supply wells will be sampled, or available data will be downloaded from Safe Drinking Water Information System (SDWIS) Drinking Water Watch website, as needed;
    - Remaining RMW-WQ wells representing domestic, monitoring, and irrigation wells will be sampled;
- Compilation and review of potential supplemental water quality data from public water systems that are not part of the RMW-WQ network but publicly available through the SDWIS website;
- QAQC checks; and,
- Updates to the DMS.

In addition to the well data described above, collection and reporting of other types of information is required under SGMA (see further discussion below in Section 19.1.6 *Annual Reporting*). The additional information includes:

- Groundwater extraction information. Groundwater extraction information is currently measured by the totalizer on flow meters of available production wells. Groundwater use can also be estimated annually, based on the updated land use maps (e.g., Department of Water Resources [DWR] surveys or Land IQ data), remote-sensing of evapotranspiration (ET) data (e.g., Irrigation Training and Research Center modified Mapping of ET with Internal Calibration [ITRC METRIC]), and recent climate information;
- Surface water supply data from Cosumnes River surface water gauging stations;
- Annual verification and update of land use that employs periodically published DWR maps and verification by GSAs (e.g., verification of repurposed land uses like the voluntary land fallowing program);
- Utilizing satellite imagery to identify the spatial and temporal distribution of dry stream reaches in the Basin (e.g., Cosumnes River and Dry Creek). Satellite imagery can be coupled with stream gauge and groundwater-level data to assess the impact of groundwater conditions on surface water;
- Location, quantity, and timing of diversions from, and return flows to the Cosumnes River;
- Land subsidence data collected from the existing University Navstar Consortium (UNAVCO) Global Positioning System station located within the Basin;
- Land subsidence data provided by the Interferometric Synthetic Aperture Radar (InSAR) data from DWR; and
- Conduct Groundwater Dependent Ecosystem (GDE) monitoring and assessments, based on an evaluation of climate, groundwater levels, satellite imagery, and timing and magnitude of Cosumnes River flow (e.g., utilizing the GDE Pulse tool[86]). Evaluation of these data can be coupled

[86] https://gde.codefornature.org/#/home

with periodic site visits to verify condition and extent of GDEs. These activities are planned for observing GDE health and to evaluate possible triggers that initiate specific PMAs as part of the five-year update.

19.1.2. Data Gap Filling Efforts

The Basin GSAs will prioritize and begin to fill the key data gaps identified in this GSP related to monitoring, the hydrogeological conceptual model, groundwater conditions, and water budgets. Data gap filling efforts will be done under the direction of the CGA PM with support from the Watershed Coordinator and technical consultants, as needed. These data gap filling efforts will include, but are not limited to:

- Conduct well census and inventory projects to verify well use, status, construction, and density within the Basin;
- Develop system to inventory surface water diversions and return flows to support surface water budget calculations and quantify surface water depletions;
- Verify the lands that utilize surface water only, groundwater only, or both; Routine/annual field-verification and updating of mapped land use utilized by the model will improve the future reliability of the water budget. Land use verification activities by the GSAs will include delineation of Managed Wetlands as a refinement of the current land use categories of "Native Water" and the Riparian component of "Native Vegetation."
- Compile available well construction information to update incomplete information for wells in the DMS. The RMW network wells are a priority, and efforts can include video logging to identify well perforation intervals where information is not available. This effort might be supported with grants from DWR's Technical Support Services (TSS) program;
- Reach out to well owners to identify changes in groundwater conditions (for example, potential dewatering and well failures), and estimate groundwater extraction volumes for annual reporting and establishment of fees. GSAs might consider adopting ordinances to require metering and reporting of groundwater use. GSAs can also consider investment in remote sensing data. For example, the Drought Resilience Impact Platform (DRIP)[87] uses on-site sensors that wirelessly transmit data to monitor pump operation and develop estimates of groundwater use. Groundwater use data are coupled with satellite-based remote sensing data to determine current groundwater conditions and aid in future management and planning;
- Expand paired multiple depth well monitoring sites across Basin boundaries to improve characterization of interconnected surface water, conditions that influence GDEs (like perched groundwater), and cross-boundary flows. These sites will provide additional data for monitoring the impacts of PMAs in adjacent basins, such as the Harvest Water Project in the SASb. The GSAs can apply for TSS program to construct these additional monitoring wells;
- Assess the hydraulic connection between the Principal Aquifer and potential perched aquifers. This can be accomplished with aquifer pumping test(s) when possible, requiring multiple monitoring

