DELTA-MENDOTA SUBBASIN STAFF ASSESSMENT

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CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

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Executive Summary

SGMA Background

The mission and responsibility of the State Water Resources Control Board (State Water Board or Board) is to preserve, enhance, and restore the quality of California's water resources and protect them for all present and future generations. In 2014, the state Legislature passed the historic Sustainable Groundwater Management Act (SGMA) that established a new framework for how groundwater would be managed locally at the basin scale to achieve long-term sustainability. SGMA authorizes local public agencies to form Groundwater Sustainability Agencies (GSAs) in groundwater basins and requires that basins designated as high-priority and medium-priority by the California Department of Water Resources (DWR) be managed by Groundwater Sustainability Plans (GSPs). These GSAs are responsible for the sustainable management of their groundwater basins; however, state agencies are responsible for ensuring local groundwater management achieves SGMA's goals.

Under SGMA, DWR is responsible for reviewing GSPs to determine if local actions will be adequate to achieve the sustainable use of groundwater. If DWR finds a basin's GSP or GSPs are unlikely to achieve sustainable groundwater management, DWR will issue an inadequate determination. This determination will initiate the State Water Board's state intervention process, which could result in the State Water Board temporarily managing and protecting groundwater resources until local agencies are able to do so. Following an inadequate determination by DWR, State Water Board staff will work with the GSAs to correct the deficiencies identified in the GSAs' plan or implementation of the plan. If the State Water Board determines the GSAs adequately addressed groundwater management issues, the Board may release a subbasin from the State Water Board process and return it to DWR's jurisdiction. Otherwise, the State Water Board may, through a noticed public hearing process, designate the basin as "probationary" under SGMA and collect groundwater pumping information and fees from extractors in the basin. After one year of probationary status, the Board may develop and adopt an interim plan that directly manages pumping in the basin. State intervention is in addition to local management and intended to be temporary. The goal of the state intervention process is to ensure the sustainable use of groundwater and to return a basin to local management as soon as local actions are sufficient to achieve sustainability. Section 1 of this State Water Board Staff Assessment (Staff Assessment) contains more detail on the state intervention process.

Delta-Mendota Subbasin

The Delta-Mendota Subbasin (subbasin) is located in the western portion of the San Joaquin Valley (Figure 1), in portions of Fresno, Madera, Merced, San Joaquin, San

Benito, and Stanislaus counties, and contains the cities of Dos Palos, Firebaugh, Gustine, Los Banos, Mendota, Newman, and Patterson.

Since time immemorial, the following California Native American Tribes have had cultural, traditional, or ancestral connections to the Delta-Mendota Subbasin: Amah Mutsun Tribal Band, Amah Mutsun Tribal Band of Mission San Juan Bautista, Big Pine Paiute Tribe of the Owens Valley, Big Sandy Rancheria of Western Mono Indians, Bishop Paiute Tribe, Buena Vista Rancheria of Me-Wuk Indians, Calaveras Band of Mi-Wuk Indians, California Valley Miwok Tribe, Chicken Ranch Rancheria of Me-Wuk Indians, Cold Springs Rancheria of Mono Indians of California, Confederated Villages of Lisjan Nation, Costanoan Ohlone Rumsen-Mutsen Tribe, Costanoan Rumsen Carmel Tribe, Dunlap Band of Mono Indians, Fort Independence Indian Community of Paiutes, Guidiville Rancheria of California, Indian Canyon Mutsun Band of Costanoan, Ione Band of Miwok Indians, Jackson Rancheria Band of Miwuk Indians, Kitanemuk & Yowlumne Tejon Indians, Lone Pine Paiute-Shoshone Tribe, Mono Lake Kootzaduka'a Tribe, Muwekma Ohlone Tribe of the SF Bay Area, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, North Fork Mono Tribe, North Fork Rancheria of Mono Indians, Northern Valley Yokut/Ohlone Tribe, Pakan'yani Maidu of Strawberry Valley Rancheria, Picayune Rancheria of the Chukchansi Indians, Salinan Tribe of Monterey and San Luis Obispo Counties, Santa Rosa Indian Community of the Santa Rosa Rancheria, Southern Sierra Miwuk Nation, Table Mountain Rancheria, Tamien Nation, Traditional Choinumni Tribe, Tule River Indian Tribe, Tuolumne Band of Me-Wuk Indians, United Auburn Indian Community of the Auburn Rancheria, Wilton Rancheria, Wuksachi Indian Tribe/Eshom Valley Band, and Xolon-Salinan Tribe (Native American Heritage Commission, Personal Communication, February 6, 2026).

The Delta-Mendota Subbasin is managed by 7 GSA Groups, comprised of 23 GSAs, which include: the Aliso Water District GSA Group, the Farmers Water District GSA Group, the Fresno County Management Areas A and B GSA Group, the Grassland GSA Group, the Northern Delta-Mendota GSA Group, the Central Delta-Mendota GSA Group, and the San Joaquin River Exchange Contractors GSA Group. The primary uses of groundwater within the subbasin are for irrigated agriculture, drinking water, and wildlife habitat. During most years, agriculture accounts for more than 85% of groundwater use in the subbasin (Water Year 2019–Water Year 2024 Annual Reports). The subbasin is critically overdrafted, which means that groundwater is pumped out of the subbasin faster than it is recharged by rain and other sources. On average, the amount pumped from the subbasin in a year is 140,000 acre-feet greater than the amount recharged (2024 GSP, p. 303). Overdraft can cause the land surface to sink, potentially damaging infrastructure and reducing aquifer storage. In addition, overdraft threatens groundwater levels and drinking water quality and could have disparate impacts on communities that rely on shallow wells. Due to historic and political factors, many of these communities are economically disadvantaged and communities of color. The subbasin has an estimated population of 129,666 people as of 2022, with the majority of the population reporting as Hispanic or Latino (74.7%) and white (18.4%)

(United States Census Bureau, 2022). The average annual household income within the subbasin in 2022 was $70,064, which is significantly less than the state average of $101,066 (ibid.).

Issues with 2022 Groundwater Sustainability Plan

The state intervention process for the Delta-Mendota Subbasin was initiated in March 2023 when DWR determined the subbasin's six 2022 GSPs were inadequate and identified multiple deficiencies in the GSPs (Inadequate Determination). DWR identified issues regarding the lack of coordination among the subbasin's six GSPs, as well as local agencies' plans for managing the chronic lowering of groundwater levels, land subsidence (land sinking due to groundwater pumping), degradation of groundwater quality, and depletion of interconnected surface waters being inconsistent with SGMA and the GSP Regulations. State Water Board staff reviewed the 2022 GSPs and determined that implementing the 2022 GSPs would result in uncoordinated implementation as well as additional groundwater level declines, potential impacts to drinking water wells and interconnected surface water, and further degradation of groundwater quality.

2024 Groundwater Sustainability Plan Improvements

The GSAs released a single revised draft GSP in May 2024, which they adopted with slight revisions in July 2024 (2024 GSP). State Water Board staff evaluated the 2024 GSP to determine if identified deficiencies were resolved.

The GSAs made significant progress with the 2024 GSP and substantially resolved deficiencies. Through the 2024 GSP, the GSAs show a greater commitment to protecting drinking water users and improved groundwater management. Some of the improvements the GSAs made in the 2024 GSP include:

- Reducing pumping by setting limits for groundwater extractors through allocations in each GSA Group.
- Developing a proactive response to potential impacts from declining groundwater levels, land subsidence, and degradation of groundwater quality via the GSA Group-specific pumping reduction plans.
- Expanding the frequency and scope of constituent sampling in monitoring wells to improve preparedness for addressing potential groundwater quality concerns.
- Establishing a mitigation program for drinking water wells that may be adversely impacted by declining groundwater levels or groundwater quality degradation.

- Making significant progress in evaluating impacts to interconnected surface waters by incorporating a model-estimated depletion rate and committing to resolve data gaps.

Staff Recommendations and Next Steps

State Water Board staff concludes the GSAs amended the GSP such that a probationary designation of the Delta-Mendota Subbasin is unnecessary and recommends the Board return the subbasin to DWR's jurisdiction for continued evaluation of local management under SGMA. Section 1.2.1 of the Staff Assessment includes more information about returning the subbasin to DWR's jurisdiction.

GSAs must continue to evaluate their GSP as they work toward achieving sustainability. The GSP will be periodically reviewed once a basin is returned to DWR's jurisdiction. Section 4 of the Staff Assessment includes recommendations for the Delta-Mendota Subbasin GSAs to consider including in future GSP revisions to support improved groundwater management in the subbasin.

1.0 Background: The Sustainable Groundwater Management Act and State Intervention

Section 1.1 provides general background on the Sustainable Groundwater Management Act (SGMA) and the roles it defines for groundwater sustainability agencies (GSAs), the California Department of Water Resources (DWR), and the State Water Resources Control Board (State Water Board or Board). The section describes the Board's role as a backstop, including protecting groundwater and those who depend on it when local efforts alone are inadequate. Section 1.2 provides background on the process to return a basin to DWR's jurisdiction.

