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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

October 8, 2026

Sierra Ryan
Santa Cruz Mid-County Groundwater Agency GSA
5180 Soquel Drive
Soquel, CA 95010
BasinPOC@midcountygroundwater.org

RE: Santa Cruz Mid-County Basin (No. 3-001) – 2026 Periodic Review Approved Determination

Dear Sierra Ryan,

The Department of Water Resources (Department) has conducted its periodic review of the groundwater sustainability Plan (GSP or Plan) for the Santa Cruz Mid-County Basin (Basin) and has determined the Plan as implemented is approved. The approval is based on recommendations from the Staff Report, included as an exhibit to the attached Statement of Findings, which describes that the Santa Cruz Mid-County Basin GSP, as implemented, remains consistent with the objectives of the Sustainable Groundwater Management Act (SGMA) 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. The Staff Report also proposes recommended corrective actions that the Department believes will enhance the Plan and its implementation and facilitate future evaluation by the Department. The Department strongly encourages the recommended corrective actions be given due consideration and suggests incorporating all resulting changes to the GSP in future revisions.

Recognizing SGMA sets a long-term horizon for groundwater sustainability agencies (GSAs) to achieve their basin sustainability goals, monitoring progress is fundamental for continued successful implementation of the Plan. GSAs are required to evaluate their GSPs at least every five years and whenever the GSP is amended, and to provide a written assessment to the Department. Accordingly, the Department will evaluate approved GSPs and issue an assessment at least every five years. The Department will initiate the second periodic review of the Santa Cruz Mid-County Basin GSP no later than January 30, 2030.

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Please contact Sustainable Groundwater Management staff by emailing sgmps@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 Approval of the Santa Cruz Mid-County Basin 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 APPROVAL OF THE SANTA CRUZ MID-COUNTY BASIN 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 continues to be 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 GSAs (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 Plan submitted without amendments by the Santa Cruz Mid-County Groundwater Agency Groundwater Sustainability Agency (GSA or Agency) for the Santa Cruz Mid-County Basin (Basin No. 3-001) and its implementation.

Department management has discussed with staff the Plan and its implementation and has reviewed the Department Staff Report entitled 2026 Periodic Review Assessment Staff Report, attached as Exhibit A, recommending approval of the Santa Cruz Mid-County Basin GSP which was originally submitted on January 30, 2020, and approved by the Department on June 3, 2021. Department management is satisfied that staff have conducted a thorough evaluation and assessment of the Plan and its implementation and concurs with staff's recommendation and all the recommended corrective actions. The Department therefore **APPROVES** the Plan and its implementation and makes the following findings:

A. The Department finds that the Plan remains consistent with SGMA 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 because:

    1. The exceedances of any minimum thresholds or failure to meet any interim milestones at this time do not appear likely to affect the ability of the Agency to achieve the sustainability goal for the Basin within 20 years of implementation of the Plan (23 CCR Section 355.6(c)(1)). However, the Department recommends that the Agency carefully evaluate such exceedances and take appropriate action to adjust management

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accordingly in order to ensure that the Basin remains on track to achieve its sustainability goal.

2. The Agency has demonstrated progress towards implementing projects and management actions consistent with the Plan (23 CCR § 355.6(c)(2)). Notwithstanding the fact that some projects and management actions described in the Plan may be facing a delay in implementation, the Agency has initiated the Pure Water Soquel and Aquifer Storage and Recovery projects, which are expected to offset the groundwater storage overdraft, raise groundwater levels above seawater intrusion thresholds, and raise near-stream shallow groundwater levels to prevent interconnected surface water depletion once fully operational by the next periodic evaluation cycle. If the planned projects do not yield the expected benefits, the Agency will rely on adaptive management strategies or implement additional supplemental projects to achieve sustainability.
3. The Agency is addressing data gaps and reducing the levels of uncertainty identified in the Plan (23 CCR § 355.6(c)(3)).
4. As explained in the attached Staff Report, the Plan continues to satisfy the criteria described in 23 CCR § 355.6(c)(4), as applicable.

B. Furthermore, the Department also finds that the Plan sufficiently demonstrates its ability to achieve the objectives of SGMA at this time because:

1. The Agency has taken steps to improve the Plan by considering and addressing the recommended corrective action previously provided by staff. To ensure that the Plan continues to satisfy SGMA objectives and substantially comply with the GSP Regulations, staff have provided additional recommended corrective actions for the Agency to consider by the next Periodic Evaluation of the Plan.

