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CALIFORNIA DEPARTMENT OF WATER RESOURCES
SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE
715 P Street, 8th Floor | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

November 19, 2026

John Davids
Principal Engineer
Davids Engineering
Basin Point of Contact
1772 Picasso Avenue, Suite A
Davis, CA 95618
john@davidsengineering.com

RE: San Joaquin Valley – Madera Subbasin (No. 5-022.06) – 2026 Periodic Review Incomplete Determination

Dear John Davids:

The Department of Water Resources (Department) has evaluated the four amended groundwater sustainability plans (collectively referred to as the GSP or Plan) submitted for the San Joaquin Valley – Madera Subbasin (Subbasin) as part of its periodic review and has determined that the Plan is incomplete. The incomplete determination is based on the recommendations from the Staff Report, included as an exhibit to the attached Statement of Findings, which describes that the Plan does not satisfy the objectives of the Sustainable Groundwater Management Act (SGMA), nor does it substantially comply with the GSP Regulations. The Staff Report provides corrective actions which the Department recommends the Subbasin's groundwater sustainability agencies (GSAs) review and consider to address the Department's identified deficiencies.

The GSAs have 180 days to address the identified deficiencies, which is the maximum amount of time allowed by the GSP Regulations. Where addressing the deficiencies requires modification of the Plan, the GSAs must adopt those modifications into their Plan and all applicable coordination agreement materials or otherwise demonstrate that those modifications are part of the Plan before resubmitting it to the Department for evaluation no later than May 18, 2027. The Department understands that much work has occurred to advance sustainable groundwater management since the GSAs submitted their Periodic Evaluation in January 2025. To the extent to which those efforts are related or responsive to the Department's identified deficiencies, we encourage you to document that as part of your Plan resubmittal. The Department prepared a Frequently Asked Questions document to provide general information and guidance on the process of addressing deficiencies in an "incomplete" determination.

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Department staff will work expeditiously to review the revised components of your Plan resubmittal. If the revisions sufficiently address the identified deficiencies, the Department will determine that the Plan is "approved". In that scenario, Department staff may identify additional recommended corrective actions that the GSAs should address in their Plan implementation.

If the GSAs cannot address the deficiencies identified in this letter by May 18, 2027, then the Department, after consultation with the State Water Resources Control Board, may determine the Plan to be "inadequate". In that scenario, the State Water Resources Control Board may identify additional deficiencies that the GSAs would need to address in the state intervention processes outlined in SGMA.

Please contact Monica Salais, GSP Section Manager by emailing monica.salais@water.ca.gov if you have any questions related to the Department's assessment or implementation of your GSP.

Thank You,

Paul Gosselin

Paul Gosselin
Deputy Director
Sustainable Water Management

Attachment:

1. Statement of Findings Regarding the Determination of Incomplete Status of the San Joaquin Valley – Madera Subbasin Groundwater Sustainability Plan Based on the 2026 Periodic Review

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STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

STATEMENT OF FINDINGS REGARDING THE DETERMINATION OF INCOMPLETE STATUS OF THE SAN JOAQUIN VALLEY – MADERA SUBBASIN GROUNDWATER SUSTAINABILITY PLAN BASED ON THE 2026 PERIODIC REVIEW

The Department of Water Resources (Department) is required to periodically review an approved groundwater sustainability plan (GSP or Plan) to ensure the Plan, as implemented, remains consistent with the objectives of the Sustainable Groundwater Management Act (SGMA or Act) and in substantial compliance with the GSP Regulations, and is being implemented in a manner that will likely achieve the sustainability goal for the basin. (Water Code § 10733.8; 23 CCR § 355.6(a)). The Department is directed to issue an assessment of the periodic review at least every five years, with an emphasis on assessing progress in achieving the sustainability goal within the basin (Water Code § 10733.8; 23 CCR § 355.6(b)). The Department's periodic review is based on review of information provided in annual reports, the periodic evaluation of the Plan prepared and submitted by the groundwater sustainability agencies (GSAs or Agencies) (23 CCR § 355.6(b)), and consideration of public comments (23 CCR § 353.8(f)). This Statement of Findings explains the Department's decision regarding the amended Plans submitted by the City of Madera GSA, County of Madera GSA, Madera Irrigation District GSA, Madera Water District GSA, Gravelly Ford Water District GSA, New Stone Water District GSA, and Root Creek Water District GSA for the San Joaquin Valley – Madera Subbasin (No. 5-022.06). Collectively, unless stated otherwise, the amended 2025 GSPs for the Subbasin are herein referred to as the Plan.

Department management has reviewed the enclosed Staff Report, which recommends that deficiencies identified should preclude approval of the Plan. Based on its review of the Staff Report, Department management is satisfied that staff have conducted a thorough evaluation and assessment of the Plan, and concurs with, and hereby adopts, staff's recommendation and all the corrective actions provided. The Department thus deems the Plan **INCOMPLETE** based on the Staff Report and the findings contained herein.

A. The Plan states the Subbasin will reach sustainability by 2040; however, staff are unable to make the same determination based on inconsistencies in the establishment of the sustainable management criteria, including interim milestones, and projected groundwater-level conditions that do not align with or support the Plan's sustainability statement.

    1. The GSAs must address this deficiency in a coordinated manner throughout the Subbasin. The GSAs must revise the Plan or provide additional technical

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information sufficient to reconcile the Plan's sustainability goal, sustainable management criteria, interim milestones, projected groundwater conditions, and projects and management actions. The response must clearly demonstrate a reasonable and technically supported path by which Plan implementation is likely to achieve the sustainability goal and avoid the Plan-defined undesirable results by 2040 for all applicable sustainability indicators.

2. The response must reconcile the Plan's reliance on model-derived interim milestones with projected groundwater levels from that same modeled trajectory that appear to remain below the applicable minimum thresholds at Plan representative monitoring site (RMS) wells near the end of the implementation period. It must provide sufficient information and technical explanation for the Department to evaluate the Plan's spatial and temporal undesirable-result criteria at and after 2040.

B. The Plan's land subsidence monitoring network does not evaluate subsidence where it is occurring, which includes critical infrastructure.

1. Consistent with GSP Regulations section 355.4(e)(1), revise the Plan's land-subsidence monitoring network to be representative of, and adequate to manage, subsidence in the entire Subbasin. The revised network must provide adequate spatial and temporal coverage in areas of greatest observed subsidence and along or near infrastructure that could be substantially interfered with by subsidence, including the northwestern Subbasin and the Fresno River federal levee system. The revised monitoring network must be capable of timely detection, evaluation, and management of subsidence where it is occurring and where critical infrastructure is located throughout the basin. The GSAs must:

    i. Add representative monitoring sites or other appropriate methods where the existing network is not representative, or provide a technically supported demonstration that InSAR combined with existing ground-based measurements provides equivalent coverage;

    ii. Establish the monitoring frequency, data processing methods, reference period, measurement uncertainty, quality assurance and quality control procedures, and criteria for validating remote sensing results with ground-based observations. If InSAR is used, some of these requirements will not be necessary.

2. Provide a robust explanation of how the subsidence sustainable management criteria are evaluated in the entire Subbasin utilizing the updated representative monitoring network and clearly describe how the GSAs will detect both localized and Subbasin-wide exceedances and evaluate potential

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interference with identified infrastructure or other properties or surface land uses.

3. The GSAs should also identify quantitative triggers for increased monitoring and implementation or acceleration of projects and management actions when subsidence approaches or exceeds an interim milestone or threatens substantial interference with infrastructure or other properties or surface land uses. Specifically, also explain the current advancement of projects and management actions in response to the current interim milestone exceedances, Descriptions should include an implementation schedule, responsible GSA(s) or coordinating entity, funding source, and annual reporting protocol.

Based on the above, the amended Plan submitted by the Agencies for the San Joaquin Valley – Madera Subbasin (No. 5-022.06) is determined to be incomplete because the Plan does not satisfy the objectives of SGMA, nor does it substantially comply with the GSP Regulations. The corrective actions provided in the Staff Report are intended to address the deficiencies that, at this time, preclude approval. The Agencies have up to 180 days to address the deficiencies outlined above and detailed in the Staff Report. Once the Agencies resubmit their Plan, the Department will review the revised Plan to evaluate whether the deficiencies were adequately addressed. Should the Agencies fail to take sufficient action(s) to correct the deficiencies identified by the Department in this assessment, the Department shall disapprove the Plan and its implementation if, after consultation with the State Water Resources Control Board, the Department determines the Plan inadequate pursuant to 23 CCR § 355.6(d)(3)).