1.1 The Sustainable Groundwater Management Act Background

Groundwater is one of California's greatest natural resources and makes up a significant portion of the state's water supply. Overdraft occurs when groundwater pumping removes groundwater faster than the basin can refill. Some groundwater basins in California are defined as critically overdrafted, and are experiencing significant adverse environmental, economic, and social impacts.

SGMA authorizes local public agencies overlying groundwater basins to form groundwater sustainability agencies (GSAs) and develop and implement groundwater sustainability plans (GSPs). GSAs are responsible for the long-term management of their groundwater basins that avoids "undesirable results" within 20 years of implementing their GSPs. To achieve this, GSAs address data gaps, set criteria for groundwater conditions, implement projects and management actions, monitor groundwater levels and quality, and review their plans at least every five years.

DWR is the primary agency for technical assistance and oversight in SGMA and is tasked with assessing and evaluating GSPs for regulatory compliance. The State Water Board may intervene in groundwater management when local management is deemed inadequate due to deficiencies in the GSP or with GSP implementation. When DWR, in consultation with the State Water Board, deems the GSP or GSPs in a basin inadequate (Wat. Code, § 10735.2, subd. (a)(3)), DWR refers the basin to the State Water Board for potential state intervention (Wat. Code, § 10735 et seq.).

State intervention is a multi-step process. First, the Board must consider whether to designate the basin as probationary. If a basin is designated as probationary, the Board will begin collecting data on groundwater uses and volumes, begin collecting fees, and may conduct additional investigations. GSAs may continue to revise their GSPs during the probationary period. If deficiencies identified through the probationary designation process are not remedied within one year of a probationary designation, the Board may consider the imposition of an interim plan for the basin. Importantly, the GSA retains its authority and responsibilities during state intervention and must continue to implement the GSP regardless of the basin's probationary status.

1.2 Returning a Subbasin to DWR's Jurisdiction

State intervention can be temporary. If GSAs can demonstrate to the State Water Board that they addressed all deficiencies identified by DWR as the basis for the referral and other concerns that Board staff identifies as additional issues during any assessment of the GSP prior to a hearing, the State Water Board may determine that it is not necessary to designate the basin as probationary and return the basin to DWR's jurisdiction. In most cases, the GSAs identify specific revisions to the GSP and how those revisions address the concerns described in DWR's Inadequate Determination, propose a plan for implementing GSP revisions, and provide responses to concerns raised by State Water Board staff in technical meetings.

After considering the GSAs' efforts, if the State Water Board determines that the deficiencies identified by DWR no longer exist, then the State Water Board returns the basin to DWR's jurisdiction. DWR's jurisdiction includes DWR's periodic reviews of GSAs' GSPs, to be conducted at least every five years (Wat. Code, §§ 10733, 10733.8; California Department of Water Resources, 2025). The process to return a basin to DWR's jurisdiction may include notice to the public and opportunity for public comment. In the case of the Delta-Mendota Subbasin, the State Water Board noticed the release of a Staff Assessment and proposal to return the basin to DWR's jurisdiction on March 2, 2026, provided an opportunity for written public comment on the Staff Assessment and proposal between March 2, 2026 and April 1, 2026, and expects to consider and potentially take action on the Board staff proposal at the April 7, 2026 Board meeting.

2.0 Delta-Mendota Subbasin Background

The Delta-Mendota Subbasin (subbasin) is in the western portion of the San Joaquin River hydrologic region within California's Central Valley (Figure 1). DWR determined the Delta-Mendota Subbasin is a high-priority groundwater basin and subject to conditions of critical overdraft, meaning that groundwater extractions exceeded the subbasin's sustainable yield for years. The subbasin covers approximately 765,000 acres across 6 counties, making it one of the largest in the state. Groundwater in the subbasin is managed by 7 GSA Groups, comprised of 23 GSAs (Figure 2 and Figure 3): the Aliso Water District GSA Group, the Farmers Water District GSA Group, the Fresno County Management Areas A and B GSA Group, the Grassland GSA Group, the Northern Delta-Mendota GSA Group, the Central Delta-Mendota GSA Group, and the San Joaquin River Exchange Contractors GSA Group (collectively, the Delta-Mendota Subbasin GSAs or GSAs) (2024 GSP, p. 21).

The primary water supply in the subbasin is surface water. However, reliance on groundwater increases during droughts. Groundwater in the subbasin is used primarily for "[a]gricultural irrigation, urban and domestic water supply, industrial processing, and managed wetlands" (2024 GSP, p. 91). Recent examples of groundwater extraction ranged from 231,300 acre-feet (AF) in Water Year 2022 (wet year) to 563,900 AF in Water Year 2023 (dry year) (Water Year 2022 Annual Report, p. 15; Water Year 2023 Annual Report, p. 15). Agricultural water use accounted for 78% and 89% of total groundwater extractions for Water Year 2022 and 2023, respectively (ibid.). Generally, the subbasin is estimated to have an average overdraft of 140,000 acre-feet per year (AFY) with current extractions exceeding the subbasin's average sustainable yield of 332,500 AFY (2024 GSP, pp. 9–10).

The 23 Delta-Mendota Subbasin GSAs submitted 6 GSPs to DWR in 2020 (2020 GSPs). DWR determined in January 2022 that the 2020 GSPs were incomplete, and the GSAs had 180 days to revise the GSPs. The GSAs submitted six revised GSPs and supporting documents (i.e., Coordination Agreement, Common Chapter, and Technical Memorandum) in July 2022 (2022 GSPs). In March 2023, DWR determined that the 2022 GSPs were inadequate. DWR's Inadequate Determination of the 2022 GSPs initiated the State Water Board's role as the state backstop under SGMA pursuant to subdivision (a)(3) of Water Code section 10735.2.

DWR's 2022 GSP Inadequate Determination concluded that 2022 GSPs were inadequate due to deficiencies concerning coordination and sustainable management criteria (SMC) for chronic lowering of groundwater levels, land subsidence, degradation of groundwater quality, and interconnected surface water that would allow for significant and unreasonable impacts to beneficial uses and users of groundwater as well as surface land uses, including infrastructure. The deficiencies identified in DWR's 2022 GSP Inadequate Determination are briefly summarized below.

Deficiencies involving declining groundwater levels:

- The GSAs' goals may allow significant and unreasonable impacts to beneficial uses and users.
- The minimum thresholds established by the GSAs may contribute to undesirable results for the other sustainability indicators.
- The GSAs did not quantify overdraft, nor discuss how exceedances will be mitigated.
- The GSAs did not establish a sustainable yield in accordance with the GSP Regulations.
- The GSAs did not use the same data and methodologies in accordance with the GSP Regulations.

Deficiencies involving land subsidence:

- The GSAs did not develop a coordinated definition for undesirable results as required by the GSP Regulations.
- The established subsidence SMC are not consistent with the GSP Regulations.

Deficiencies involving degradation of groundwater quality:

- The GSAs did not establish SMC for all constituents that may impact beneficial uses and users in the subbasin.

Deficiencies involving depletions of interconnected surface water:

- The GSAs did not establish SMC for depletions of interconnected surface water, and the proposed timing to develop SMC could allow for impacts to beneficial uses and users in the subbasin and adjacent subbasins.
- The GSAs did not specifically define all beneficial uses and users of interconnected surface water.

Board staff identified additional issues regarding groundwater levels, land subsidence, groundwater quality, and interconnected surface water which are summarized below:

Issues involving groundwater levels:

- Monitoring networks did not monitor impacts to domestic users.

Issues involving land subsidence:

- GSPs did not contain sufficient information as to how the GSAs would manage historic subsidence.

- GSPs did not identify all critical infrastructure in the subbasin.

Issues involving groundwater quality:

- GSPs did not clearly state how water quality degradation would be attributed to groundwater management.
- Monitoring networks were not consistent with the GSP Regulations.
- Management actions were not responsive to water quality degradation.

Issues involving interconnected surface water:

- GSPs did not identify all beneficial uses and users of interconnected surface water.
- Undesirable result definitions did not consider all beneficial uses and users of interconnected surface water.
- Minimum thresholds were not consistent with the GSP Regulations.

In July 2024, the GSAs adopted a new single GSP (2024 GSP), which aimed to address deficiencies outlined in DWR's Inadequate Determination and Board staff issues. Board staff evaluated the 2024 GSP to determine if revisions resolved DWR's deficiencies and Board staff issues. Additionally, the GSAs released six Pumping Reduction Plans (PRPs) as part of the Water Year 2024 Annual Report in April 2025 (2025 PRPs) and revised the Domestic Well Mitigation Policy in July 2025 (2025 DWMP). The six PRPs are GSA Group-specific; however, a single PRP covers both the San Joaquin River Exchange Contractors GSA Group and the Grassland GSA Group. The PRPs identify how each GSA Group will prevent minimum threshold exceedances, prevent additional subsidence from occurring, and address overdraft in the subbasin. A groundwater allocation backstop will be implemented should any GSA Group fail to meet the requirements of the GSP or PRP components.