C. The Department also finds:

1. The Department developed its GSP Regulations consistent with and intending to further the State's human right to water policy through implementation of SGMA and the Regulations, primarily by achieving sustainable groundwater management in a basin. By ensuring substantial compliance with the GSP Regulations, the Department has considered the state policy regarding the human right to water in its periodic review of the Plan. (Water Code § 106.3; 23 CCR § 350.4(g)).
2. The California Environmental Quality Act (CEQA) (Public Resources Code § 21000 et seq.) does not apply to the Department's periodic review and assessment of the Plan and the Department's evaluation is statutorily or categorically exempt from CEQA.

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Accordingly, the Plan for the Santa Cruz Mid-County Basin and its implementation by the Agency is hereby **APPROVED.** The recommended corrective actions identified in the attached Staff Report will assist the Department's future review of the Plan's implementation for consistency with SGMA, and the Department, therefore, recommends the Agency address them by the time of the Department's next periodic review, which is set to begin on January 30, 2030, as required by Water Code § 10733.8. Failure to address the Department's recommended corrective actions before future, subsequent Plan evaluations, may lead to the Plan being determined incomplete or inadequate.

Signed:

Tom Gibson
_____

Tom Gibson, Director
Date: October 8, 2026

Exhibit A: 2026 Periodic Review Assessment Staff Report – Santa Cruz Mid-County Basin

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

Groundwater Basin Name:	Santa Cruz Mid-County Basin (No. 3-001)
Submitting Agency:	Santa Cruz Mid-County Groundwater Agency Groundwater Sustainability Agency (GSA)
Periodic Review Start Date:	January 30, 2025
Groundwater Sustainability Plan:	Santa Cruz Mid-County Groundwater Basin Groundwater Sustainability Plan (November 2019)
Periodic Evaluation:	Santa Cruz Mid-County Groundwater Basin Groundwater Sustainability Plan 2025 Periodic Evaluation (January 2025)
Staff Recommendation:	Approved
Date:	October 8, 2026

Pursuant to the Sustainable Groundwater Management Act (SGMA or Act)[1] and the Groundwater Sustainability Plan Regulations (GSP Regulations),[2] the following addresses the Department of Water Resources' (Department) responsibility to periodically review and evaluate approved groundwater sustainability plans (GSPs or Plans). The Department is required to ensure the 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] Detailed Periodic Review Criteria describing the applicable legislative requirements and the Department's evaluation criteria for an approved GSP's periodic review is included in Appendix A.

On January 30, 2025, the Department initiated its Periodic Review of the 2019 Santa Cruz Mid-County Basin GSP (2019 GSP),[4] incorporating the 2025 Periodic Evaluation[5] (Periodic Evaluation) and annual reports[6] submitted by the Santa Cruz Mid-County Groundwater Basin Groundwater Sustainability Agency (GSA) for the Santa Cruz Mid-County Basin (Basin). Based on this review, Department staff recommend **APPROVAL** of the Plan with new recommended corrective actions (RCAs), as applicable, believing

[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/preview/11
[5] https://sgma.water.ca.gov/portal/gsp/periodiceval/preview/13
[6] https://sgma.water.ca.gov/portal/gspar/submitted

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

that the Plan is being implemented in a manner likely to achieve the Basin's sustainability goal. This report was prepared at the conclusion of Department staff's evaluation process to synthesize Department staff's evaluation and its conclusions, and to convey and explain staff's recommendations.

This assessment includes the following sections:

- **Section 1 – Staff Recommendation for Plan: Approved**: Outlines Department staff's recommendation to approve the Plan and the key factors supporting that approval.
- **Section 2 – Periodic Review and Recommended Corrective Actions**: Department's evaluation of an approved Plan and its implementation, in accordance with the GSP Regulations.[7] The evaluation is based on all available information, primarily the basin's annual reports and periodic evaluation. It includes a full description of any recommended corrective actions. If a GSA submits Plan amendments or revisions as part of its periodic evaluation, staff's evaluation of that content will also be included in this section.
- **Section 3 – Conclusion**: A summary of the staff recommendation, recommended corrective actions, required Monitoring Network Module and Project and Management Action Module updates, and additional technical feedback including considerations for the next periodic evaluation.