[87] https://www.colorado.edu/center/mortenson/DRIP

well depths, and monitoring water level changes over short time periods in paired monitoring wells;

- Add monitoring sites in Amador County to address spatial variability and uncertainty in water table conditions in the Basin Foothills Subarea. TSS Grants might be a source of funds to construct these additional monitoring wells;
- Coordinate additional geophysical surveys integrated with monitoring well construction to map the thickness and extent of the inferred clay bed thought to be present beneath the western third of the Basin and possibly associated with the interface between the Victor Formation and Laguna Formation;
- Activate Dry Creek surface water gauging station and incorporate into monitoring network;
- Coordinate monitoring with SASb and ESJ Subbasin to quantify and track changes in cross-boundary flows; and,
- Continue the routine download of public datasets and tools employed to support management activities as they become available (e.g., GDE Pulse tool, Groundwater Ambient Monitoring and Assessment [GAMA] data, etc.).

19.1.3. Intra-Basin Coordination

Intra-basin coordination will be accomplished through the work of the CGA comprised of all GSAs in the Basin. Monthly meetings and special committee meetings will facilitate coordination among the GSAs. The formation of the Citizen Advisory Committee will help coordinate the work of the CGA and landowners in the Basin. These Intra-Basin Coordination efforts will be done under the direction of the CGA PM with support from the Watershed Coordinator and GSA members.

19.1.4. Stakeholder Engagement

The Cosumnes Subbasin Communication and Engagement Plan ([C&E]; **Appendix D**) will continue to be refined, updated, and executed during GSP implementation. Anticipated stakeholder engagement activities include, but are not limited to:

- Public participation in continued monthly CGA meetings;
- Continued monthly GSA Board meetings;
- Periodic public workshops;
- Continuation of Surface Water Advisory Stakeholder Group (SWAG) meetings;
- Develop the Citizens Advisory Committee;
- Develop an Inter-Basin Coordination Agreement with adjacent basins; and,
- Posting of relevant announcements and information on the websites of each GSA and the Basin website (cosumnes.waterforum.org).

Stakeholder Engagement will be facilitated by the CGA PM with support from the Watershed Coordinator.

19.1.5. Project and Management Action Implementation

Phase 1 PMA implementation will begin in 2022-2023 after CGA submits the GSP to DWR and has advanced the process of adopting a new fee structure to replace the pre-GSP structure put in place for fiscal year 2021-2022. The new fee structure will support implementation activities described below carried out under the guidance of the CGA PM with support from the Watershed Coordinator, the member GSAs, and technical consultants. As noted, for the most part these activities will focus on refining concepts into actionable projects that can be implemented in Phase 2 of the GSP (2028-2042).

As described in Section 18 *Projects and Management Actions*, a portfolio of PMAs has been developed with the goal of achieving the Sustainability Goal for the Basin. **Table PMA-1** provides the details about each PMA, including the circumstances under which they may be implemented. PMA Implementation will be guided by the CGA PM with support from the Watershed Coordinator, the member GSAs, and technical consultants. The following describes the GSP's phased approach to implement the PMAs described in Section 18.

PMA implementation will be conducted on parallel tracks, and one of the first tasks for the CGA will be to assess landowner interest participating in the land repurposing project (e.g., voluntary land fallowing program) and conservation efforts. Information is needed on the necessary compensation to participate, the time periods for agreements, number of landowners to involve, and so forth. At the same time, the CGA will conduct outreach efforts to develop more detailed descriptions for the projects listed in Section 18.2.4 *Other PMAs*, or identify new potential projects not previously considered. The refined PMA list will be considered when making funding decisions and applying for future grant opportunities.

OHWD Recharge (PMA #1): This PMA is currently being implemented by Omochumne-Hartnell Water District (OHWD) in partnership with Sacramento Area Flood Control Agency (SAFCA) on approximately 1,200 acres of vineyards and grassland on the north side of the Cosumnes River between the river and Deer Creek. To date, OHWD has secured a temporary permit to divert winter flood water from the Cosumnes River onto these lands, following specified flow criteria for Agricultural Flood Managed Aquifer Recharge (Flood-MAR). Modeling suggests that an average of about 1,400 AFY could be diverted under this permit. With successful implementation of PMA #2 (SAFCA Flood-MAR), the land area subject to recharge could be expanded to 1,800 acres starting in 2028 to receive winter water from the American River delivered down the Folsom South Canal (FSC). The annual volume of water available for recharge could increase by an average of 20,000 AFY. Land application of these diversions are expected to influence groundwater levels and storage in the Cosumnes Subbasin.