3.0 Board Staff Evaluation of the 2024 Delta-Mendota GSP

Board staff evaluated the 2024 GSP to determine if the deficiencies outlined in DWR's 2022 GSP Inadequate Determination and issues identified by Board staff were addressed. Board staff finds that the GSAs substantially addressed the deficiencies identified by DWR and issues identified by Board staff. Additionally, the 2024 GSP, 2025 PRPs, and 2025 DWMP sufficiently describe implementation methods that should avoid significant and unreasonable impacts to beneficial uses and users. In the following sections, Board staff evaluates the GSAs' approach to managing groundwater

levels, land subsidence, groundwater quality, interconnected surface water, and domestic well mitigation.

3.1 Groundwater Levels

3.1.1 Defining Undesirable Results

The 2022 GSPs' plain language definition of undesirable results did not clearly describe the effects that the GSAs were trying to avoid.

Issue: DWR found that the GSAs did not provide an explanation of the process used to develop or justify what are considered significant and unreasonable conditions in the subbasin (2022 GSP DWR Inadequate Determination, p. 20). As a result, Board staff were unable to evaluate whether the effects of declining groundwater levels would cause undesirable results.

Current Status: In the 2024 GSP, the GSAs addressed this deficiency by identifying the beneficial users (i.e., groundwater pumpers and environmental beneficial users) that may be impacted by chronic lowering of groundwater levels and the potential effects that may occur if the subbasin experienced the defined undesirable results (2024 GSP, p. 230). The GSAs also identified that groundwater well dewatering was the primary potential effect of undesirable results caused by chronic lowering of groundwater levels (id. at p. 232).

The 2022 GSPs quantitative undesirable results definition was not correlated to represent the plain language undesirable results definition.

Issue: DWR noted in its 2022 GSP Inadequate Determination that the GSAs did not provide an analysis to explain or justify how its undesirable result definition for impacts to groundwater users was selected, or what impacts may occur to beneficial uses and users of groundwater if that threshold was met (2022 GSP DWR Inadequate Determination, p. 23).

Current Status: The 2024 GSP updated the definitions for the quantitative undesirable results, and justified those definitions through a well impact analysis and an analysis of groundwater-dependent ecosystems' (GDEs) health trends (2024 GSP, p. 231). Based on the well impact analysis results, the projected number of drinking water wells that may go dry, if all representative monitoring wells (RMWs) exceed their minimum thresholds by 2040, is within the mitigation capacity of the Domestic Well Mitigation Policy (ibid.). The GDE analysis results concluded that GDE health is not expected to decline beyond "[o]bserved conditions in 2015 if water levels in only 25 percent of RMW-WLs decrease to 2015 levels" (id. at p. 232).

Staff Analysis and Recommendation: The plain language undesirable result definition clearly defines what GSAs are trying to avoid and is now correlated with the quantitative undesirable results definitions, using criteria relied upon for defining when undesirable

results are occurring in the subbasin. With these revisions, **the DWR deficiency and State Water Board staff issues are resolved.**

3.1.2 Establishing Minimum Thresholds

In the 2022 GSPs, the GSAs did not clearly describe how the minimum thresholds were selected.

Issue: The groundwater level minimum thresholds identified in the 2022 GSPs reflected groundwater levels at historical low conditions; however, the GSPs did not indicate when these historic low groundwater levels were observed within the subbasin (2022 GSP DWR Inadequate Determination, p. 21). Furthermore, the 2022 GSPs stated that there was an increase in groundwater pumping, an increase in subsidence rates, and an unknown effect on interconnected surface water when groundwater levels were at or near historical low levels. In response, DWR noted "[t]he revised Plan does not recognize or account for these conditions or circumstances, and without such an analysis or discussion, DWR staff cannot determine if this is a reasonable approach for managing the Subbasin. It is unclear if the minimum thresholds have been selected to avoid undesirable results" (id. at p. 23).

Current Status: The methodology in the 2024 GSP was updated to prioritize establishing minimum thresholds for groundwater levels at the lowest water level observed in 2015, where data is available. This methodology also includes a buffer depth to allow for operational flexibility between the minimum threshold and the measurable objective, and additional approaches if the minimum threshold was shallow (2024 GSP, pp. 234–235).

Staff Analysis and Recommendation: With the revised methodology for establishing minimum thresholds and the inclusion of mitigation for declining groundwater levels (discussed in Section 3.5), the GSP now includes a consistent and protective criteria for undesirable results in the subbasin which meets the requirements under SGMA therefore **resolving DWR deficiencies and Board staff issues.**

3.1.3 Minimum Threshold Impacts on other Sustainability Indicators

In the 2022 GSPs, the GSAs did not explain how the selected groundwater level minimum thresholds would avoid undesirable results for the other applicable sustainability indicators.

Issue: DWR noted in its 2022 GSP Inadequate Determination that "[t]he revised Plan does not provide an explanation how the GSAs have determined that managing the Subbasin near historical low groundwater elevations would avoid undesirable results for the other applicable sustainability indicators" (2022 GSP DWR Inadequate Determination, p. 23).

Current Status: The 2024 GSP was revised to explain the relationship between chronic lowering of groundwater levels and the other sustainability indicators as follows:

- Groundwater storage: groundwater levels and storage are directly related, and the minimum thresholds for groundwater levels will not result in significant storage loss (2024 GSP, p. 236). Groundwater levels are used as a proxy for storage and Board staff finds that the relationship between groundwater level minimum thresholds and groundwater storage are sufficiently explained in Section 13.2 of the 2024 GSP.

- Groundwater quality: existing data does not demonstrate a clear correlation between groundwater levels and groundwater quality, potentially due to lack of co-located data. The relationship between the two will be studied further during GSP implementation (ibid.).

- Land subsidence: reductions in groundwater levels affect land subsidence, especially in the lower aquifer; the minimum thresholds for groundwater levels are established to prevent further declining groundwater levels and thus are intended to prevent further subsidence beyond 2015 conditions (id. at pp. 236–237).

- Interconnected surface water: reductions in groundwater levels affect interconnected surface water, and the minimum thresholds for groundwater levels are established to prevent further declining groundwater levels and thus are intended to prevent further depletion of interconnected surface water beyond 2015 conditions (id. at p. 237).

Staff Analysis and Recommendation: The additional details explaining the relationship between groundwater level minimum thresholds and the other applicable sustainability indicators **substantially resolve this deficiency.** While the 2024 GSP revision includes additional information on how declining groundwater levels may impact other sustainability indicators, the discussion is based on available data and additional investigation will be necessary to fully understand impacts. Board staff include recommended improvements in Section 4 for GSAs to consider in future GSPs to provide a more robust discussion on the relationships between groundwater level minimum thresholds and other applicable sustainability indicators such as land subsidence, degradation of groundwater quality, and depletions of interconnected surface water.

3.1.4 Groundwater Overdraft

In the 2022 GSPs, the GSAs did not clearly quantify overdraft in the subbasin nor discuss how overdraft will be mitigated.

Issue: DWR noted in its 2022 GSP Inadequate Determination that although the 2022 GSPs were revised to simplify the methodology used to assess changes in groundwater storage, "[t]here still does not appear to be a straightforward quantification of overdraft in the Subbasin and no discussion of how the overdraft will be mitigated seems to exist

in the Common Chapter or in any of the Subbasin's GSPs" (2022 GSP DWR Inadequate Determination, p. 25).

Current Status: In the 2024 GSP, the GSAs updated the methodology for calculating the subbasin's cumulative change in storage, which now clearly quantifies the subbasin's groundwater overdraft (2024 GSP, p. 209). The 2024 GSP also includes a discussion on how the GSAs plan to mitigate overdraft through a series of proposed projects and management actions as well as the six PRPs. The six PRPs laid out six total components, including an Overdraft Mitigation Plan intended to achieve an overall pumping reduction to mitigate the quantity of overdraft in the subbasin (Water Year 2024 Annual Report, Appendix D, Section 3). Additionally, the 2024 GSP includes a table that outlines the average annual volume per year that is expected from supply augmentation (e.g., recharge projects) and pumping reduction that equates to the average annual overdraft that needs to be addressed by 2040 (2024 GSP, p. 217).

Staff Analysis and Recommendation: With the addition of clearly quantifying overdraft in the subbasin and the Overdraft Mitigation Plan, **DWR deficiencies related to overdraft are resolved by the GSAs.**

3.1.5 Sustainable Yield

In the 2022 GSPs, the GSAs did not establish a sustainable yield in accordance with the GSP Regulations.