1 STAFF RECOMMENDATION FOR PLAN: APPROVED

Department staff recommend approving the Santa Cruz Mid-County Basin GSP with new recommended corrective actions focused on: (1) improving groundwater quality monitoring and trend evaluation and (2) reevaluating sustainable management criteria for depletions of interconnected surface water (ISW), as described in Section 2 of this staff report. Although the Basin is currently experiencing GSP-defined undesirable results for seawater intrusion, groundwater storage, and ISW, staff conclude that the GSA has made progress toward the Basin's sustainability goal and note that conditions remain generally stable across most of the Basin outside the affected areas. Of particular significance, the GSA reports that the Pure Water Soquel (PWS) and Aquifer Storage and Recovery (ASR) recharge projects are expected to be fully implemented within the next periodic evaluation cycle. Based on this progress and the generally stable conditions across most of the Basin, Department staff conclude, at this time, that the GSP remains capable of achieving sustainability within SGMA's 20-year Plan implementation timeline.[8]

Staff also note that groundwater management activities remain largely consistent with those described in the previously approved GSP and are aware of no new information

[7] 23 CCR § 355.6 *et seq*.
[8] Water Code § 10727.2(b)(1).

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

indicating the Plan cannot achieve sustainability within the SGMA timeframe. Overall, Department staff believe the GSA is taking appropriate actions to understand and address the undesirable results by investigating chloride concentration increases, reducing nearshore pumping, and advancing recharge projects that will benefit coastal areas and help mitigate overdraft.

Key Factors Supporting Approval Recommendation

- Seawater intrusion continues to occur in the Basin; however, the affected area is relatively small (primarily confined to the "Seascape area"), where known impacts are limited.[9] Minimum threshold exceedances for seawater intrusion are expected to be resolved through planned projects and management actions.[10] The PWS project, in particular, is designed to recharge purified recycled water at three coastal wells to raise groundwater levels above seawater intrusion thresholds, helping reverse rising chloride concentrations in nearby wells.[11]
- The recharge benefits anticipated by the GSA from the PWS and ASR projects appear likely to offset the overdraft deficit and eliminate undesirable results associated with change in storage.[12]
- PWS is expected to raise near-stream shallow groundwater levels and prevent ISW depletions minimum threshold exceedances, and combined PWS and ASR benefits are projected to increase shallow groundwater levels to measurable objectives in ISW representative monitoring wells.[13]
- Department staff consider the projects and management actions (though delayed) to remain consistent with the 2019 GSP and technically feasible for achieving the Basin's sustainability goal. If the anticipated benefits from the PWS and ASR projects are not sufficient to avoid undesirable results or meet future drought demands, the GSA indicates it is evaluating adaptive management strategies, including optimizing or expanding these projects, or will implement additional Group 3 supplemental projects, such as demand management, if needed.[14]
- Efforts to fill data gaps, including well metering and seawater intrusion studies, are completed or underway and will be used by the GSA to support future assessments and inform the need for additional projects or management actions to achieve sustainability.[15]

[9] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.5.1, pp. 63 and 65.
[10] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.4.1, p. 59, Section 4.4.2, p. 62, Section 4.5.1, pp. 65 and 73, Section 4.5.2, p. 78, Table 5-1, p. 101, Section 5.1.2.1, pp. 104-105.
[11] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.5.1, p. 65, Section 5.1.2.1, pp. 104-105.
[12] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.8.1, p. 94.
[13] Santa Cruz Mid-County WY 2025 Annual Report, Section 3.6, p. 70.
[14] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.3, p. 107, Section 5.2, pp. 109-110; Santa Cruz Mid-County 2019 GSP, Section 4, p. 367, Section 4.3, pp. 396-402.
[15] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 11, pp. 150-151; Santa Cruz Mid-County WY 2025 Annual Report, Section 3.3.1, pp. 59-60, Section 3.10, p. 78.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

- The GSA has considered beneficial uses and users of groundwater and ISW, and no public comments identified any unaddressed impacts that Department staff believe would require changes to the GSA's approach. Historical pumping reductions have helped maintain generally stable conditions across much of the Basin, and the Department is not aware of information contradicting either point. Taken together, these factors suggest a low near-term risk of significant impacts to beneficial uses and users.
- The GSA continues to coordinate with adjacent basins, and the Department is aware of no evidence indicating that implementation of the Plan is adversely affecting these basins.[16]
- The GSA sufficiently responded to the Department's 2021 recommended corrective actions.[17]

To further support the GSA, Department staff have provided some additional considerations and technical feedback in Section 3 of this staff report, which staff believe may be relevant and important to consider or include when preparing the Basin's next periodic evaluation.