Signed:

Tom Gibson
_____

Tom Gibson, Director
Date: November 19, 2026

Enclosure: 2026 Periodic Review Staff Report – San Joaquin Valley – Madera Subbasin

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State of California
Department of Water Resources
Sustainable Groundwater Management Program
2026 Periodic Review Assessment
Staff Report

Groundwater Basin Name:	San Joaquin Valley Groundwater Basin – Madera Subbasin (No. 5-022.06)
Submitting Agency:	City of Madera Groundwater Sustainability Agency (GSA); Madera County GSA; Madera Irrigation District GSA; Madera Water District GSA; Gravelly Ford Water District GSA; New Stone Water District GSA; and Root Creek Water District GSA
Periodic Review Start Date:	January 31, 2025
Groundwater Sustainability Plan:	2025 Gravelly Ford GSP; 2025 Joint GSP; 2025 New Stone GSP; and 2025 Root Creek GSP
Periodic Evaluation:	Madera Subbasin Groundwater Sustainability Plan Periodic Evaluation (January 2025)
Staff Recommendation:	Incomplete
Date:	November 19, 2026

Pursuant to the Sustainable Groundwater Management Act (SGMA or Act)[1] and the Groundwater Sustainability Plan Regulations (GSP Regulations),[2] this report addresses the Department of Water Resources' (Department) responsibility to periodically (at least every five years) review and evaluate previously approved groundwater sustainability plans (GSPs or Plans). The Department is required to ensure Plan implementation is consistent with the Act and substantially compliant with the GSP Regulations, including being implemented in a manner that will likely achieve the sustainability goal for the basin.[3] The statutory and regulatory criteria for Periodic Reviews are described in Appendix A.

On January 31, 2025, the Department initiated its Periodic Review of the Madera Subbasin (Subbasin) Plan. The Department's periodic review included the following materials submitted by the basin groundwater sustainability agencies (GSAs):[4]

- Madera Subbasin Groundwater Sustainability Plan Periodic Evaluation, January 2025 (Periodic Evaluation)

[1] Water Code § 10720 *et seq*.
[2] 23 CCR § 350 *et seq*.
[3] 23 CCR §§ 355.6(a) and 355.6(b).
[4] https://sgma.water.ca.gov/portal/gsp/periodiceval/preview/12

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- Second Amendment to the Madera Subbasin Coordination Agreement (2025 Coordination Agreement) – signed by all GSAs in the Subbasin
- Gravelly Ford Water District Groundwater Sustainability Plan, January 2025 (2025 Gravelly Ford GSP) – prepared by the Gravelly Ford Water District GSA
- Joint Groundwater Sustainability Plan Amended, January 2025 (2025 Joint GSP) – prepared jointly by the City of Madera GSA, Madera County GSA, Madera Irrigation District GSA, and Madera Water District GSA
- New Stone Water District Groundwater Sustainability Agency Revised and Adopted Groundwater Sustainability Plan, 2025 Update (2025 New Stone GSP) – prepared by the New Stone Water District GSA
- Root Creek Water District Groundwater Sustainability Agency Revised and Adopted Groundwater Sustainability Plan, 2025 Update (2025 Root Creek GSP) – prepared by the Root Creek Water District GSA

Collectively, unless stated otherwise, the amended 2025 GSPs and the 2025 Coordination Agreement for the Subbasin are referred to in this assessment as the Plan.

Based on this review, Department staff recommend the Plan be determined **INCOMPLETE** due to an apparent inconsistency in the Plan's sustainability goal to reach sustainability by 2040 and related interim milestones and projected groundwater-level conditions, and a subsidence-related deficiency. When considering this assessment and addressing any corrective actions, the GSAs should consider and ensure that any necessary and appropriate changes are coordinated across all individual Plans in the basin.

This assessment includes the following sections:

- **Section 1 – Staff Recommendation for Plan: Incomplete**: Outlines the Department staff's recommendation to determine the Plan incomplete and the key factors supporting that recommendation.
- **Section 2 – Deficiency Identified During Periodic Review**: Provides a detailed assessment of the deficiencies identified during Department staff's periodic review that may be capable of being corrected by the GSAs within 180 days. Consistent with the GSP Regulations, Department staff have provided corrective actions for the GSAs to address the deficiencies.
- **Section 3 – Conclusion**: A summary of the staff recommendation and deficiencies.

1 STAFF RECOMMENDATION FOR PLAN: INCOMPLETE

Department staff recommend the Plan be determined **INCOMPLETE** due to two deficiencies that preclude approval at this time, but which staff believe may be capable of being corrected by the GSAs within 180 days. The deficiencies are related to the staff's

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inability to determine if the Plan is likely to achieve the sustainability goal and avoid the Plan-defined undesirable results by 2040, and land subsidence sustainable management criteria not being monitored or evaluated in areas where subsidence is occurring and that contain critical infrastructure.[5] Department staff have provided two corrective actions detailing how the GSAs can remedy these deficiencies.

Summary of Deficiency 1: The Plan's interim milestones for chronic lowering of groundwater levels are set from the same modeled trajectory that the GSAs rely on to project future conditions. While evaluating the Plan's modeling hydrograph results, Department staff estimate that along that trajectory (i.e., with successful implementation of the Plan), groundwater levels at approximately 84 percent of representative monitoring site (RMS) wells will remain below their minimum thresholds in Fall 2039, the last modeled Fall condition before the 2040 sustainability deadline.[6] The Plan does not discuss those modeling results nor explain how implementation consistent with that trajectory avoids the Plan-defined undesirable result at and after 2040; therefore, it is unclear to Department staff if the Plan is likely to reach sustainability.

Summary of Deficiency 2: The Plan does not demonstrate that its land subsidence monitoring network is representative and adequate to manage the basin as it appears to staff that there are interim milestone exceedances in parts of the basin that are not covered by the current RMS network. Currently, evaluation of subsidence occurs at nine RMS locations that do not include the northwestern portion of the Subbasin, where recent subsidence data indicate the greatest rates of subsidence are occurring and where federal flood control levees are located. These conditions were not specifically discussed or addressed in the Periodic Evaluation, revealing a potential gap or misunderstanding regarding how the GSAs monitor for sustainable management criteria and evaluate subsidence impacts in the basin.

Key Factors Supporting Incomplete Recommendation

- The Plan states the Subbasin will reach sustainability by 2040; however, staff are unable to substantiate that conclusion based on submitted materials because of inconsistencies in the establishment of the sustainable management criteria, including interim milestones, and projected groundwater-level conditions that do not align with or support the Plan's sustainability statement.
    - Selection of interim milestones based on modeled projections does not appear to achieve sustainability for the Subbasin.

[5] 23 CCR §§ 355.4(b), 355.6(a), (c)(1), (c)(4), and (d)(2).
[6] Note: Staff analysis was conducted using hydrographs provided which included modeling results at and after 2040. A total of 37 hydrographs included this required information, all are in the Joint GSP area; hydrographs or tables including modeling results of expected groundwater levels at RMS wells at or after 2040 were not provided for the Gravelly Ford, Root Creek, and New Stone GSP areas.

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  - Based on analysis conducted by Department staff, approximately 84 percent of RMS available for analysis are projected to be below minimum thresholds by 2040.

- At this time, the Plan's land subsidence monitoring network appears inadequate to manage subsidence in the basin because it does not evaluate subsidence where it is occurring. Furthermore, this unevaluated area contains federal flood control levees and is exceeding the Plan's stated interim milestone yet is unacknowledged by the GSAs in their Periodic Evaluation.
  - Department interferometric synthetic aperture (InSAR) data show up to approximately 2.8 feet of cumulative subsidence between January 1, 2020, and January 1, 2025, nearly twice the 1.5-foot cumulative interim milestone for 2025, in an area without a RMS.

2 DEFICIENCY IDENTIFIED DURING PERIODIC REVIEW

As stated in Section 355.4 of the GSP Regulations, a basin "shall be sustainably managed within 20 years of the applicable statutory deadline consistent with the objectives of the Act." The Department's assessment is based on a number of related factors including whether the elements of a GSP were developed in the manner required by the GSP Regulations, whether the GSP was developed using appropriate data and methodologies and whether its conclusions are scientifically reasonable, and whether the GSP, through the implementation of clearly defined and technically feasible projects and management actions, is likely to achieve a tenable sustainability goal for the basin. Generally, the Department's periodic reviews will also emphasize assessing progress in achieving the sustainability goal within the basin.[7]

Department staff have identified two deficiencies in the Plan, which preclude staff from recommending approval at this time. Department staff believe the GSAs may be able to correct these deficiencies within 180 days. Consistent with the GSP Regulations, Department staff provide a general regulatory background, the specific deficiencies identified in the Plan precluding approval, and specific actions necessary to address the deficiencies (i.e., the 2026 Corrective Actions).