Issue: DWR noted that the sustainable yield identified in the 2022 Common Chapter "[d]oes not appear to account for the maximum quantity of water that can be withdrawn annually from the Subbasin without causing an undesirable result" (2022 GSP DWR Inadequate Determination, p. 13). The sustainable yield is required to be correlated to the amount of water that can be withdrawn from a groundwater supply without causing an undesirable result (Water Code § 10721(w)).

Current Status: In the 2024 GSP, the subbasin's sustainable yield was estimated at approximately 308,000 AFY to 375,000 AFY, considering both historical and current water budget periods (Water Years 2003–2023) (2024 GSP, p. 221). The GSAs established the subbasin's sustainable yield as the average groundwater volume that can be extracted annually resulting in a zero net change in groundwater storage under long-term conditions which may avoid undesirable results (ibid.). The GSAs state the sustainable yield may be adjusted for the subbasin based on the implementation of projects and management actions but is ultimately dependent on the GSP's SMC, as the final sustainable yield is defined by the volume of groundwater extraction that avoids undesirable results (ibid.).

Staff Analysis and Recommendation: Although the 2024 GSP contains an explanation regarding the sustainable yield methodology, **technical issues with sustainable yield remain only partially resolved** as establishing sustainable yield as a range may make it difficult to assess whether the subbasin is on track to reach

sustainability as implementation continues. Given these concerns, staff proposed recommendations in Section 4 for GSAs to identify a discrete value that represents the maximum quantity of water that can be withdrawn annually rather than a range for the sustainable yield.

3.1.6 Coordination and Inconsistencies in the 2022 GSPs

The 2022 GSPs and supporting documents (i.e., Coordination Agreement, Common Chapter, and Technical Memorandum) had inconsistencies, were uncoordinated, and lacked sufficient detail.

Issue: DWR noted in its 2022 GSP Inadequate Determination that "[w]hile the new undesirable result definitions for each of the five applicable sustainability indicators seem to be aligned across the Subbasin's six GSPs, Technical Memorandum #4 still reflects the original definitions that allows each GSP group to locally define sustainable conditions within their individual areas" (2022 GSP DWR Inadequate Determination, p. 3). Additionally, DWR noted issues such as the 2022 GSPs relied on different methodologies for developing individual GSP water budgets, supporting documents' sustainable yield assumptions and methodologies did not reflect the revisions made in the 2022 GSPs, and subbasin-wide change in storage values were not consistent across documents (see DWR's 2022 GSP Inadequate Determination for detailed coordination deficiencies).

Current Status: The Delta-Mendota Subbasin is now managed with a single GSP, and the GSAs standardized their data and methodologies in the 2024 GSP. Additionally, the Delta-Mendota Subbasin GSAs executed a Memorandum of Agreement, establishing that the GSAs agree to coordinate the work and management of the subbasin (2024 GSP, Appendix D, p. 2).

Staff Recommendation and Analysis: With these revisions, **DWR deficiencies, specifically the lack of coordination and inconsistencies among methods and data, identified in the 2022 GSPs and supporting documents are resolved in the 2024 GSP.**

3.1.7 Groundwater Level Monitoring Network

Board staff noted that the 2022 GSPs did not include sufficient information describing how the GSAs will establish a monitoring network that is protective of drinking water users.

Issue: The 2022 GSPs did not demonstrate that the groundwater level monitoring networks allow the GSAs to monitor impacts to domestic wells. The GSAs relied primarily upon existing regulatory monitoring programs to help meet the monitoring requirements under SGMA. To represent domestic wells, the GSAs utilized public supply wells which are typically completed at much greater depths, identifying conditions that are not representative of conditions in shallow domestic wells.

Additionally, the GSAs established a buffer distance of one-quarter mile around the nearest RMW, from which the GSAs may notify well users of potential impacts due to declining groundwater levels. Board staff determined that the one-quarter-mile buffer from the RMW would not include a sufficient number of potentially impacted domestic wells (2024 GSP, p. 330).

Current Status: The 2024 GSP was revised to include an updated groundwater level monitoring network, adding 34 water level RMWs, for a total of 108 water level RMWs distributed between the upper and lower aquifers (2024 GSP, p. 273). Additionally, the GSAs revised the buffer distance to three miles and committed to notify domestic well users of potential impacts due to degradation of groundwater quality in addition to impacts due to declining groundwater levels (2025 DWMP, p. 3). This revision now spatially represents domestic wells sufficiently and appears to be protective of approximately 90% of domestic wells.

Staff Analysis and Recommendation: With these revisions to the 2024 GSP, **technical issues with the representative monitoring network are resolved.**

3.1.8 Demand Management

The 2022 GSPs did not include sufficient information to identify projects and management actions that may sufficiently mitigate overdraft in the subbasin.

Issue: DWR noted that the 2022 GSPs still did not contain a clear quantified definition of overdraft and lacked a discussion as to how overdraft will be mitigated (2022 GSP DWR Inadequate Determination, p. 11).

Current Status: In the 2024 GSP, the GSAs evaluated how projects and management actions will mitigate overdraft and enacted new demand management programs by implementing groundwater pumping reductions and allocation backstops in the GSA Group-specific PRPs. Pumping reductions are proposed for a period of five years, ending in 2030 (2024 GSP, pp. 303–312; Water Year 2024 Annual Report, Appendix D, Section 3). If a GSA Group does not achieve the annual pumping reduction, extractors in the respective GSA may be subject to the Groundwater Allocation Backstop, which implements a uniform acre-foot per acre allocation limited to the estimated sustainable yield of the GSA service area (id. at Section 6).

Staff Analysis and Recommendation: While the Overdraft Mitigation Plan substantially addresses DWR deficiencies, **technical issues regarding the 2025 PRPs lack of detail regarding GSA-specific pumping reductions and the Groundwater Allocation Backstop remain only partially resolved.** Board staff proposed several considerations in developing a detailed allocations program in Section 4 to ensure the Overdraft Mitigation Plan and Groundwater Allocation Backstop have clear structures to be implemented therefore ensuring both programs' critical success.

3.2 Land Subsidence

3.2.1 Land Subsidence SMC

DWR identified two deficiencies involving land subsidence SMC in the 2022 GSPs, focusing on inconsistencies between the GSPs and the approach to managing subsidence not meeting requirements of the GSP Regulations.

Issue: DWR determined that while the 2022 Common Chapter and the six 2022 GSPs appeared to be coordinated in their common definition of undesirable results, they still referenced the Technical Memorandum which was not updated with the most recent definition of undesirable results (2022 GSP DWR Inadequate Determination, p. 18). Additionally, DWR also found the 2022 GSPs inadequate, stating "[t]he revised approach to managing land subsidence in the Subbasin is not consistent with the GSP Regulations, which require the minimum threshold to be expressed as a rate and extent of subsidence and the new minimum threshold is only expressed as a total amount of subsidence" (id. at p. 29).

Current Status: The 2024 GSP contained a single definition for undesirable results in relation to land subsidence and established minimum thresholds for land subsidence as a rate rather than a total amount of subsidence (2024 GSP, p. 259–261).

Staff Analysis and Recommendation: With these revisions, Board staff find **both DWR deficiencies are resolved.**

3.2.2 Land Subsidence Management Actions

The 2022 GSPs did not include sufficient information describing how GSA management would prevent historic subsidence from continuing in the subbasin.

Issue: The Delta-Mendota Subbasin experienced significant subsidence since the mid-1920s, with the area southwest of the City of Mendota experiencing over 29 feet of subsidence as a result of groundwater extraction and overdraft conditions (2022 GSP Common Chapter, p. CC-100–CC-101). Extensive areas of subsidence occur in the eastern portion of the subbasin near the El Nido-Red Top area and southern portion of the subbasin in the Tranquility Irrigation District (id. at p. CC-101). These areas had increasing amounts of subsidence between 2011 and 2014 with measurements ranging from 0.15 to 0.75 feet in total (id. at CC-102).

Current Status: The 2024 GSP expands on the historic subsidence in the subbasin, and details that between 2015 and 2023, the City of Mendota, El Nido-Red Top area, and the southern portion of the Tranquility Irrigation District appear to have increasing rates of subsidence that may have resulted from groundwater extraction occurring in neighboring subbasins (2024 GSP, p. 182). Due to this increase in subsidence, the 2024 GSP includes the Subsidence Control Measures Agreement between landowners in and around Triangle T Water District GSA and other water agencies in the Delta-

Mendota Subbasin.[1] The Red Top Subsidence Mitigation Project (Project) and the Subsidence Control Measures Agreement (Agreement) include several management actions to address lower aquifer groundwater pumping causing subsidence (id. at p. 183). Since implementing the Project and Agreement, subsidence at critical infrastructure decreased substantially (e.g., the subsidence rate at Sack Dam has decreased from 0.042 feet per year to 0.012 feet per year) (ibid.).