2 Periodic Review and Recommended Corrective Actions

The Department's periodic review generally includes evaluating basin conditions, minimum thresholds, interim milestones, progress on projects and management actions, and efforts to address data gaps and uncertainty.[18] When the Department has issued recommended corrective actions in a previous determination, the Department will assess whether and how those recommended corrective actions have been addressed. The Department also considers whether Plan implementation is affecting an adjacent basin's ability to implement its Plan to achieve sustainability, and whether the GSA's monitoring network continues to provide adequate coverage of the basin. This section addresses Department staff's evaluation of these components.

2.1 Progress on Addressing Recommended Corrective Action 1 (2021)

In the Department's June 3, 2021, Staff Report, the GSA was provided with the following recommended corrective action:

- *The MGA should more clearly explain what the Plan means when stating that the groundwater level minimum thresholds are protective of "most" domestic users of groundwater. Also, the minimum thresholds were defined at representative*

[16] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 9.3.1, p. 146, Section 10.1, p. 148.
[17] California Department of Water Resources, 2021 Santa Cruz Mid-County Basin GSP Determination, Section 5, p. 36, https://sgma.water.ca.gov/portal/service/gspdocument/download/4472.
[18] 23 CCR § 355.6 (c) (1-4).

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

> *monitoring points so that the groundwater demand in the shallowest well in the "vicinity" of the representative monitoring point could be met. The MGA should describe the extent or coverage of each of the groundwater level minimum thresholds and provide more detail as to why "some wells may… go dry" if the minimum thresholds are based on the shallowest well near the representative monitoring point.*[19]

In response to the recommended corrective action, the GSA performed additional analysis and provided a more detailed explanation in the Periodic Evaluation of how groundwater level minimum thresholds protect domestic wells. Key elements of that explanation include the following:

- Coastal domestic wells were evaluated in detail, and impacts are expected to be minimal. The few wells that could be affected at minimum thresholds are older than the typical well life expectancy and located within public water system boundaries, making it unlikely they remain in domestic use.[20]
- Inland domestic well impacts could not be fully quantified at minimum thresholds due to the variable topography and complex hydrogeology of the region. However, multiple lines of evidence indicate that significant impacts are unlikely, including generally stable historical inland groundwater levels and land-use restrictions that limit future rural development and associated groundwater demand.[21]
- The County's Drought Response and Outreach Plan (DROP) provides backup support should domestic well outages occur by supplying bottled or hauled water at no cost (with possible income eligibility criteria) and evaluating longer-term solutions such as connecting homes to the public water system or pursuing funding from the State Water Board's Safe and Affordable Funding for Equity and Resilience program.[22] The DROP program further supports the Department's conclusion that beneficial uses and users, including domestic well owners, have been considered.

Despite not being able to fully quantify potential inland domestic well impacts at minimum thresholds, Department staff conclude that the Periodic Evaluation demonstrates the GSA has adequately addressed the Recommended Corrective Action. The GSA uses several lines of evidence including stable inland groundwater trends, limited future rural development, and well records and dry well history to demonstrate that significant future well outages are unlikely and that domestic well owners have been appropriately considered. Staff note, however, that the planned shift of municipal pumping from coastal to inland areas could create localized declines not captured in the GSA's analyses. As

[19] California Department of Water Resources, 2021 Santa Cruz Mid-County Basin GSP Determination, Section 5, p. 36, https://sgma.water.ca.gov/portal/service/gspdocument/download/4472.
[20] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 3.3.2, pp. 41-42.
[21] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 3.1, p. 29, Section 3.3 and 3.3.1, pp. 39-41, Section 3.5, pp. 42-43.
[22] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 3.6 and 3.6.1, pp. 45-47.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

pumping moves inland, the GSA should continue monitoring groundwater level trends and revisit sustainable management criteria, as needed, if long-term declines or well impacts emerge.