[7] Water Code § 10733.8.

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2.1 Deficiency 1 (2026) – The Plan contains inconsistencies which do not demonstrate Plan implementation is likely to achieve the sustainability goal and avoid the Plan-defined undesirable results by 2040.

2.1.1 Background

SGMA defines the sustainability goal as the existence and implementation of one or more GSPs that achieve sustainable groundwater management by identifying and causing the implementation of measures targeted to ensure that the applicable basin is operated within its sustainable yield.[8] SGMA also requires a GSP to define measurable objectives, as well as interim milestones in increments of five years, to achieve the sustainability goal in the basin within 20 years of plan implementation.[9] SGMA allows, but does not require, a Plan to address undesirable results that occurred before, and have not been corrected by, January 1, 2015.[10] SGMA provides no comparable allowance for undesirable results that first occur after that date. The legislative intent of SGMA, among other items, is to increase groundwater storage and to avoid or minimize subsidence.[11]

The GSP Regulations require GSAs to establish a sustainability goal for the basin that culminates in the absence of undesirable results by 2040, including information from the basin setting used to establish the sustainability goal, a discussion of the measures that will be implemented to ensure that the basin will be operated within its sustainable yield, and an explanation of how the sustainability goal is likely to be achieved within 20 years of Plan implementation and is likely to be maintained through the planning and implementation horizon.[12] The Plan must also include a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years which demonstrate a reasonable path for the Plan to achieve the sustainability goal within 20 years of implementation.[13] The GSP Regulations require GSAs to provide a description of the implementation of projects and management actions, including the effect on groundwater conditions resulting from those projects and management actions,[14] to demonstrate that the implementation of the projects and management actions is consistent with the Plan or that actions described in the Plan have been rendered unnecessary based on changing basin conditions or improved understanding of basin conditions.[15] For each project or management action, the Plan must identify, among other information, the implementation circumstances, schedule, expected benefits, method for evaluating those benefits, and funding.[16] If

[8] CWC § 10721 (u).
[9] CWC § 10727.2(b)(1).
[10] CWC § 10727.2(b)(4).
[11] CWC § 10720.1(e), (g).
[12] 23 CCR § 354.24.
[13] 23 CCR § 354.30(e).
[14] 23 CCR § 356.4(b).
[15] 23 CCR § 355.6(c)(2).
[16] 23 CCR § 354.44(b)(1)(A), (4), (5), and (8).

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overdraft is present, the Plan must describe projects or management actions, including a quantification of demand reduction or other methods, that will mitigate the overdraft.[17]

2.1.2 Deficiency Detail

Department staff recognize the efforts undertaken by the GSAs to develop and implement projects and management actions intended to increase recharge, reduce groundwater pumping, and mitigate impacts to beneficial uses and users.[18] The GSAs submitted an amended Plan for the Subbasin in acknowledgement of changing basin conditions that warranted updates to projects and management actions. Continued implementation of effective projects and management actions is necessary and beneficial. The Plan states that the GSAs will implement projects and management actions sufficient to balance groundwater inflows and outflows, by 2040.[19] However, evidence of project implementation alone is not sufficient to demonstrate that the Plan, as implemented, remains likely to achieve the sustainability goal within the statutory timeframe.[20]

Based on its review of the Plan, the Periodic Evaluation, and projected groundwater levels, Department staff have identified inconsistencies among the stated sustainability goal, groundwater-level interim milestones, and projected groundwater conditions path by which the GSAs assert Plan implementation is likely to achieve sustainability and avoid the Plan-defined undesirable result by 2040. This inconsistency prevents the Department from determining that the Plan remains in substantial compliance with SGMA and the GSP Regulations.[21]

The Plan for the Subbasin consists of four GSPs developed by seven GSAs. The 2025 Joint GSP, which is developed and implemented by the City of Madera GSA, Madera County GSA, Madera Irrigation District GSA, and Madera Water District GSA, covers approximately 94 percent of the land area in the Subbasin and accounts for roughly 90 percent of all historical, current, and projected groundwater pumping.[22] The 2025 Joint GSP also provides information that is encompassing-of, relevant-to, and reiterated-in the other three GSPs and is often cited by Department staff when referencing information relevant to the entire Subbasin. For example, footnotes throughout this assessment generally reference the 2025 Joint GSP because it contains the Subbasin-wide model results, projected hydrographs, and interim-milestone analysis on which the Periodic Evaluation and Plan amendments rely. The 2025 Gravelly Ford GSP, 2025 New Stone GSP, and 2025 Root Creek GSP also cite the 2025 Joint GSP for the updated Madera-Chowchilla Groundwater-Surface Water Simulation (MCSim) Model results and use the same coordinated approach: each sets groundwater-level minimum thresholds and measurable objectives at Fall 2015 and Fall 2010 levels, using MCSim results with offsets where observed data are unavailable; each sets interim milestones from the MCSim

[17] 23 CCR § 354.44(b)(2).
[18] Periodic Evaluation, Executive Summary, pp. 13-14; Section 3, p. 56.
[19] 2025 Coordination Agreement, p. 34.
[20] CWC § 10727.2(b)(1); 23 CCR §§ 354.24, 354.30(e).
[21] 23 CCR §§ 355.4(b), 355.6(a), (c)(1), (c)(4), and (d)(2).
[22] 2025 Joint GSP. Table 2-9, p. 137; 2025 Coordination Agreement, pp. 25-32, and pp. 44-45.

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model with offsets; and each adopts the same Subbasin undesirable result definition.[23] Department staff's assessment, therefore, while it largely references material in the 2025 Joint GSP, is intended to apply to the Plan as a whole.

The Plan defines the sustainability goal for the Subbasin as "to implement a package of projects and management actions that will, by 2040, balance long-term groundwater system inflows and outflows based on a 50-year period representative of average historical hydrologic conditions."[24] For chronic lowering of groundwater levels, the Plan generally establishes measurable objectives at Fall 2010 groundwater elevations (specifically observed groundwater levels representing conditions prior to the 2012-2015 drought, which serves as a benchmark for long-term sustainable conditions)[25] and minimum thresholds at Fall 2015 groundwater elevations.[26] Where measured groundwater levels were unavailable, levels simulated by the updated MCSim Model, with adjustments for differences between observed and simulated groundwater levels, were used.[27] The minimum thresholds underpin the Plan's quantitative definition of an undesirable result for chronic lowering of groundwater levels.

The Plan defines an undesirable result for chronic lowering of groundwater levels as occurring when more than 30 percent of the applicable RMS wells exceed their minimum thresholds for the same two consecutive Fall measurements.[28] Under the Plan's terminology, an RMS well "exceeds" its minimum threshold when the measured groundwater elevation falls below the minimum threshold elevation. The impact of declining below minimum thresholds (i.e., potentially having undesirable results) is also described by the GSAs' domestic well impact analysis. The analysis projects that between 772 and 1,578 domestic wells will go dry as groundwater levels decline during the implementation period, and the GSAs have committed to mitigate those impacts through a Domestic Well Mitigation Program at an estimated $30,000 per well.[29]

The Plan establishes groundwater-level interim milestones for 2025, 2030, and 2035 using results from MCSim's Projected with Projects scenario.[30] The interim milestones correspond to the simulated Fall 2024, Fall 2029, and Fall 2034 groundwater elevations, respectively, with offsets where necessary to account for differences between observed and simulated historical groundwater levels. This assessment refers to groundwater levels calculated using that approach as "offset-adjusted" projected groundwater levels.

[23] 2025 Gravelly Ford GSP, Table 3-1, p. 62; Section 3.3.5, p. 83; Section 3.3.7, p. 84; 2025 New Stone GSP, Table 1-2, p. 19; Section 4.2.2.1, p. 116; Section 4.2.4, p. 127; 2025 Root Creek GSP, Table 1-2, p. 20; Section 4.2.2, p. 170; Section 4.2.4, p. 184; 2025 Joint GSP, Chapter 3, p. 272.
[24] 2025 Coordination Agreement, p. 34.
[25] 2025 Joint GSP, Section, 3.2.1.1, p. 276; Section 3.3.1, pp. 299-300; Table 3-15, p. 325.
[26] 2025 Joint GSP, Section 3.3.1, pp. 299-300.
[27] 2025 Joint GSP, Section 3.3.1.3, p. 304.
[28] 2025 Joint GSP, Section 3.4.1, pp. 323-324; Table 3-15, p. 325. 2025 Gravelly Ford GSP, Table 3-1, p. 62. 2025 New Stone GSP, Table 1-2, p 19. 2025 Root Creek GSP, Table 1-2, p. 20.
[29] 2025 Joint GSP, Appendix 2.G, pp. 1407-1408, p. 1440; Appendix 3.E, 1,575-1585.
[30] 2025 Joint GSP, Section 3.2.1.2, p. 276.