Staff Analysis and Recommendation: With the implementation of the Subsidence Control Measures Agreement, **technical issues involving historic subsidence are substantially resolved.** The GSAs made improvements in how land subsidence will be managed in the subbasin; however, as implementation continues, the GSAs should incorporate up-to-date information related to land subsidence management practices. In July 2025, DWR published the draft Best Management Practices (BMP) for Sustainable Groundwater Management for Land Subsidence and released the final BMP in January 2026. This BMP includes several recommendations for GSAs to consider when establishing land subsidence SMC, including methods for calculating critical head; Board staff have included these recommendations in Section 4 to incorporate the BMP as implementation continues in the subbasin.

3.2.3 Critical Infrastructure in the Subbasin

The 2022 GSPs contained a limited definition of Critical Infrastructure which could have led to significant and unreasonable impacts to water conveyance in the subbasin.

Issue: Critical infrastructure in the 2022 GSPs was defined generally as including the Delta-Mendota Canal and California Aqueduct but did not specifically define which water conveyance structures outside of the Delta-Mendota Canal and California Aqueduct would be classified as critical infrastructure (2022 GSP Common Chapter, p. CC-171).

Current Status: The 2024 GSP utilizes a Conceptual Master Plan for Subsidence (2024 GSP, Appendix J) to revise the critical infrastructure definition to include the Delta-Mendota Canal (DMC), three sections of the Grassland Water District San Luis Canal, San Joaquin River Bifurcation, Sack Dam, two sections of the Chowchilla Bypass, and Mendota Pool/San Joaquin River Levee Systems (2024 GSP, Figure SMC-14). Additionally, the 2024 GSP and 2025 PRPs contain a Subsidence Avoidance Plan

[1] This is an agreement between certain landowners managing more than 14,000 acres in the western portion of the Chowchilla Subbasin and multiple water districts/companies in the neighboring Delta-Mendota Subbasin. The agreement was designed to mitigate subsidence and avoid undesirable results in the adjacent Delta-Mendota subbasin. Under the Agreement, Chowchilla landowners limit lower aquifer pumping and receive purchased surface waters from the districts in Delta-Mendota Subbasin.

to proactively address potential minimum threshold exceedances. The Subsidence Avoidance Plan initiates pumping cutbacks based on two components: a critical infrastructure protection component and a subsidence hotspot mitigation component (2024 GSP, p. 324; Water Year 2024 Annual Report, Appendix D, Section 6).

The Subsidence Master Plan maintains the same definition of critical infrastructure as the Subsidence Avoidance Plan and divides the subbasin into six categories based on the risk of subsidence and potential impacts, and proximity to critical infrastructure (2024 GSP, Appendix J, pp. vii–ix). For areas that are experiencing subsidence, monitoring recommendations are defined for groundwater extractions, groundwater levels, and land subsidence, as well as management strategies (id. at pp. ix–xi).

Staff Analysis and Recommendation: Although the 2024 GSP and 2025 PRPs contain an updated definition of critical infrastructure, **this issue is only partially resolved.** While the critical infrastructure definition has been expanded, the definition does not include all portions of the water conveyance facilities within the subbasin. It is crucial to avoid significant and unreasonable impacts that may limit conveyance capacity within the subbasin. To address technical issues, Section 4 contains several actions for the GSAs to consider in minimizing the impacts of subsidence.

3.3 Groundwater Quality

3.3.1 Establishing SMC for Subbasin Analyte List

In the 2022 GSPs, the Delta-Mendota Subbasin GSAs did not include minimum water quality thresholds for constituents other than total dissolved solids (TDS).

Issue: The GSAs established groundwater quality minimum thresholds for only TDS and removed all other minimum thresholds for other constituents that may be present within the basin and impacted by conditions that occur throughout the subbasin. In their corrective action, DWR noted that removing minimum thresholds for all constituents except for TDS was not recommended, and as proposed it was unclear if beneficial uses and users would be protected in areas where concentrations in RMWs historically exceeded the TDS threshold (2022 GSP DWR Inadequate Determination, pp. 27–28).

Current Status: The methodology in the 2024 GSP was updated to establish minimum thresholds for all analytes identified in the November 22, 2022 State Water Board letter to DWR (2022 SWRCB Letter to DWR). This included an updated approach to how minimum thresholds were established for each analyte based on available data (2024 GSP, Table 3-2 and pp. 251–254). Additionally, the methodology defines the baseline as the pre-SGMA (e.g., 2010–2014) average concentration plus the maximum annual fluctuation range recorded, where data is available; where earlier data are lacking, it is the first calendar year with data after 2014 plus the maximum annual fluctuation range (id. at pp. 252–253).

Staff Analysis and Recommendation: With this updated approach, the GSAs have established a consistent methodology for how groundwater quality minimum thresholds have been established for the subbasin, therefore the revisions in the 2024 GSP **resolve DWR deficiencies and Board staff issues.**

3.3.2 Defining Undesirable Results

The 2022 GSPs did not provide a justification in using a value of 50% and therefore do not clearly prevent significant and unreasonable impacts.

Issue: The 2022 GSPs allowed average constituent concentrations at 50% of RMWs to exceed minimum thresholds for three years before being considered an undesirable result. However, as noted in DWR's 2022 GSP Inadequate Determination, an analysis was not conducted to justify the use of a 50% threshold in the GSPs, and therefore the threshold may not clearly prevent significant and unreasonable impacts (2022 GSP DWR Inadequate Determination, p. 27).

Current Status: In the 2024 GSP, the Delta-Mendota Subbasin GSAs updated the quantitative definition of an undesirable result for degradation of groundwater quality to occur when groundwater management in the subbasin causes minimum threshold exceedances for any constituents of concern in 15% of water quality RMWs for a period of three consecutive semi-annual monitoring events. The 2024 GSP justifies this threshold because 15% of upper aquifer wells exhibited increasing TDS concentrations prior to January 1, 2015 (2024 GSP, p. 250).

Staff Analysis and Recommendation: With this updated definition and the inclusion of mitigation for water quality impacts (discussed in Section 3.5), the GSP now includes quantitative and protective criteria for undesirable results in the subbasin which meets the requirements under SGMA and **resolves DWR deficiencies and Board staff issues.**

3.3.3 Groundwater Quality Monitoring

The 2022 GSPs included asynchronous monitoring frequencies for sustainability indicators and did not include sufficient information describing how the GSAs will establish a monitoring network that is protective of drinking water users.

Issue: In terms of monitoring frequency, the most common sampling frequency was reported as twice per year for groundwater levels and once per year for groundwater quality in the 2022 GSPs (2022 GSP Common Chapter, pp. CC-180–CC-181). While not identified in DWR's 2022 GSP Inadequate Determination, Board staff were concerned that using inconsistent monitoring frequencies between sustainability indicators will not allow for comparisons to be made, since annual sampling cannot capture seasonal changes. Without capturing seasonal changes in water quality, impacts to beneficial uses and users from minimum threshold exceedances may occur for several years prior to causing an undesirable result. In addition, the groundwater

quality monitoring network presented in the 2022 GSPs contained approximately 70 water quality RMWs and primarily relied upon public supply wells to represent domestic users (id. at Table CC-20).

Current Status: In the 2024 GSP, the Delta-Mendota Subbasin GSAs expanded the groundwater quality monitoring network with 20 additional water quality RMWs (90 water quality RMWs total), committed to monitoring at least twice annually (e.g., during seasonal annual highs and lows), and plan to have sampling coincide with quarterly groundwater level measurements (2024 GSP, pp. 282–284). Moreover, the 2025 PRPs include additional monitoring requirements, should an investigation be initiated, that will continue until the initiating condition is resolved (Water 2024 Annual Report, Appendix D, Section 5.6).

Staff Analysis and Recommendation: With these revisions to the 2024 GSP, **technical issues with the representative monitoring network are resolved.**

3.4 Interconnected Surface Water

3.4.1 Identification of Interconnected Surface Water

Between the 2022 GSPs, there was no common methodology to determine the location of interconnected surface water (2022 GSP Common Chapter, p. CC-114).

Issue: The GSP Regulations require GSPs to "[p]rovide a description of current and historical groundwater conditions in the basin…based on the best available information" (Cal. Code Regs., tit. 23, § 354.16). This information includes: "[i]dentification of interconnected surface water systems within the basin and an estimate of the quantity and timing of depletions of those systems, utilizing data available from the Department, as specified in Section 353.2, or the best available information" (Cal. Code Regs., tit. 23, § 354.16, subd. (f)). Board staff identified that the different methodologies used by each GSP could lead to collection of inconsistent data, making it challenging to identify, and quantify depletions of, interconnected surface water.

Current Status: The GSAs substantially changed the approach in the 2024 GSPs from the 2022 GSPs to identify interconnected surface water systems. The 2024 GSP analyzed interconnected surface water based on the "[n]atural surface water bodies delineated in the USGS National Hydrography Dataset (NHD)" (2024 GSP, p. 187) to identify a network of potentially interconnected surface water bodies.