2.2 Sustainable Management Criteria Status

Chronic Lowering of Groundwater Levels: Based on the latest annual report data, Department staff conclude that groundwater levels across the Basin are generally stable.[23] Although the GSA reports operating below some 2025 interim milestones and measurable objectives, most wells indicate stable conditions. Two wells, SC-19 (Purisima BC) and SC-23B (Purisima DEF), are exceptions, showing declining trends and relatively low groundwater levels through water year (WY) 2025, though both remain above their minimum thresholds.[24] These wells are located inland of supply wells, and groundwater levels at SC-23B declined after the nearby Granite Way supply well began operating in 2021.[25] Aside from the declines observed at SC-19 and SC-23B, Basin groundwater levels overall remain consistent with historical fluctuations during wet and dry periods.

Reduction of Groundwater Storage: The GSA acknowledges that undesirable results are occurring in two out of three aquifer groups, where extraction volumes remain greater than the sustainable yield (i.e., minimum thresholds).[26] As of WY 2023, the "Aromas Red Sands and Purisima F" group's 5-year moving average extraction was about 240 acre-feet per year (AFY) greater than its threshold, and the "Purisima DEF, BC, A, and AA" group's extraction was about 40 AFY greater than its threshold.[27] Department staff note that the 5-year moving average extraction in both groups continues to exceed their minimum thresholds as of WY 2025, though by relatively small amounts (a combined total of 225 AFY relative to the total net extraction from these units of 4,245 AFY).[28] The Tu unit's 5-year average net extraction was the only one below its minimum threshold through WY 2025; however, extractions remained above the 2025 interim milestone, so the milestone was not achieved.

Seawater Intrusion: The GSA acknowledges that undesirable results for seawater intrusion persist. As of WY 2025,[29] three out of the 33 representative monitoring sites (SC-A5B, SC-A2RB, SC-A8A) are exceeding the minimum threshold and appear to show

[23] Santa Cruz Mid-County WY 2025 Annual Report, Table 6, p. 56, Appendix A, pp. 81-261.
[24] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.4.1, p. 56, Table 4-2, p. 56; Santa Cruz Mid-County WY 2025 Annual Report, Appendix A, Figures A-7 and A-9, p. 87 and 89.
[25] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.4.1, p. 56.
[26] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.8.1, p. 93.
[27] Santa Cruz Mid-County 2025 Periodic Evaluation, Table 4-12, p. 93, Section 4.8.1, p. 94.
[28] Santa Cruz Mid-County WY 2025 Annual Report, Section 3.2, p. 57, Table 7, p. 57.
[29] The WY 2024 Annual Report corrected several seawater-intrusion undesirable results reported in the 2025 Periodic Evaluation, attributing the earlier high chloride values at SC-A2RA, SC-A3A, SC-A5A, and SC-A8A to laboratory errors. Updated sampling results provided in the WY 2025 Annual Report (p. 59) show these wells are now below minimum thresholds, except for SC-A8A which exceeded the minimum threshold for the first time in the historical record during WY 2025. Only SC-A2RB and SC-A5B are experiencing GSP-defined undesirable results.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

rising chloride levels since WY 2021.[30] All three locations are within the Seascape area, located in the southeastern portion of the Basin near the Pajaro Subbasin boundary.[31] Outside the Seascape area, chloride trends are generally stable or decreasing and consistently meet measurable objectives.[32] Figure 1 (below) shows the Seascape area and WY 2025 maximum chloride concentrations relative to the minimum threshold isocontour, illustrating the Basin setting and the extent of the seawater-intrusion front.