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Although Appendix E.2.b[31] graphically presents the full Projected with Projects results for each RMS for the 2025 Joint GSP, the Plan does not tabulate offset-adjusted Fall 2039 groundwater elevations. Additionally, the other GSPs do not present projected groundwater levels for their RMS wells at or after 2040 in either graphs or tables.

The Periodic Evaluation cites current groundwater levels relative to the 2025 interim milestones as evidence that the Subbasin is generally on track to achieve sustainability, documenting that 35 of the 48 RMS wells with available Fall 2024 measurements were above their 2025 interim milestones.[32] The Periodic Evaluation further explains that RMS wells not above their 2025 interim milestones are primarily Lower Aquifer wells and that benefits from recharge projects may take longer to appear in deeper wells. It also notes that many recharge projects had achieved substantial benefits in only one or two years because 2020 through 2022 were “very dry”, 2023 was “very wet”, and 2024 was “above normal.”[33]

Meeting a model-derived interim milestone, as the interim milestones are defined in this Plan, shows whether observed groundwater levels are meeting or exceeding the modeled trajectory at that point in time. It does not, by itself, demonstrate that the modeled trajectory avoids the Plan-defined undesirable result at and after 2040. The Plan must also describe a reasonable, technically supported path by which implementation is likely to achieve the sustainability goal within the statutory timeframe.[34] The information provided in the Plan and Periodic Evaluation does not adequately make that demonstration.

As noted above, the Plan does not tabulate offset-adjusted groundwater elevations for Fall 2039, the modeled groundwater-level result immediately preceding the 2040 sustainability deadline. Using data included in the Periodic Evaluation and 2025 Joint GSP, Department staff therefore estimated the offsets reflected in the adopted interim milestones and applied them to the simulated Fall 2039 groundwater elevations (see Table 1).[35] Figure 1 provides an illustrative example of this calculation for COM RMS-2.

[31] 2025 Joint GSP, Appendix E.2.b, pp. 3,639-3,676.
[32] Periodic Evaluation, Section 2.1.3, Table 2-2, pp. 28-30, and Appendix 2.C, pp. 623-626.
[33] Periodic Evaluation, Section 2.1.4, p. 33.
[34] CWC § 10727.2(b)(1); 23 CCR §§ 354.30(a), 354.30(e).
[35] 2025 Periodic Evaluation, Table 2-1, pp 25-27; 2025 Joint GSP, Appendix E.2.b, pp 3,639-3,676.

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Table 1. Comparison of adopted groundwater-level criteria and interim milestones with Department staff estimates of offset-adjusted Fall 2039 groundwater elevations

	Plan-adopted values				Department staff estimates[5]			Comparison to MT	
RMS	**MO**	**2025 IM**	**2030 IM**	**2035 IM**	**Estimated offset[1]**	**Simulated Fall 2039 GWE[2]**	**Offset-adjusted Fall 2039 GWE[3]**	**MT**	**Difference from MT[4]**
COM RMS-1	68	12	2	1	-7	15	8	50	**-42**
COM RMS-2	50	1	-4	-4	-26	27	1	43	**-42**
COM RMS-4	47	11	3	0	-21	26	5	24	**-19**
MCE RMS-2	117	80	80	84	-190	277	87	115	**-28**
MCE RMS-3	67	-12	-17	-5	-13	29	16	38	**-22**
MCE RMS-5	81	35	32	45	8	52	60	69	**-9**
MCE RMS-6	40	-20	-23	-11	-33	40	7	19	**-12**
MCE RMS-9	259	259	258	258	2	257	259	258	**1**
MCW RMS-3	74	4	-1	1	-60	74	14	65	**-51**
MCW RMS-5	184	185	184	183	0	184	184	182	**2**
MID RMS-2	-14	-92	-111	-119	-77	-40	-117	-65	**-52**
MID RMS-3	15	-92	-102	-104	-72	-22	-94	-32	**-62**
MID RMS-4	-34	-92	-104	-100	-124	24	-100	-64	**-36**
MID RMS-5	19	-57	-68	-72	-103	22	-81	-26	**-55**
MID RMS-6	19	-59	-71	-76	-73	-3	-76	-27	**-49**
MID RMS-7	80	29	23	18	-24	42	18	49	**-31**

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RMS	MO	2025 IM	2030 IM	2035 IM	Estimated offset[1]	Simulated Fall 2039 GWE[2]	Offset-adjusted Fall 2039 GWE[3]	MT	Difference from MT[4]
MID RMS-10	64	28	23	21	-27	49	22	42	**-20**
MID RMS-11	112	68	65	64	-9	72	63	89	**-26**
MID RMS-12	128	68	63	62	-1	66	65	98	**-33**
MID RMS-13	112	77	75	76	-1	80	79	93	**-14**
MID RMS-15	151	123	121	120	16	103	119	130	**-11**
MID RMS-16	28	-53	-70	-67	-32	-23	-55	-8	**-47**
MID RMS-17	200	201	200	199	0	200	200	198	**2**
MWD RMS-1	24	-53	-89	-94	-67	-3	-70	-14	**-56**
MWD RMS-2	7	-58	-87	-88	-21	-48	-69	-37	**-32**
MWD RMS-3	-6	-79	-105	-105	-46	-48	-94	-56	**-38**
MSB03B	69	54	43	50	-29	90	61	52	**9**
MSB03C	16	-1	-7	-5	-81	86	5	5	**0**
MSB04B	58	-30	-36	-36	-43	14	-29	29	**-58**
MSB05A	77	43	37	42	-29	78	49	63	**-14**
MSB05B	43	6	1	7	-52	69	17	26	**-9**
MSB06A	68	46	38	38	-23	60	37	51	**-14**
MSB06C	63	36	31	30	-29	57	28	48	**-20**

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RMS	MO	2025 IM	2030 IM	2035 IM	Estimated offset[1]	Simulated Fall 2039 GWE[2]	Offset-adjusted Fall 2039 GWE[3]	MT	Difference from MT[4]
MSB09C	103	59	54	53	-13	59	46	79	**-33**
MSB10C	-4	-112	-125	-123	-31	-87	-118	-62	**-56**
MSB11C	-30	-137	-156	-150	-55	-84	-139	-79	**-60**
MSB12	64	18	18	32	-73	126	53	37	**16**

Note: Groundwater elevations are in feet above mean sea level (ft msl); offsets and differences are in feet. Plan-adopted measurable objective, interim milestone, and minimum threshold. Source: 2025 Periodic Evaluation, Table 2-1, pp 25-27; 2025 Joint GSP, Appendix E.2.b, pp 3,639-3,676.

RMS = representative monitoring site; MO = measurable objective; IM = interim milestone; MT = minimum threshold; GWE = groundwater elevation.

1 - Department staff estimated an offset for each RMS from the relationship between the adopted interim milestones and the corresponding simulated groundwater elevations shown in Appendix E.2.b. The estimated offsets are approximate and are rounded to the nearest foot.

2 - Department staff estimated the simulated Fall 2039 groundwater elevation from the Projected with Projects hydrograph in Appendix E.2.b and rounded the estimate to the nearest foot.

3 - The offset-adjusted Fall 2039 groundwater elevation equals the estimated simulated Fall 2039 groundwater elevation plus the estimated offset.

4 - Difference from minimum threshold equals the offset-adjusted Fall 2039 groundwater elevation minus the applicable minimum threshold; negative values indicate projected groundwater elevations below the minimum threshold.

5 - Department staff derived the estimates graphically from the published hydrographs. The values are approximate and are presented to compare the modeled trajectory with the adopted minimum thresholds; they should not be interpreted as precise model output.