The GSAs then refined the network by keeping only surface water bodies whose streambed elevation was within 30 feet of a groundwater table derived from "Spring 2014 (pre-SGMA) groundwater elevations in shallow upper aquifer wells located in a two-mile radius from surface water features" (2024 GSP, p. 187). Furthermore, using the United States Geological Survey's (USGS), and the United States Army Corps of Engineers' respective stream gage networks, the 2024 GSP excluded streams "[w]hich had no measured flows for extended period of the year" (ibid.). While the 2024 GSP did

not directly quantify the “[e]xtended period of the year,” the GSP did indicate the number of zero-flow days at the respective USGS station for Orestimba, Los Banos, and Del Puerto Creeks (id. at Figures GWC-60, GWC-61, GWC-63, pdf pp. 316, 317, 319, respectively).

Through this refinement process, the GSAs identified a 90-mile stretch (miles 16–106) of the San Joaquin River as potential interconnected surface water in the 2024 GSP (2024 GSP, p. 187). The GSAs identified Orestimba Creek, Los Banos Creek, and the Fresno Slough as disconnected because all had streambed elevations greater than 30 feet above their respective adjacent groundwater levels (id. at pp. 187–188). Del Puerto Creek’s connection is listed as a data gap “[d]ue to lack of shallow groundwater measurements in the vicinity” (id. at p. 188).

Staff Analysis and Recommendation: With the revisions in the 2024 GSP, the **GSAs are now using the same coordinated data and methodologies to identify interconnected surface water in the 2024 GSP which substantially resolves coordination issues from the 2022 GSP.** There are still important data gaps to fill to determine the interconnectedness of Orestimba, Los Banos, and Del Puerto Creeks. As the GSAs continue to monitor these creeks and other potential interconnected surface water, the new data should be used to refine the description of “[c]urrent and historical groundwater conditions in the basin…based on the best available information” (Cal. Code Regs., tit. 23, § 354.16). Recommendations for the GSAs to consider as implementation continues are detailed in Section 4.

3.4.2 Quantification of Depletions of Interconnected Surface Water

In the 2022 GSPs, the GSAs didn’t quantify depletions of interconnected surface water (ISW) which would have led to depleted surface water resources without sufficient monitoring or mitigation (2022 GSP Common Chapter, p. CC-176).

Issue: In addition to identifying interconnected surface water systems in the basin, GSAs must also estimate “[t]he quantity and timing of depletions of those systems, utilizing data available from the Department” (Cal. Code Regs., tit. 23, § 354.16, subd. (f)). The GSAs used uncoordinated methodologies and did not properly quantify depletions of ISW in the 2022 GSPs.

Current Status: In the 2024 GSP, the GSAs used their modified version of the Central Valley Hydrologic Model Version 2 – San Joaquin Valley (CVHM2-SJV) to quantify the timing and rate of depletions of the San Joaquin River caused by groundwater management in the basin (2024 GSP, p. 189 and p. 197). This methodology is a significant improvement upon the uncoordinated methodologies used in the 2022 GSPs.

Staff Analysis and Recommendation: The 2024 GSP sufficiently meets the immediate requirements for interconnected surface water described in the GSP Regulations (Cal. Code Regs., tit. 23, § 354.16, subd. (f)), **therefore substantially**

resolving technical issues. However, the GSAs should continue to refine the model and estimations, especially in quantifying smaller spatial scale and seasonal depletions.

3.4.3 Qualitative Definition of an Undesirable Result

The 2022 GSPs did not include a qualitative definition of an undesirable result, which could result in significant and unreasonable impacts to beneficial uses and users.

Issue: In the 2022 GSPs, the plain-language definition of an undesirable result was defined as “[s]ignificant and unreasonable impacts on natural resources or downstream beneficial uses and users” (2022 GSP Common Chapter, p. CC-176). Significant and unreasonable being “[a] reduction in available surface water supplies for natural resource areas, and reductions in downstream water availability as a result of increased streamflow depletions along the San Joaquin River when compared to similar historic water year types” (ibid.). This definition of undesirable results did not adequately detail the potential effects from significant and unreasonable impacts due to depletion of interconnected surface on the beneficial uses and users of surface water.

Current Status: The GSAs state in the 2024 GSP that “Undesirable Results for Depletion of ISW would be experienced in the Basin if and when the MT is exceeded for two consecutive years caused by groundwater extraction within the Basin” (2024 GSP, p. 264). The GSAs justify their definition of an undesirable result by stating, “[t]he component of the criteria requiring two consecutive years of MT exceedances provides for confirmation that the Depletion of ISW is chronic and not an anomaly” (ibid.). However, this undesirable result definition is tied only to the exceedance of 2015 depletions and not to any specific analysis of the significant impacts to beneficial uses.

Staff Analysis and Recommendation: Technical issues regarding undesirable results for depletions of interconnected surface water remain only partially resolved. The current definition of an undesirable result allows for two years of 2015-level depletions**,** without clearly defining potential impacts to beneficial uses and users. Future updates should consider the recommendations in Section 4 to define undesirable results consistent with the GSP Regulations.

3.4.4 Definition of Minimum Thresholds

The 2022 GSPs identified interconnected-surface water as a data gap and therefore used the minimum thresholds for groundwater level as a proxy.

Issue: Per the GSP Regulations, minimum thresholds for interconnected surface water "[s]hall be the rate or volume of surface water depletions caused by groundwater use that has adverse impacts on beneficial uses of the surface water and may lead to undesirable results” (Cal. Code Regs., tit. 23, § 354.28, subd. (c)(6)). Board staff found that the 2022 Common Chapter and GSPs did not use the best available data to justify the correlation between groundwater levels and the timing and quantity of depletions for

interconnected surface water (2022 GSP Common Chapter, Table CC-6, pp. CC-116–CC-117).

Current Status: The 2024 GSP states that the minimum threshold for depletion of interconnected surface water is defined as the Model-estimated depletion rate of 12,000 AFY within the interconnected portion of the San Joaquin River (2024 GSP, p. 266; id. at Table GWC-11, pdf p. 267). This number, as determined by the Model, is the sum of the Summer and Fall 2014 depletions caused by groundwater pumping in the subbasin (id. at p. 266). The 2024 GSP outlines a methodology for refining and updating the minimum threshold measurement: "[d]ata collected from the [representative monitoring network for ISW], will be used to update the Model and support refined estimate [sic] of ISW depletion volumes due to groundwater use" (ibid.).

Staff Analysis and Recommendation: With the revisions in the 2024 GSP, technical issues related to SMC remain partially resolved. Board staff recommends the GSAs refine minimum thresholds as they fill data gaps related to interconnected surface water. Setting a single annual minimum threshold for the entire San Joaquin River within the subbasin could allow for reach-specific depletions to exceed what occurred before January 1, 2015, and could have significant and unreasonable effects on beneficial uses of interconnected surface water (Wat. Code, § 10727.2, subd. (b)(4)). Staff details recommendations for how the GSAs can set more protective minimum thresholds in Section 4.

3.5 Domestic Well Mitigation Program

Sustainable groundwater management under SGMA requires the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results (Wat. Code, § 10721(v)). While SGMA and the GSP Regulations do not require that GSAs develop a well mitigation plan, the State Water Board considers well mitigation to be an appropriate measure that GSAs may take to avoid significant and unreasonable impacts to beneficial uses and users in the subbasin (e.g., domestic well users and other drinking water well users) and to ensure water availability.

Implementation of the 2024 GSP is supported by the 2025 Domestic Well Mitigation Policy which aims to provide mitigation assistance to domestic well owners and small water system wells that may be impacted by declining groundwater levels or degradation of groundwater quality due to groundwater management (2025 DWMP, p. 1). Under the Domestic Well Mitigation Policy, domestic well owners and small water system wells can apply for short-term emergency water supplies (i.e., bottled water) to be delivered within 24 hours of a completed application and for an interim supply (i.e., tanked water, or other appropriate solution) to be delivered within 72 hours, pending a site investigation (id. at p. 4).

The GSAs partnered with Valley Water Collaborative (VWC), a local agency implementing the Nitrate Control Program, to coordinate efforts related to testing groundwater quality in domestic wells and providing short-term emergency water supplies to impacted residents (VWC MOU, p. 2). VWC has programs and procedures to provide drinking water resources to domestic users impacted in the Delta-Mendota Subbasin effectively. Residents may contact VWC for well testing, or if VWC encounters a dry well eligible for mitigation under the Domestic Well Mitigation Policy, VWC will refer the resident to the appropriate GSA for potential mitigation options (id. at p. 3).