SAFCA Flood-MAR (PMA #2): This PMA is part of a larger regional climate adaptation effort. As seasonal temperatures in the American River Basin warm, droughts are expected to occur more frequently and for longer periods of time. During wet periods, more of the annual precipitation is expected to occur as rain rather than snow, however reservoir storage capacity is limited during these runoff events by flood control requirements. The SAFCA Flood-MAR project is a concept to capture a portion of this winter-time runoff by changing the operation of Folsom Dam and using the FSC to divert water to the SASb and Cosumnes Subbasin for groundwater storage. To move the project forward, modification of Folsom Dam's current water control manual is needed, which is likely to require policy approval by Congress. Use of the water

created by this modification will require an agreement with the U. S. Bureau of Reclamation and resolution of water rights issues that may be raised by others outside the SASb and Cosumnes Subbasin. Delivery of the water down the FSC will need regional support from the participants in the Regional Water Authority and the Sacramento Water Forum. Further, because this water will be available only in wet years, extensive infrastructure will be required to infiltrate large volumes of water into the SASb and Cosumnes Subbasin in a limited timeframe. SAFCA is the lead agency for addressing these issues.

The Cosumnes GSP anticipates sufficient progress will be made in the next five years to allow the Flood-MAR program to get underway. During Phase 1 of PMA #2, SAFCA will work with the CGA to identify appropriate locations in the Basin for agricultural field spreading and dry well installation. This will involve outreach to interested landowners and implementation of a series of field spreading and dry well pilot projects to confirm infiltration rates. SAFCA will provide base funding for these pilot projects and CGA will pursue grant funding from available state and federal sources to broaden the scope of these feasibility efforts. An early example of this approach is occurring at the Laguna Del Sol property located in the Basin at the intersection of the FSC and Cosumnes River. With SAFCA funding, the OHWD GSA is leading a pilot project that involves small scale field spreading and installation of one dry well adjacent to the FSC to measure infiltration rates. During the winter of 2021–2022, water to support this pilot project will be provided by existing wells on the site. Based on pilot study results, CGA will seek grant funding to expand the project footprint, number of dry wells, and water volumes from the FSC.

Cosumnes River Flow Augmentation (PMA #3): The 2005 Pilot Flow Augmentation/Pre-wetting Project showed it is possible to mimic historical river channel conditions by releasing water into the Cosumnes River from the FSC to support an earlier connection to tidewater and allow fall run Chinook salmon to migrate to upstream spawning areas. This project will establish a longer-term program for pre-wetting the Cosumnes River channel. Working with Sacramento Municipal Utility District (SMUD) and the United States Bureau of Reclamation (USBR), OHWD will seek to develop a contractual arrangement whereby 500- to 1200-acre feet of water could be delivered down the FSC to the Cosumnes River channel on October 1st until flows reach the Oneto Denier reach, or storms provide sufficient runoff to connect the river. Pre-wetting would only be implemented when the river is disconnected (e.g., in high runoff years the pre-wetting may not be necessary), and the pre-wetting flows managed so that the delivered water does not reach the perennially wet tidal zone of the Cosumnes River. Water deliveries from FSC will be accordance with the Water Forum Agreement.

Galt Recycled Water Project (PMA #4): The City of Galt will expand its current practice of delivering existing recycled water supply (secondary or tertiary treated as determined) for summer irrigation to additional land areas and extending the application period into the winter. Initially, a pilot study will be conducted to assess the feasibility of winter recharge on agricultural lands in the vicinity of the Wastewater Treatment Plant (WWTP). Subsequently, agreements with landowners willing to accept this water will be secured, costs estimates will be developed, and the current National Pollutant Discharge Elimination System (NPDES) permit modified to include year-round application of the water. Beginning in 2025, procurement of materials needed to expand the infrastructure will begin, followed by construction of pipeline extensions and initiation of preliminary operations. Monitoring will be conducted to verify proper implementation of the project. By 2028, it is anticipated this project will be fully operational.