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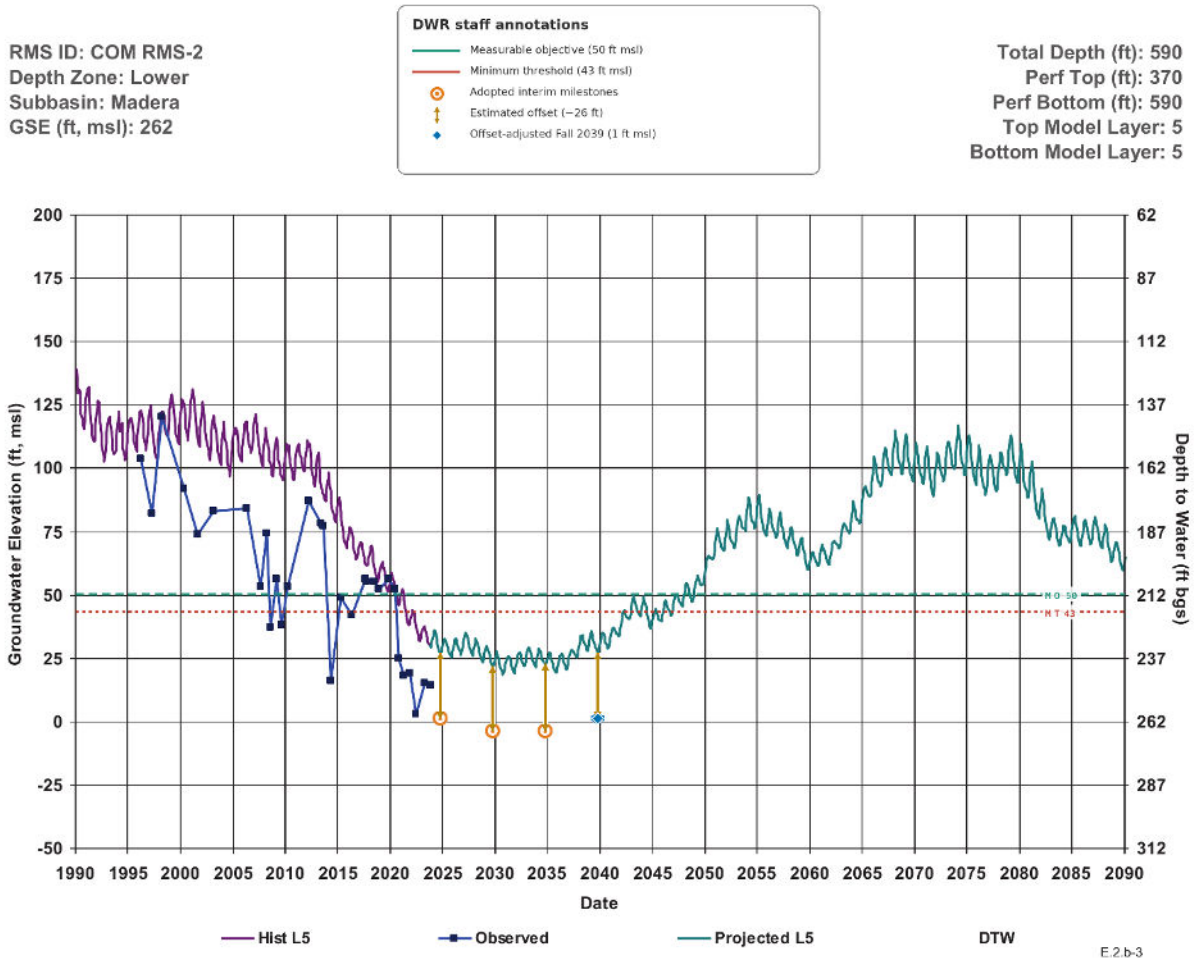


Figure 1. Illustrative calculation of the estimated offset-adjusted Fall 2039 groundwater elevation at COM RMS-2. Department staff estimated the simulated Fall 2039 groundwater elevation and the estimated offset reflected in the adopted interim milestones graphically from the Projected with Projects hydrograph. The resulting value is approximate and illustrates the methodology applied to the RMS wells summarized in Table 1. Source: 2025 Joint GSP, Appendix E.2.b, p. 3,641.

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Based on the estimates conducted by Department staff, at 31 of the 37 2025 Joint GSP RMS wells (approximately 84 percent), the estimated offset-adjusted Fall 2039 groundwater elevation remains below the applicable minimum threshold.[36] This greatly exceeds the Plan's 30 percent criterion for undesirable results and the projected shortfalls are not marginal: at 21 RMS wells, the estimated offset-adjusted Fall 2039 elevation is more than 20 feet below the applicable minimum threshold, and at eight RMS wells it is more than 50 feet below. Reasonable variation associated with Department staff's graphical estimation of projected groundwater levels and the offsets implied by the adopted interim milestones do not materially change this aggregate result.

These results reveal an apparent inconsistency that the Plan and Periodic Evaluation do not adequately address. Department staff do not treat single-year estimates as establishing that an undesirable result has occurred or will occur, and the issue is not that projected levels fall slightly below individual minimum thresholds. Rather, the projected shortfalls are widespread and, at many RMS wells, substantial, and the proportion of RMS wells projected below minimum thresholds at the end of the 20-year implementation period is nearly three times the 30 percent spatial criterion. Groundwater levels below minimum thresholds through 2040 would indicate the GSAs are unable to mitigate current levels of overdraft and constitute a further occurrence of new historical lows in the Subbasin at those locations. Together with the magnitude of the projected shortfalls, this raises a credible likelihood that those projected exceedances would persist during consecutive Fall monitoring events after 2040. The Plan relies on the Projected with Projects trajectory to establish the interim milestones and the Periodic Evaluation relies on performance relative to those milestones to support the conclusion that implementation is on track, but neither document explains how implementation consistent with that same modeled trajectory is expected to produce groundwater conditions that avoid the undesirable result and achieve the sustainability goal, as defined by the Plan, by 2040.

The Plan's objective of balancing long-term groundwater system inflows and outflows by 2040[37] does not resolve this deficiency. A projected balance between inflows and outflows may arrest continued groundwater depletion, but it does not, by itself, demonstrate achievement of the sustainability goal; groundwater levels could stabilize below the levels necessary to avoid the Plan-defined undesirable result for chronic lowering of groundwater levels. The GSAs state that undesirable results are defined to occur only during the sustainability period after 2040, not during the implementation period. However, SGMA does not excuse undesirable results that first occur after January

[36] Department staff's analysis is limited to the 37 groundwater-level RMS wells in the 2025 Joint GSP, for which Appendix E.2.b provides projected hydrographs extending beyond 2040. The Plan's groundwater level RMS network includes 53 wells across the four GSPs; the 16 RMS wells in the Gravelly Ford, New Stone, and Root Creek GSP areas were not evaluated because comparable projections were not provided. 2025 Joint GSP, Appendix E.2.b, pp. 3,639-3,676; Periodic Evaluation, Appendix 2.C, Table 2.C-1, pp. 624-626.

[37] 2025 Joint GSP, Section 3.1.1, p. 274.

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1, 2015, and it requires the sustainability goal, including the absence of undesirable results, to be achieved within 20 years of Plan implementation.

Department staff recognize that SGMA does not require every RMS well to remain above its minimum threshold at all times and that an exceedance at an individual RMS does not necessarily constitute an undesirable result. Department staff's review is conducted with the understanding that the Plan anticipates groundwater levels below minimum thresholds throughout the implementation period as overdraft is halted and groundwater levels recover to historical levels by 2040. What the adopted interim milestones should show, therefore, is when recovery is anticipated to occur. However, at 22 of the 37 2025 Joint GSP RMS wells, the adopted 2035 interim milestone is at or below the adopted 2030 interim milestone — at 17 wells it is lower, and at five it is unchanged. Of the 15 wells where the 2035 milestone is higher than the 2030 milestone, most rise by only a few feet. At 34 of the 37 RMS wells, groundwater levels must then rise between 2 and 80 feet from the adopted 2035 interim milestone to reach the applicable minimum threshold, and at 32 of the 37 RMS wells that required rise is larger than the total change in the adopted milestones over the preceding ten years. For example, at MWD RMS-1 the adopted milestones decline 41 feet between 2025 and 2035 and must then rise 80 feet by 2040; at MID RMS-3 they decline 12 feet and must then rise 72 feet.[38] Simply put, the data and management approach indicate a significant potential for Plan implementation in the last 5-year period to be unable to reverse groundwater declines apparently allowed during the preceding 15-year management period. The Plan does not identify the projects or management actions expected to produce recovery of that magnitude within the final five years of the implementation period, or explain why recovery is anticipated to occur then rather than earlier.