The Domestic Well Mitigation Policy will be funded through a common account with cost-share mechanisms detailed in the Delta-Mendota Coordination Committee Memorandum of Agreement (2025 DWMP, p. 8). The estimated annual cost to implement the Domestic Well Mitigation Policy is approximately $300,000, which will provide mitigation for up to ten domestic wells, corresponding to undesirable results for lowering of groundwater levels in the 2024 GSP (ibid.). Each GSA that receives funds from the common account will be required to repay the total amount withdrawn, ensuring that the $300,000 is available for all GSAs to utilize for mitigation purposes (ibid.).

The Domestic Well Mitigation Policy provides sufficient details related to process and eligibility requirements. With successful implementation of the 2024 GSP and 2025 Domestic Well Mitigation Policy, significant and unreasonable impacts to domestic users will likely be avoided.

4.0 Recommendations for GSP Improvement

State Water Board staff determined that the revisions outlined in the 2024 GSP, 2025 PRPs, and 2025 DWMP are sufficient to return the subbasin to DWR's jurisdiction at this time. While reviewing the 2024 GSP and 2025 PRPs and DWMP, Board staff noted several improvements that could provide more protection to drinking water beneficial users and improve sustainability goals. GSAs should continue improving the GSP and PRPs in response to monitoring results and new data to ensure progress is being made toward achieving sustainability. As DWR develops additional guidance documents and best management practices, Board staff recommends the GSAs incorporate those into future iterations of the GSP and PRPs. Additionally, Board staff recommends the GSAs consider the following suggestions in future periodic evaluations:

1. **Continue efforts to better define the relationship between groundwater level minimum thresholds and each applicable sustainability indicator consistent with the GSP Regulations (Cal. Code Regs., tit. 23, § 354.28, subd. (b)(2)).**

   The GSAs should continue data collection efforts to resolve identified data gaps and include a more robust discussion about how the groundwater level minimum

thresholds avoid undesirable results for land subsidence, degradation of groundwater quality, and depletion of interconnected surface water.

2. **Establish the sustainable yield as defined by the SGMA Statue (Water Code § 10721(w)).**

   The SGMA statute defines the sustainable yield as the maximum quantity of water that can be withdrawn from a groundwater supply without causing an undesirable result. The Delta-Mendota Subbasin GSAs should revise the sustainable yield range to a discrete value, as establishing a range may make it difficult to assess whether the subbasin is on track to reach sustainability as implementation continues. Additionally, the GSAs should include a discussion of how the sustainable yield will avoid causing undesirable results in the subbasin.

3. **Update the PRPs with appropriate information to ensure pumping reductions and allocation backstop programs are actionable and implementable.**

   SGMA requires the GSAs to clearly discuss measures that will be implemented to ensure the subbasin will be operated within the sustainable yield and therefore reach sustainability (Cal. Code Regs., tit. 23, § 354.24). The PRPs should contain information describing how each member GSA will reduce groundwater pumping in order to achieve the GSA Group-specific pumping reduction by 2030. Additionally, as data collection continues, the GSAs should continue to refine the Groundwater Allocation Backstop in the PRPs to explain how each GSA Group will implement allocations. For additional information related to allocation programs, please see *EDF's Groundwater Pumping Allocations under California's Sustainable Groundwater Management Act.*

4. **Consider DWR's Subsidence BMP and other future guidance documents.**

   The GSAs should continue to incorporate the best available science and data, including DWR's subsidence BMP, in future GSP revisions. For example, the GSAs should consider determining the critical head to effectively manage groundwater levels and address ongoing subsidence and develop plans to prevent subsidence in areas that have not experienced subsidence historically. Additionally, the GSAs should continue analyzing the relationship between water levels and subsidence and adjust thresholds as needed to minimize future subsidence.

5. **Refine the definition of critical infrastructure and continue to work with operators.**

   The GSAs should consider all portions of water conveyance systems as critical infrastructure, regardless of whether the infrastructure has previously or is currently experiencing subsidence. The GSAs should continue to work closely with the

operators of these facilities and provide updates in the Annual Report on the current conditions of infrastructure within the subbasin to ensure beneficial uses and users are protected.

6. **Continue to resolve data gaps and refine sustainable management criteria associated with depletions of Interconnected Surface Water.**

   As implementation continues, staff recommend the GSAs continue to resolve data gaps by improving established monitoring networks and further refining established minimum thresholds. As data gaps are resolved, the GSAs should consider re-evaluating depletions modeling to further identify the timing and location of modeled depletions, establish reach-specific sustainable management criteria, and evaluate the impact of sustainable management criteria on beneficial uses. GSAs should consider all beneficial uses and users including, but not limited to, intra- and inter-specific populations of salmonid species, stream adjacent GDEs, recreational companies, and California Native American Tribes.

   DWR is developing additional guidance documents for management of depletions of interconnected surface water. Once guidance documents are released by DWR, GSAs should work diligently to incorporate the guidance as appropriate for the subbasin.

5.0 Recommendations for Board Action on the Delta-Mendota Subbasin

The Delta-Mendota Subbasin GSAs substantially revised their 2024 GSP, which was submitted to DWR's SGMA Portal on April 2, 2025. State Water Board staff determined that the revisions the GSAs made in the 2024 GSP and 2025 PRPs and DWMP sufficiently addressed issues identified in DWR's Inadequate Determination and by Board staff regarding the 2022 GSPs. Staff recommends that:

1. Further consideration of a probationary designation for the Delta-Mendota Subbasin based on DWR's 2022 GSP Inadequate Determination is not warranted at this time.
2. The State Water Board return the Delta-Mendota Subbasin to DWR's jurisdiction under Chapter 10 of SGMA.
3. The Delta-Mendota Subbasin GSAs continue to implement their 2024 GSP and consider Board staff's recommended improvements listed above in preparing future GSP amendments to fill data gaps and enhance the basin's approach to reaching sustainability.