Voluntary Land Repurposing (PMA #5): This PMA focuses on securing agreements with landowners in the Basin to voluntarily repurpose current irrigated land uses, including land fallowing, to reduce groundwater pumping in the Basin. Participating landowners will be compensated for the resulting loss of income. To maximize water savings, outreach will focus on irrigated pasture, a crop type that involves higher irrigation rates relative to other land uses in the Basin. During Phase 1 of the GSP (2022 to 2027), the objective is to enroll 750 to 1,000 acres in the program depending on landowner interest and the availability of funds from the CGA fee. Based on the success of the SAFCA Flood-MAR project, this level of participation would be doubled to about 2,000 acres in Phase 2 of the GSP (2028 to 2042). Most of the water saved would be stored in the Basin and could be extracted and sold to help pay costs for GSP implementation.

Groundwater Banking and Sale (PMA #6): Under this PMA, the groundwater saved through land repurposing, including voluntary fallowing, can be sold during Phase 2 by CGA to an urban water purveyor for dry year supply augmentation. It is anticipated that the price paid to CGA for this water would be four or five times greater than the amount paid by CGA to landowners to support their voluntary participation in the land repurposing project (e.g., voluntary land fallowing program). This mark-up, reflecting the relative value of the water to urban users versus its agricultural use would generate sufficient revenue to fund all or a substantial portion of the cost for the CGA to participate in the SAFCA Flood-MAR project (PMA #5), thereby helping to control GSP implementation costs and the financial burden from fees placed on Basin landowners. Water sales will be contingent on a formal "leave-behind" policy developed jointly by the GSAs and their constituents to ensure no negative impacts to groundwater storage in the Basin. The leave-behind policy and other required elements of PMA #6 (interested urban purveyor, banking governance structure, system of monitoring and accounting for Basin deposits and withdrawals, etc.) will be developed during Phase 1. Banking and sale activities would commence in Phase 2 at the same time the voluntary land repurposing project (PMA #5) and SAFCA Flood-MAR (PMA #2) projects are implemented.

Other PMAs: In addition to the PMAs described above, the GSP identified additional potential PMAs that are either being implemented by others outside the Basin or are conceptual and require further assessment to be carried forward for implementation by the GSAs. The Harvest Water project being implemented by the Sacramento Regional County Sanitation District in the SASb is a notable activity being implemented outside the Basin. This project is expected to start during Phase 1 of the GSP and involves delivery of approximately 30,000 AFY of treated wastewater (or 'recycled water') to farmers in the southwestern portion of the SASb in lieu of pumping groundwater. The curtailment of groundwater consumption and recharge from the treated wastewater is expected to substantially raise groundwater elevations on both sides of the Cosumnes River upstream and downstream of Highway 99. This will improve conditions associated with verified GDEs adjacent to the river and contribute to reducing the depletion of groundwater storage under current conditions.

Other PMAs under consideration for implementation in the Basin include water use efficiency (or conservation) based on identifying reliable methods of water accounting; local stormwater capture and recharge projects aided by dry wells, when necessary, on private lands and public rights of way; and, employment off-stream ponds for surface storage and recharge and other practices that increase recharge and groundwater storage or reduce groundwater consumption. The CGA plans to provide funding from

fee collections and successful grant applications to explore these concepts in Phase 1 with the goal of screening and prioritizing the projects for implementation during Phase 2.

After necessary preliminary studies and California Environmental Quality Act (CEQA) requirements are completed, the PMAs will undergo, as necessary, final engineering design (in the case of infrastructure projects) and public noticing and outreach, after which construction projects can occur followed by ongoing operations and maintenance. Each implemented PMA will have its own set of monitoring objectives and data collection requirements to allow for PMA evaluation and confirmation assessments, and, if necessary, modifications to improve PMA effectiveness.

19.1.6. Annual Reporting

§ 356.2. Annual Reports.
Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:

(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:

(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:

(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.

(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.

(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.

(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.

(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.

(5) Change in groundwater in storage shall include the following:

(A) Change in groundwater in storage maps for each principal aquifer in the basin.

(B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.