The Department also recognizes that the GSAs may adapt or revise sustainable management criteria or the suite of projects and management actions as implementation proceeds due to changing basin conditions or improved understanding.[39] The mere possibility of future adaptive management, however, does not resolve the apparent inconsistency or describe a reasonable or likely path to sustainability. If the GSAs rely on adaptive management to support their conclusion that the Plan remains likely to achieve sustainability, they must provide sufficient technical information explaining that reliance. Over the first five years of implementation, the GSAs have fallen short in providing detailed benefits of the project and management actions claimed to be under implementation in a manner which aligns with anticipated benefits outlined in the Plan. Any delays should be explained and adaptive management clearly identified. As an example, the Demand Management Program progress and actual benefits should be clearly identified and how it compares to the planned benefits in the Plan should be clearly explained. While staff understand there have been delays due to litigation, the Plan has not explained how it will recover (i.e., make-up or offset) expected benefits that were lost

[38] Periodic Evaluation, Table 2-1, pp. 26-27; 2025 Joint GSP, Table 3-3, pp. 283-284.
[39] 2025 Joint GSP, Section 3, p. 272, Periodic Evaluation, Section 3, p. 56.

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as a result of missed or delayed Demand Management implementation. While the assessment has thus far been focused on groundwater levels, these concerns also extend to the impacts on subsidence. Given that this Subbasin is experiencing subsidence, the need to understand anticipated subsidence given projected groundwater levels is imperative. It is unclear how future groundwater levels prior to the basin reaching sustainability will impact subsidence. In addressing this deficiency, the GSAs must also evaluate the ability of the Subbasin to achieve sustainability for subsidence under groundwater levels planned for or allowed under the Plan.

2.1.3 2026 Corrective Action 1

The GSAs must address this deficiency in a coordinated manner throughout the Subbasin. The GSAs must revise the Plan or provide additional technical information sufficient to reconcile the Plan's sustainability goal, sustainable management criteria, interim milestones, projected groundwater conditions, and projects and management actions. The response must clearly demonstrate a reasonable and technically supported path by which Plan implementation is likely to achieve the sustainability goal and avoid the Plan-defined undesirable results by 2040 for all applicable sustainability indicators.[40]

The response must reconcile the Plan's reliance on model-derived interim milestones with projected groundwater levels from that same modeled trajectory that appear to remain below the applicable minimum thresholds at Plan RMS wells near the end of the implementation period. It must provide sufficient information and technical explanation for the Department to evaluate the Plan's spatial and temporal undesirable-result criteria at and after 2040.

The Department is not prescribing a particular method for addressing this deficiency. The GSAs may clarify or correct the technical analysis, revise Plan implementation, revise other Plan components with adequate technical support, or otherwise demonstrate that the apparent inconsistency does not prevent achievement of the sustainability goal. Any revisions to the sustainable management criteria must be adequately justified, consider effects on beneficial uses and users, and comply with SGMA and the GSP Regulations; merely conforming the sustainable management criteria to projected conditions without the required support would not resolve the deficiency.

2.2 Deficiency 2 (2026) – The Plan's land subsidence sustainable management criteria and monitoring network do not demonstrate that subsidence is being evaluated where it is occurring and where critical infrastructure is located.

2.2.1 Background

The GSP Regulations require a Plan to describe the extent and annual rate of land subsidence, including maps depicting the geographic distribution of subsidence and total

[40] CWC § 10727.2(b)(1); 23 CCR §§ 354.24, 354.30(e), 355.6(d)(2)(A)–(B), and 355.6(e).

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cumulative subsidence, utilizing data available from the Department or the best available information.[41] The minimum threshold for land subsidence shall be the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results, and must be supported by identification of land uses and property interests that have been affected or are likely to be affected by land subsidence, including an explanation of how the GSA has determined and considered those uses and interests, and the rationale for establishing minimum thresholds in light of those effects.[42]

The monitoring network must identify the rate and extent of land subsidence, which may be measured by extensometers, surveying, remote sensing technology, or other appropriate method, and must be designed to ensure adequate coverage of the sustainability indicators and to monitor impacts to the beneficial uses and users of groundwater.[43] The designation of a representative monitoring site must be supported by adequate evidence demonstrating that the site reflects general conditions in the area,[44] and GSAs must adjust the frequency and density of monitoring to assess the effectiveness of management actions where minimum thresholds are exceeded or conditions are highly variable.[45]

2.2.2 Deficiency Detail

As explained above in Section 2.1.2, while there are multiple GSPs covering the Subbasin, the GSPs largely share the same data and methodology in management of land subsidence. Department staff's assessment, therefore, while it largely references material in the 2025 Joint GSP, is intended to apply to the Plan for the Subbasin as a whole.

Department staff acknowledge the GSAs have made progress on managing land subsidence since the initial Plan submission. The Department initially identified a deficiency related to land subsidence in the 2020 Plan; the GSAs addressed that deficiency in the revised 2023 Plan, and the Department approved the 2023 Plan with recommended corrective actions, including reevaluating the undesirable result to consider localized subsidence in the north-northwestern portion of the Subbasin, identifying the cumulative subsidence that would substantially interfere with beneficial uses and users, reevaluating the application of measurement uncertainty, and considering use of InSAR data provided and made publicly available by the Department.[46]

In the 2025 Plan, in response to the recommended corrective action, the GSAs revised the quantitative criteria definition of undesirable result for land subsidence from 75 percent to 25 percent of RMS, established a maximum of two feet of additional cumulative

[41] 23 CCR § 354.16(e).
[42] 23 CCR § 354.28(c)(5).
[43] 23 CCR § 354.34(b)(2), (c)(5), (d).
[44] 23 CCR § 354.36(c).
[45] 23 CCR § 354.38(e)(1)-(2).
[46] 2023 Staff Report, Statement of Findings, p. 5; Section 4.3.2, p. 31; Section 6, Recommended Corrective Action 4, pp. 63-64; https://sgma.water.ca.gov/portal/gsp/assessments/61.

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subsidence between December 2023 and January 2040 with interim milestones that step down to zero by 2040, completed an updated Infrastructure Assessment and interviews with critical infrastructure owners and operators, continued work on a Subsidence Data Gaps Workplan, and committed to evaluating Department InSAR data annually.[47] While the GSAs have made significant changes to the Plan to address recommended corrective actions related to subsidence, in practice, Department staff conclude a deficiency remains related to the manner in which GSAs are managing and monitoring for subsidence in the Subbasin.

The Plan establishes sustainable management criteria for land subsidence that allow subsidence to occur until 2040, when subsidence rates are expected to slow to near zero. Specifically, while the minimum threshold and measurable objective are both set at 0.00 feet of subsidence per year subject to a measurement uncertainty, the adopted interim milestones permit subsidence to occur in five-year intervals until 2040. The interim milestones allow 1.5 foot of subsidence from 2020 to 2025, 1.0 foot from 2025 to 2030, 0.5 feet from 2030 to 2035, and 0.25 feet from 2035 to 2040, resulting in 3.25 feet of total cumulative subsidence between 2020 and 2040. These cumulative totals are also expressed as maximum average annual rates of subsidence: 0.2 feet per year from 2025 to 2030, 0.1 feet per year from 2030 to 2035, and 0.05 feet per year from 2035 to 2040; the rate for 2020 to 2025 is not specified in the Plan.

In the Periodic Evaluation, the GSAs provide an evaluation of conditions to assess performance of subsidence sustainable management criteria for the first five years of implementation.[48] Subsidence monitoring data from the San Joaquin River Restoration Program, assessing cumulative subsidence at the nine RMS locations is shown to not exceed the 2020 to 2025 interim milestone of 1.5 feet. The GSAs conclude this “indicates that the Subbasin is on track toward sustainability.”[49] This conclusion, however, does not consider the data provided in annual reports showing maps of cumulative subsidence has reached levels beyond the 1.5-feet limit in areas of the basin with critical infrastructure.

In the annual reports, the GSAs have provided figures, such as Figure 2, which overlay InSAR data with the subsidence RMS network, which consists of eight survey monuments and one continuous GSP station.[50] The figures in the annual reports demonstrate that the RMS locations are not in areas of greater subsidence in the Subbasin and that the area of greater subsidence is coincident with flood control infrastructure. After review of the figures provided by the GSAs in the Periodic Evaluation and annual reports, Department staff conclude the Subbasin has experienced a maximum of three feet subsidence between December 2019 – December 2025 which indicates the 2025 interim milestone was likely exceeded.