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7.0 Figures

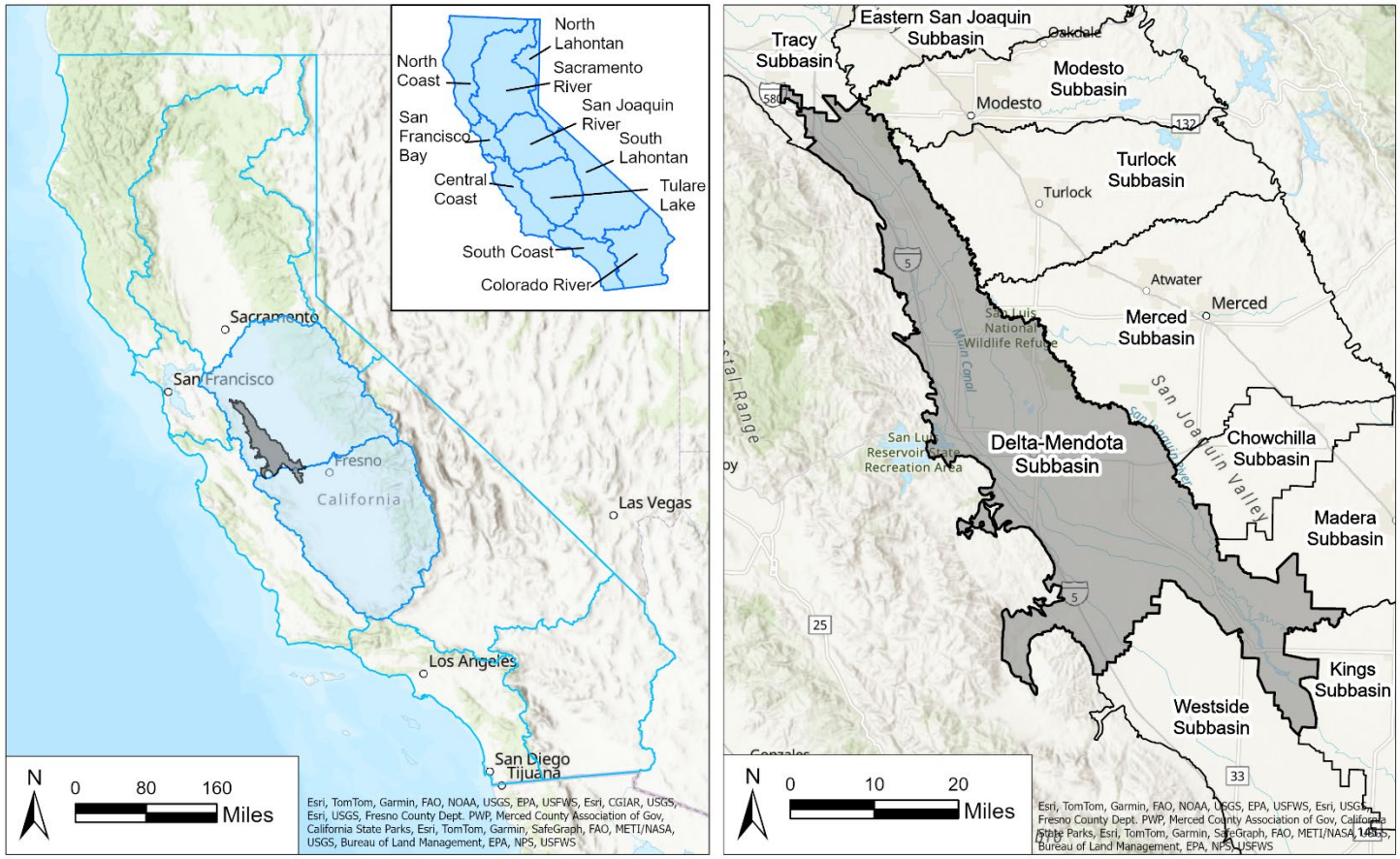

Figure 1

Overview of the Delta-Mendota Subbasin

Delta-Mendota Subbasin Staff Assessment
March 2026

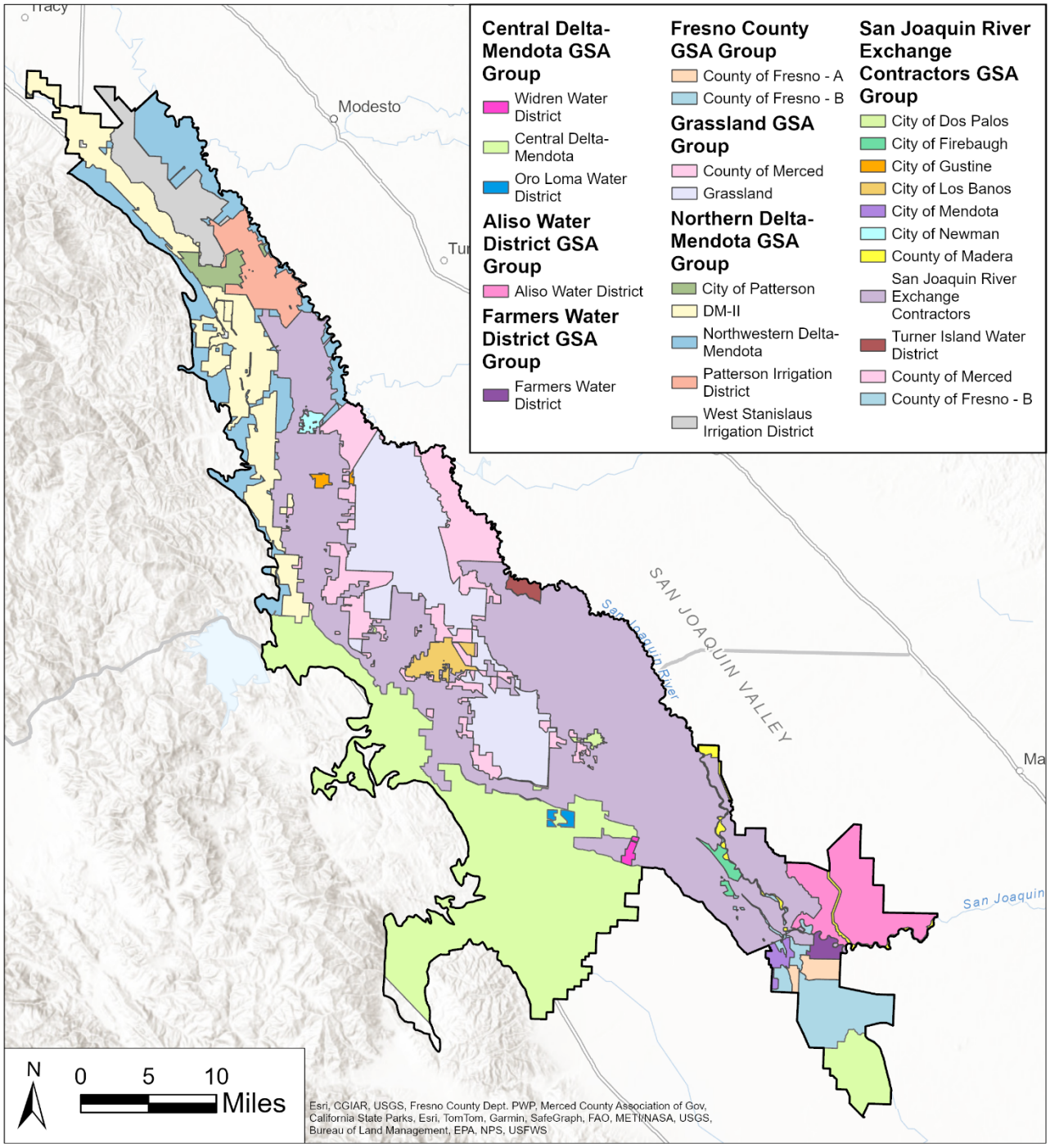

Figure 2

Groundwater Sustainability Agencies in the Delta-Mendota Subbasin

Delta-Mendota Subbasin Staff Assessment
March 2026

Data Source: DWR SGMA Portal
https://sgma.water.ca.gov/portal/gsa/all

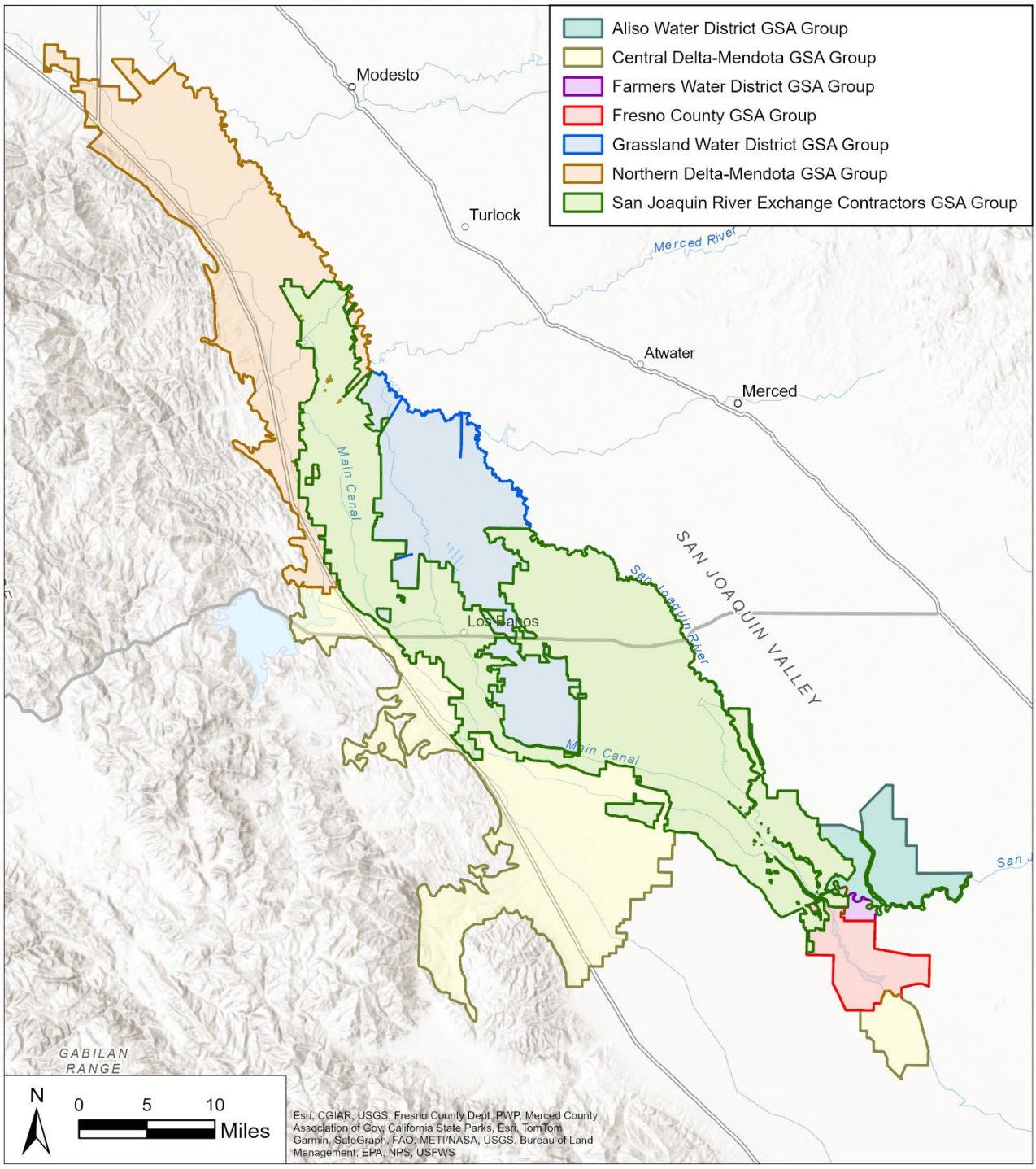

Figure 3

Groundwater Sustainability Agency Groups in the Delta-Mendota Subbasin

Delta-Mendota Subbasin Staff Assessment
March 2026

Data Source: Delta-Mendota Subbasin GSAs