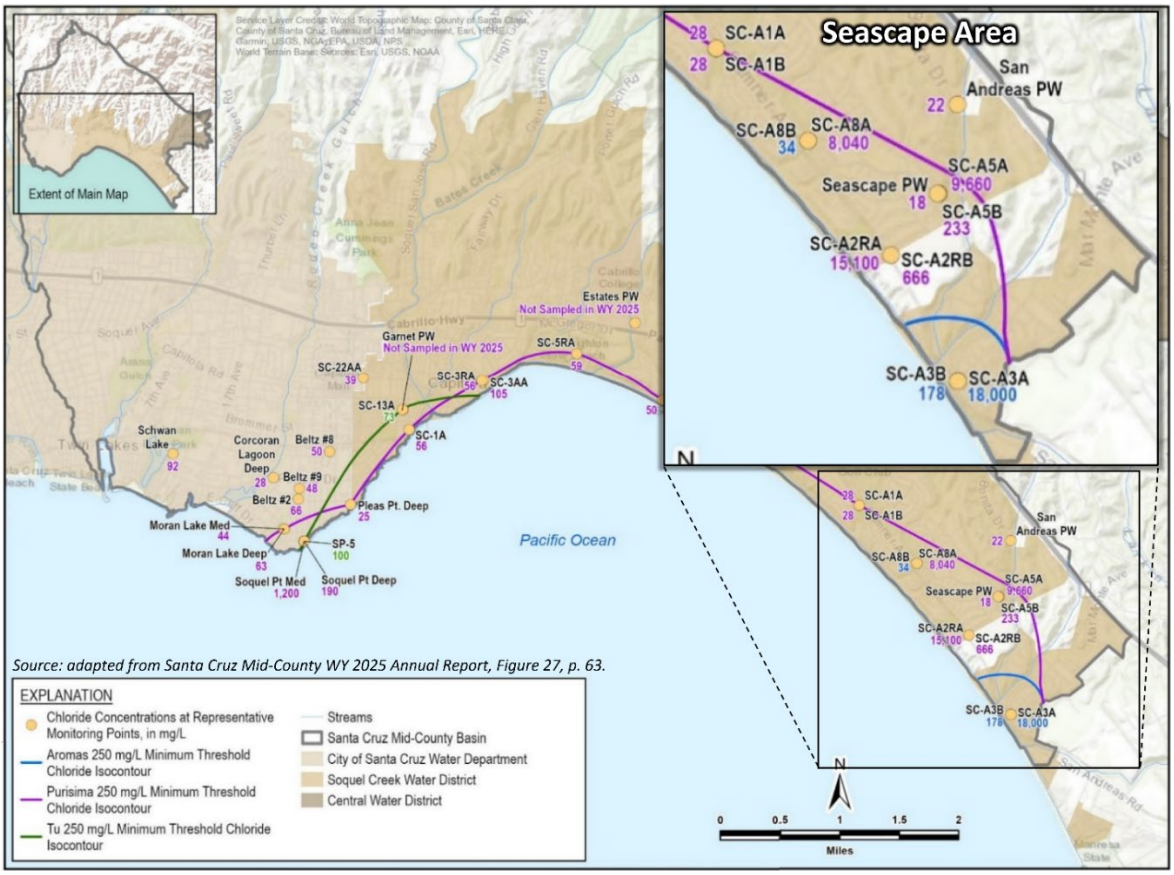

Figure 1: Water Year 2025 maximum chloride concentrations relative to the minimum threshold isocontour.[33]

The GSP also includes groundwater elevations as a proxy for supplemental seawater intrusion sustainable management criteria for coastal wells, which are assessed based on 5-year moving averages.[34] Department staff note that while several of these representative monitoring wells have routinely exceeded minimum thresholds since WY

[30] Santa Cruz Mid-County WY 2025 Annual Report, Section 3.3.1, pp. 58-60, Table 8, pp. 61-62.
[31] Santa Cruz Mid-County WY 2025 Annual Report, Section 3.3.1, pp. 58-59.
[32] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.5.1, pp. 63 and 65.
[33] Santa Cruz Mid-County WY 2025 Annual Report, Figure 27, p. 63.
[34] Santa Cruz Mid-County 2019 GSP, Section 3.6.2.3, pp. 331-333.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

2021, groundwater levels in these wells appear to have remained relatively stable over the past five years.[35]

Degraded Water Quality: The Periodic Evaluation describes groundwater quality in the Basin as generally stable and near measurable objectives, except for iron, manganese, chromium VI, chloride, and total dissolved solids (TDS), which routinely exceed minimum thresholds in some wells. Exceedances of TDS and chloride are linked to ongoing seawater intrusion in the Seascape area. The GSA states that elevated iron, manganese, and chromium VI are "naturally occurring" and unrelated to pumping or managed recharge, and therefore does not consider these conditions to constitute an undesirable result.[36] However, irregular year-to-year sampling or reporting of sampling results prevents an accurate or reliable assessment by the GSA (or DWR in its review role) of whether groundwater quality is changing over time or whether groundwater extraction may be affecting groundwater quality.