[47] 2025 Joint GSP, Section 3.2.3.2, pp. 286-287; Section 3.4.3, pp. 326-329; Section 3.5.1.3, p. 339; Section 4.9.5.2, p. 433; Appendix 3.G, pp. 1,588-1,620; Appendix 3.H, p. 1,621.
[48] Periodic Evaluation, Table 2-8, p. 52; Figure 2-6, p. 53.
[49] Periodic Evaluation, Section 2.4.4, p. 51.
[50] 2025 Joint GSP, Figure 3-3, p. 354.

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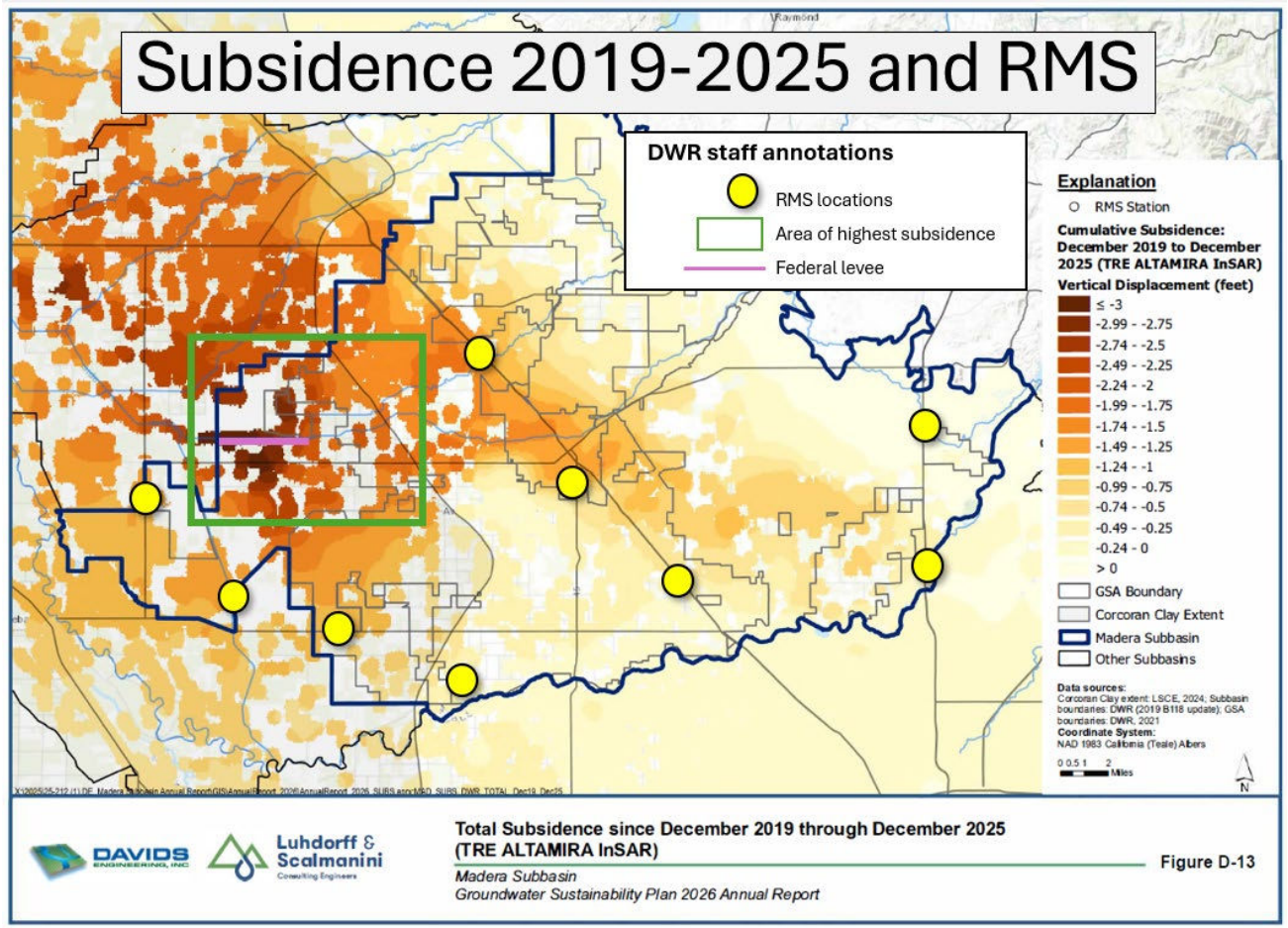


Figure 2. Map of subsidence occurring in the Madera Subbasin using InSAR from December 2019 through December 2025 showing areas of the basin are experiencing nearly three feet of cumulative vertical displacement. On the map, staff have annotated nine RMS locations that constitute the land subsidence monitoring network in yellow circular overlays, the area of highest subsidence in the basin with a green-outlined box, and the location of a portion of the Fresno River federal levee system within the area of highest subsidence. The annotations clearly show that RMS locations are not located in areas of the Subbasin experiencing greater subsidence and where critical infrastructure is located. Source: Water Year 2025 Annual Report, Figure D-13, p. 209 with annotation by Department staff.

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The Plan indicates management will include and consider InSAR data and the figures generated for the annual reports include InSAR data, but the GSAs do not appear to be utilizing the InSAR data to fill the data gaps not covered by the RMS network to assess consistency with sustainable management criteria, especially for the areas of greater subsidence. While the survey monuments and GPS station are located at the southwest and southeast edges of the Subbasin, and along Highway 99, publicly available information shows that the highest amount of cumulative subsidence from 2015-2025 is in the northwestern portion of the Subbasin, where federal levees on the Fresno River are present.[51] The Plan does not explain how the RMS for subsidence is sufficient to cover areas within the Subbasin that are experiencing the highest rates of subsidence or areas where key critical infrastructure are likely affected by subsidence, such as where federal levees are located. Department staff are unclear if this is an oversight or if, in fact, InSAR is not being leveraged to inform management in areas outside the apparent scope of the RMS network as indicated or suggested in the Plan. While InSAR is not necessarily required to be used by GSAs, the Subbasin must be adequately monitored for compliance with SGMA and the GSP Regulations. Department staff conclude that the current subsidence network is not representative and the GSAs need to revise the network and/or methodology for measuring and monitoring subsidence to adequately address subsidence consistent with SGMA and the GSP Regulations.

InSAR data for the Subbasin is publicly available from the Department, and the 2025 Plan's Subsidence Workplan describes expansion of the subsidence monitoring to better characterize the spatial distribution of subsidence as a key objective.[52] Department InSAR data show up to approximately 2.8 feet of cumulative subsidence between January 1, 2020, and January 1, 2025, nearly twice the 1.5-foot cumulative interim milestone for 2025, in an area without a RMS. However, the submitted materials do not demonstrate that subsidence sustainable management criteria are being evaluated across the Subbasin at the locations of the critical infrastructure identified in the Infrastructure Assessment.[53] Department staff need the GSAs to clarify how sustainable management criteria for subsidence within the Subbasin are being monitored because interim milestones are being exceeded.

The Plan states that "if rates of subsidence exceed the interim milestones, this will trigger additional management actions by the GSAs to achieve sustainability" implying the GSAs intend to actively address subsidence in the basin.54 Because Department staff have concluded there is an interim milestone exceedance related to subsidence, the GSAs are expected to implement measures described in the Plan or to consider other actions or responses. At this time, it is unclear to Department staff whether projects and management actions are being implemented or advanced considering and addressing the exceedance. Department staff conclude the GSAs must provide greater clarity

[51] https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer
[52] 2025 Joint GSP, Appendix 3.H, p. 1628.
[53] 2025 Joint GSP, Section 3.5.1.3, p. 339; Section 4.9.5.2, p. 433; Appendix 3.G, p. 1608.
[54] 2025 Joint GSP, Section 3.2.3.2, p. 286.

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regarding how subsidence in the Subbasin is being managed in practice, including how projects and management actions are being implemented in response to the exceedance.

2.2.3 2026 Corrective Action 2

To address the deficiency, the GSAs should:

1. Consistent with GSP Regulations section 355.4(e)(1), revise the Plan's land-subsidence monitoring network to be representative of, and adequate to manage, subsidence in the entire Subbasin. The revised network must provide adequate spatial and temporal coverage in areas of greatest observed subsidence and along or near infrastructure that could be substantially interfered with by subsidence, including the northwestern Subbasin and the Fresno River federal levee system. The revised monitoring network must be capable of timely detection, evaluation, and management of subsidence where it is occurring and where critical infrastructure is located throughout the basin. The GSAs must:

    a. Add representative monitoring sites or other appropriate methods where the existing network is not representative, or provide a technically supported demonstration that InSAR combined with existing ground-based measurements provides equivalent coverage;

    b. Establish the monitoring frequency, data processing methods, reference period, measurement uncertainty, quality assurance and quality control procedures, and criteria for validating remote sensing results with ground-based observations. If InSAR is used, some of these requirements will not be necessary.