Per the GSP Regulations, an Annual Report on basin conditions and GSP implementation status for each Water Year (WY) is required to be submitted to DWR by April 1 of each year following GSP adoption (23-CCR § 356.2). These annual reports will be prepared, under the direction of the CGA PM with support from the Watershed Coordinator and technical consultants, as needed, by using data collected during GSP implementation, as described above. Annual reports will include, but are not limited to, the following:

- Groundwater elevation contour maps for both Fall and Spring conditions;
- Hydrographs of groundwater elevations in the RMWs;

- Annual groundwater extraction volumes for the entire Basin, an explanation as to how groundwater extraction volumes were estimated, an accounting of accuracy and uncertainty, and an explanation as to how accuracy and uncertainty was determined;
- Annual surface water supply volumes used for the entire Basin, quantified by source type, as applicable;
- Annual total water use for the entire Basin, quantified by water use sector and water year type; and,
- Estimates of annual change in groundwater storage. The Numerical Model will be updated, and the time period extended to include the groundwater elevation data, groundwater extraction volumes, and hydrology datasets (i.e., precipitation and evapotranspiration) required to estimate agricultural pumping and annual changes in groundwater storage.

19.1.7. Enforcement and Response Actions

Part of successful Basin management involves the ability to adapt and respond to unforeseen circumstances. To the extent possible, methods to address foreseeable problems should be developed before those problems arise. The CGA PM and the GSAs will develop an enforcement program in accordance with applicable laws and authorities, and GSAs will be responsible for enforcement and response actions within their jurisdictional boundaries and constituencies. The Annual Report will describe each enforcement action undertaken to achieve sustainability.

19.1.8. Periodic GSP Evaluations

§ 356.4. Periodic Evaluation by Agency
Each Agency shall evaluate its Plan at least every five years and whenever the Plan is amended and provide a written assessment to the Department. The assessment shall describe whether the Plan implementation, including implementation of projects and management actions, are meeting the sustainability goal in the basin, and shall include the following:

(a) A description of current groundwater conditions for each applicable sustainability indicator relative to measurable objectives, interim milestones and minimum thresholds.

(b) A description of the implementation of any projects or management actions, and the effect on groundwater conditions resulting from those projects or management actions.

(c) Elements of the Plan, including the basin setting, management areas, or the identification of undesirable results and the setting of minimum thresholds and measurable objectives, shall be reconsidered and revisions proposed, if necessary.

(d) An evaluation of the basin setting in light of significant new information or changes in water use, and an explanation of any significant changes. If the Agency's evaluation shows that the basin is experiencing overdraft conditions, the Agency shall include an assessment of measures to mitigate that overdraft.

(e) A description of the monitoring network within the basin, including whether data gaps exist, or any areas within the basin are represented by data that does not satisfy the requirements of Sections 352.4 and 354.34(c). The description shall include the following:

(1) An assessment of monitoring network function with an analysis of data collected to date, identification of data gaps, and the actions necessary to improve the monitoring network, consistent with the requirements of Section 354.38.

(2) If the Agency identifies data gaps, the Plan shall describe a program for the acquisition of additional data sources, including an estimate of the timing of that acquisition, and for incorporation of newly obtained information into the Plan.

(3) The Plan shall prioritize the installation of new data collection facilities and analysis of new data based on the needs of the basin.

(f) A description of significant new information that has been made available since Plan adoption or amendment, or the last five-year assessment. The description shall also include whether new information warrants changes to any aspect of the Plan, including the evaluation of the basin setting, measurable objectives, minimum thresholds, or the criteria defining undesirable results.

(g) A description of relevant actions taken by the Agency, including a summary of regulations or ordinances related to the Plan.

(h) Information describing any enforcement or legal actions taken by the Agency in furtherance of the sustainability goal for the basin.

(i) A description of completed or proposed Plan amendments.

(j) Where appropriate, a summary of coordination that occurred between multiple Agencies in a single basin, Agencies in hydrologically connected basins, and land use agencies.

> *§ 356.4. Periodic Evaluation by Agency*
>
> *(k) Other information the Agency deems appropriate, along with any information required by the Department to conduct a periodic review as required by Water Code Section 10733*
>
> *(l) Where appropriate, a summary of coordination that occurred between multiple Agencies in a single basin, Agencies in hydrologically connected basins, and land use agencies.*
>
> *(m) Other information the Agency deems appropriate, along with any information required by the Department to conduct a periodic review as required by Water Code Section 10733*

Per the GSP Regulations (23-CCR § 356.4), under the direction of the CGA PM and support from a technical consultant, a periodic evaluation of the GSP will be conducted at least every five years, and the GSP modified as necessary to ensure that the Sustainability Goal for the Basin is achieved. For this GSP, the first five-year update occurs in 2027 and will provide a basis for the transition from Phase 1 to Phase 2 of GSP Implementation. The 2027 Plan will likely require revisions on matters related to the Basin Setting, SMCs, and PMA sections, as key data gaps are filled, the historical monitoring data record is extended, and the numerical model is updated. If the institutional partnerships needed to implement the SAFCA Flood-MAR program are not realized, and voluntary land repurposing in combination with the other PMAs described above cannot achieve the deficit reduction anticipated in the GSP, the GSAs must be prepared to use the required five-year update to examine alternatives, including more extensive demand reduction measures within the CGA's control.

Sustainability Evaluation

This section will evaluate the current groundwater conditions for each applicable Sustainability Indicator, including progress toward achieving Interim Milestones and Measurable Objectives (MOs).

Plan Implementation Progress

This section will evaluate the current implementation status of PMAs, along with an updated implementation schedule and PMAs not analyzed or identified for this GSP.

Reconsideration of GSP Elements

Per 23-CCR § 356.4(c), elements of the GSP, including the Basin Setting, SMCs, and PMAs sections will be reviewed and revised as necessary.

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.

New Information

This section will provide a description of significant new information that has become available since the adoption or amendment of the GSP, or the last five-year assessment, including data obtained to fill identified data gaps. For example, various monitoring and data collection activities are planned for observing GDE health and this new information will be assessed to identify possible triggers that can be utilized to initiate PMAs that help protect conditions that have supported GDEs. As discussed above under subsection *Reconsideration of GSP Elements*, if evaluation of the Basin Setting or SMCs warrant changes to the GSP, this new information would also be included.

Regulations or Ordinances

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

Legal or Enforcement Actions

This section summarizes legal or enforcement actions taken by the GSAs in relation to the GSP, along with how such actions support sustainability in the Basin. Enforcement action could be required by a GSA to address unsustainable activities by a constituent. Conversely, a constituent or stakeholder could take legal actions against a GSA related to groundwater management.

Plan Amendments

This section provides a description of proposed or completed amendments to the GSP.

19.2. Plan Implementation Costs

> § 354.6. Agency Information
> *When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:*
>
> (b) An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those 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.

19.2.1. Estimated Costs

The WG has developed the following estimated costs to implement this GSP which are divided into several groups, as follows:

- Groundwater monitoring and data collection;
- Data gap filling;

- Intra-Basin coordination;
- Stakeholder outreach;
- Annual reporting;
- Periodic GSP evaluations;
- Other administration activities such as legal, financial audits, applying for grants and others; and,
- Implementation of PMAs, including feasibility studies, environmental analysis, capital/one-time costs and ongoing costs.

Table PI-1 provides a high-level estimate of the annual costs for the above groups over the first five-year period (i.e., Fiscal Year 2021-2025). Costs associated with continued GSA activities are estimated to range between approximately $405,000 to $525,000 per year, not including GSA and GSA member agency staff time or costs associated with implementation of PMAs. Estimated annual costs for individual PMAs are also provided below in **Table PI-1;** however, these costs are subject to change, pending specific PMA implementation, and range from $330,000 to $685,000.

19.2.2. Sources of Funding to Meet Costs

As shown in **Table PI-1**, GSP implementation costs are estimated to range between approximately $735,000 to $1,200,000 annually over the next five years. The CGA will likely meet the estimated costs through a combination of user fees, parcel related fees, Sacramento Flood Control Agency (SAFCA) contribution, Department of Conservation (DoC) Grant, and DWR TSS Grants for GSP implementation. The specific combination and amounts of these revenue sources will be determined by the CGA through a Nexus Study that will coincide with the completion of the GSP. Funding for this study has been included in the Year 1 and Year 2 budget as shown on **Table PI-2**.