2. Provide a robust explanation of how the subsidence sustainable management criteria are evaluated in the entire Subbasin utilizing the updated representative monitoring network and clearly describe how the GSAs will detect both localized and Subbasin-wide exceedances and evaluate potential interference with identified infrastructure or other properties or surface land uses.

3. The GSAs should also identify quantitative triggers for increased monitoring and implementation or acceleration of projects and management actions when subsidence approaches or exceeds an interim milestone or threatens substantial interference with infrastructure or other properties or surface land uses. The GSAs should specifically explain how projects and management actions have been advanced in response to current interim-milestone exceedances. The description should include an implementation schedule, responsible GSA(s) or coordinating entity, funding source, and annual reporting protocol.

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CONCLUSION

Department staff recommend an **INCOMPLETE** determination for the Plan due to two deficiencies that preclude approval at this time. The deficiencies are related to the staff's inability to determine if the Plan is likely to achieve the sustainability goal and avoid the Plan-defined undesirable results by 2040, and the coverage and use of the land subsidence monitoring network and the methodology for detecting or determining when exceedances of subsidence sustainable management are occurring and potentially impacting critical infrastructure or other surface properties or uses.[55] Department staff believe the GSAs may be able to correct these deficiencies within 180 days through the corrective actions described in Section 2.

[55] 23 CCR §§ 355.4(b), 355.6(a), (c)(1), (c)(4), and (d)(2).

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APPENDIX A: PERIODIC REVIEW SCOPE AND CRITERIA

Overview

At least every five years after the initial submission of a groundwater sustainability plan (GSP or Plan) prepared pursuant to Water Code Section 10733.4, the Department of Water Resources (Department or DWR) is required to review any available Plan, as well as any alternative[1] submitted in accordance with Water Code Section 10733.6.[2] The Department is required to periodically review an approved GSP to ensure it remains consistent with the objectives of SGMA and continues to substantially comply with the GSP Regulations.[3] The Department is also required to ensure that an approved GSP is being implemented in a manner that will likely achieve the basin's sustainability goal.

The Department GSP Regulations also state that the Department will review amended Plans.[4] When a GSA has submitted an amended Plan in conjunction with its Periodic Evaluation, the Department will issue a single determination at the conclusion its Periodic Review intended to cover both the adequacy of Plan implementation and any revisions or amendments to a Plan.

Scope of Periodic Review

The Department's review of Plans is defined by SGMA's express statutory delegation and directive to evaluate specific technical aspects of plans (e.g., conformance with Water Code Sections 10727.2 and 10727.4, likelihood of achieving the sustainability goal for the basin, whether the Plan adversely affects SGMA efforts in an adjacent basin, etc.).[5] The Department's authority to review Plans does not extend to every legal requirement potentially applicable to a GSA when adopting or implementing Plans (e.g., open meeting laws, conflict of interest laws, revenue raising and finance laws, the California Environmental Quality Act (CEQA), and other constitutional or common law claims). SGMA does not authorize or direct the Department to interject and resolve these extraneous issues into its Plan evaluation and assessment process.

Several issues that have been among the most frequently received public comments that lie outside the scope of the Department's plan evaluations under SGMA merit further discussion: water rights, the California Constitution's prohibition on the waste or unreasonable use of water, and the common law public trust doctrine.

Water Rights

The Department's review of a GSP does not include a determination of any water rights in a basin, nor whether a GSP violates individual or collective water rights in a basin.

[1] 23 CCR § 358.2.
[2] 23 CCR § 358.4.
[3] 23 CCR § 355.6.
[4] 23 CCR § 355.10.
[5] Water Code §§ 10733, 10733.4, 10733.8.

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SGMA expressly states: "The approval of a groundwater sustainability plan by the department shall not be construed to be a determination by or otherwise an opinion of the department that the allocation of groundwater pumping rights in the plan are consistent with groundwater rights law."[6] This section was enacted by the Legislature in 2022 (SB 1372), and the June 14, 2022 analysis prepared by the Assembly Committee on Water, Parks, and Wildlife states that the argument in support is that it clarifies the legislative intent in that "given the numerous GSPs that have and continue to be approved by DWR this clarification is necessary to ensure there is no infringement on water rights, which is for the courts to determine, not DWR." SGMA also states "[w]ater rights may be determined in an adjudication action…."[7] Consequently, during GSP evaluations under SGMA, the Department does not review or determine water rights, or assess whether a GSP's characterization of water rights is accurate. Water rights issues or disputes regarding a GSP or its implementation should be resolved via other appropriate means.

Waste and Unreasonable Use of Water

Article X, Section II of the California Constitution declares that California's water resources must be put to beneficial use to the fullest extent possible, and that waste, unreasonable use, or unreasonable methods of diversion are prohibited. For the same reasons as described for water rights, the Department does not evaluate or enforce compliance with Article X, Section 2 when conducting technical sustainability evaluations of plans as directed under SGMA (i.e., Water Code Sections 10733, 10733.4, 10733.8.).

The Public Trust Doctrine

SGMA does not direct the Department to invoke or apply the public trust doctrine during its Plan evaluations, or to find that a GSP that otherwise satisfies the applicable provisions of SGMA and the GSP Regulations should nonetheless be determined incomplete or inadequate under SGMA on public trust grounds. The legislature's intent in enacting SGMA was to promote local control and to minimize state intervention to only where necessary to achieve sustainable groundwater management. For the Department to unilaterally invoke and inject into SGMA the public trust doctrine to find a plan inadequate or in need of modification, would be contrary to the legislative intent and scope of SGMA.

Additionally, the Department has a duty to consider potential impacts to public trust resources only when its actions will actually cause impacts to public trust resources. Here, the Department's action is merely the administrative review of a GSP already prepared and previously adopted by a local GSA. This is a purely administrative exercise requiring application of the Department's expertise and judgement to prepare a report, release of DWR's report causes no actual impacts or changes to the existing physical conditions in a basin. Therefore, as determined in the Department's CEQA notice of exemption for the GSP evaluation for this basin, there are no reasonably foreseeable impacts to public trust

[6] Water Code § 10738.
[7] Water Code § 10720.5(c).

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resources from the Department's issuance of its assessment evaluating and approving the technical merits of this GSP.

Information used in Periodic Review

To conduct its Periodic Review, the Department primarily will rely on the Periodic Evaluation and any Plan amendments or revisions and other information submitted by the GSA; however, the Department may also consider other available information. The Department's Periodic Review also uses information provided in the Annual Reports prepared in accordance with Section 356.4 of the GSP Regulations and considers public comments submitted to the Department.

Periodic Review Criteria

The Department considers the following in determining whether a GSP and its implementation remains consistent with SGMA and the GSP Regulations:[8]

- Whether the exceedances of any minimum thresholds or failure to meet any interim milestones are likely to affect the ability of the local agencies and/or GSAs in the basin to achieve the basin's sustainability goal.
- Whether the local agencies and/or GSAs in the basin are implementing projects and management actions consistent with the GSP, or that the local agencies and/or GSAs have demonstrated that actions described in the GSP have been rendered unnecessary based on changing basin conditions or an improved understanding of basin conditions.
- Whether the local agencies and/or GSAs are addressing data gaps in the basin and reducing the levels of uncertainty identified in the GSP.
- Whether the GSP continues to satisfy the criteria described in Section 355.4 of the GSP Regulations.

Following its Periodic Review of the approved GSP, the Department is required to issue a written assessment of its findings and potentially make a new determination of the GSP's status, as follows: approved,[9] incomplete,[10] or inadequate.[11] The assessment may recommend corrective actions to address any new or remaining regulatory deficiencies identified by the Department.

As defined in the GSP Regulations, the Department may request any information it deems necessary to evaluate the progress toward achieving the basin's sustainability goal and the potential for adverse effects on adjacent basins.[12] Additionally, the Department may

[8] 23 CCR § 355.6(c).
[9] 23 CCR § 355.6(d)(1).
[10] 23 CCR § 355.6(d)(2).
[11] 23 CCR § 355.6(d)(3).
[12] 23 CCR § 355.6(e).

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evaluate the implementation of a GSP at any time to determine whether it is consistent with the objectives of SGMA and substantial compliance with the GSP Regulations.[13]

[13] 23 CCR § 355.6(f).