Table PI-1. Estimated GSP Implementation Costs

Groundwater Management Activity	Estimated Average Annual GSP Implementation Costs[1]				
	Year 1	Year 2	Year 3	Year 4	Year 5
Monitoring and Data Collection					
Monitoring	$30,000	$30,000	$30,645	$31,290	$31,935
Data Management System	$15,000	$25,000	$25,538	$26,075	$26,613
Data Gap Filling					
Address Data Gaps	$25,000	$45,000	$45,968	$46,935	$47,903
Intra-Basin Coordination					
GSA Coordination and Technical Support	$20,000	$30,000	$30,645	$31,290	$31,935
Stakeholder Engagement					
Public Outreach	$10,000	$20,000	$20,430	$20,860	$21,290
Annual Reporting					
Annual Report	$45,000	$45,000	$45,968	$46,935	$47,903
Enforcement and Response Actions					
Enforcement and Response Actions	NA	NA	NA	NA	NA
Periodic GSP Evaluations					
Five-Year GSP Update	--	$40,000	$40,860	$41,720	$42,581
Other					
Address State Comments	$25,000	--	--	--	--
Establish Governance Structure	$25,000	--	--	--	--
Legal	$30,000	$20,000	$20,430	$20,860	$21,290
Financial Audit	$20,000	$20,000	$20,430	$20,860	$21,290
Personnel Including Recruitment	$90,000	$150,000	$153,226	$156,452	$159,677
Prepare DWR Grant	$40,000	--	--	$40,000	--
Contingency (8.6% to 9.4%)	32,500	$40,000	$40,860	$41,723	$42,583
Annual Subtotal	**$407,500**	**$465,000**	**$475,000**	**$525,000**	**$495,000**
Costs to Implement Projects and Management Actions					
Fallowing Program Development and Outreach	$40,000	$80,000	$155,000	$30,000	$30,000
Flood-MAR/Dry Well Feasibility Studies	$160,000	$280,000	$280,000	$140,000	$140,000
Pursue Groundwater Banking Agreement	$30,000	$110,000	$110,000	--	--
Implement Voluntary Fallowing Program	--	--	--	$505,000	$505,000
Implement Groundwater Banking	--	--	--	--	--
SAFCA Program	--	--	--	--	--
Future Unidentified Projects	--	$195,000	$120,000	--	--
Post-GSP Fee Process	$100,000	$20,000	--	--	--
Annual Subtotal	**$330,000**	**$685,000**	**$665,000**	**$675,000**	**$675,000**
Total Required Costs of GSP Implementation	***$0.74M***	***$1.15M***	***$1.14M***	***$1.20M***	***$1.17M***

Abbreviations:
DWR = Department of Water Resources
Flood-Mar = Flood Managed Aquifer Recharge
GSP = Groundwater Sustainability Plan
M = Million
NA = Not Applicable

Notes:
(1) Costs are estimated and are subject to change.
(2) FY 2021, Year 1, begins in July 2021 and continues through June 2022, as such costs are reduced in comparison to other years.

Table PI-2. Revenue Estimates for GSP Activities

Funding Sources	Estimated Average Annual GSP Funding Sources
	Year 1
Outside Funding Assistance	
SAFCA Contribution	$100,000
DoC Grant	$60,000
SGMA TSS Grant	$70,000
Subtotal Outside Funding	**$230,000**
Contributions	
GSAs and Other Agencies	$20,000
Rate Revenue and Fee	
Irrigated Acreage Revenue	$485,820
Groundwater Fee	--
Parcel-Based Fee	--
Total Funding	***$0.74M***

Abbreviations:
DoC = Department of Conservation
GSA = Groundwater Sustainability Agency
GSP = Groundwater Sustainability Plan
GW = Groundwater
SAFCA = Sacramento Area Flood Control Agency

Notes:
(1) Funding sources are estimated and are subject to change.
(2) The specific combination and amounts of these revenue sources will be determined by the GSAs, in coordination with the CGA, through a Nexus Study that will coincide with the completion of the GSP. Costs for conducting this study have been included in the Year 1 and Year 2 Estimated Average Annual GSP Implementation Costs.

19.3. Plan Implementation Schedule

This section discusses a general estimated schedule for GSP implementation. The GSP Regulations do not specifically require the submittal of a schedule for the 20-year GSP implementation period (i.e., 2022 through 2042). Moreover, 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:

- The GSP Regulations require achievement of the Sustainability Goal (i.e., avoidance of Undesirable Results) within 20 years of GSP adoption, which means by 2042; and,
- Annual reports are due on April 1 of every year following GSP submission.

Periodic evaluations are required at least every five years, meaning this GSP will be updated no later than January 31, 2027.