Beyond these constituent-specific issues, Department staff note broader data gaps that affect Basin-wide groundwater quality evaluation. Inconsistent sampling or reporting of sampling results for several constituents of concern (COCs), including the absence of reported data for perchlorate and per- and polyfluoroalkyl substances (PFAS), restricts evaluation of Basin-wide groundwater quality trends. These gaps also constrain the ability to assess potential causal mechanisms, including whether groundwater extraction influences groundwater quality. While the monitoring network continues to appear spatially adequate at this time, incomplete sampling or reporting of representative data reduces the Department's confidence in the GSA's groundwater quality conclusions and inhibits meaningful trend evaluation.

Accordingly, the Department provides the following Recommended Corrective Action to address the issues noted above for the degraded water quality sustainability indicator:

<u>Recommended Corrective Action 1 (2026): Water Quality Monitoring and Trend Evaluation</u>

1. Provide information about the groundwater quality sustainability indicator as follows:
    a. Perchlorate was identified in the GSP as a COC with established sustainable management criteria, but sampling results are not included or discussed in the Periodic Evaluation or annual reports.[37] The Periodic Evaluation also added PFAS as a COC with annual reporting to begin in WY 2024, yet the WY 2024 Annual Report did not discuss PFAS results.[38] The GSA should clarify whether perchlorate and PFAS are being monitored as planned, and if monitoring for either constituent has been discontinued, provide the rationale.

[35] Santa Cruz Mid-County WY 2025 Annual Report, Table 9, p. 66.
[36] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.7.1, p. 89; Santa Cruz-Mid County WY 2025 Annual Report, Section 3.4, p. 68; Santa Cruz Mid-County 2019 GSP, Section 3.7.2.2, Table 3-19, p. 344.
[37] Santa Cruz Mid-County 2019 GSP, Section 3.7.2.2, p. 344, Table 3-19, p. 344, Table 3-20, pp. 348-351.
[38] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.7.1, p. 92.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

b. Department staff note that many wells are not being sampled for COCs in accordance with the GSP's monitoring schedule,[39] and some sampling results are not consistently reported in annual reports. For example, the WY 2024 Annual Report shows that none of the seven Aromas aquifer representative monitoring wells were sampled for iron, manganese, arsenic, or total chromium, and only one was sampled for nitrate, despite annual sampling being planned for nearly all wells.[40] Some wells also appear to have never been sampled for arsenic, total chromium, or organic compounds during the entire evaluation period. Staff recommend that the GSA sample all COCs consistent with the GSP schedule and explain any missed sampling in annual reports. An updated tabulated monitoring network summary (including clarification of active representative monitoring sites,[41] COCs, and sampling schedules) should be included in the next periodic evaluation to clearly demonstrate that the recommended corrective action is being addressed in order to clarify and improve management assumptions, conclusions, and overall decision-making going forward.

c. Due to inconsistent annual sampling and limited evaluation of concentration trends of "naturally occurring" constituents that often exceed minimum thresholds, there is inadequate support for the GSA's conclusion in the Periodic Evaluation that groundwater quality in the Basin is stable.[42] To better support its conclusions, the GSA should provide a groundwater quality trend analysis, including figures and tables, demonstrating its understanding of Basin-wide trends and whether undesirable results are occurring. If "naturally occurring" constituents show upward trends, the GSA should clearly explain how it determined these trends are unrelated to groundwater extractions or GSA activities in the Basin.

Land Subsidence: The Plan designated the land subsidence sustainability indicator as not applicable to the Basin, which the Department concurred with in its 2021 Assessment.[43] Although some additional vertical displacement has been observed, the Periodic Evaluation attributes this to tectonic activity rather than aquifer compaction, which Department staff conclude is adequately supported by analyses in the Periodic Evaluation.[44]

Depletions of Interconnected Surface Water: The GSA does not establish sustainable management criteria for ISW depletions based on quantified estimates of the location, quantity, or timing of depletion. Instead, it defines significant and unreasonable depletion as any increase beyond conditions that occurred prior to SGMA's 2015 baseline year,

[39] Santa Cruz Mid-County 2019 GSP, Table 3-5, pp. 272-275.
[40] Santa Cruz Mid-County WY 2024 Annual Report, Table 10, pp. 67-69.
[41] The 2019 GSP Table 3-9 (pp. 296-297) listed 53 representative monitoring sites; however, other areas of the GSP state there were supposed to be 68 sites (as noted on Table 3-4, p. 270).
[42] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.7.1, p. 89, Section 4.7.2, p. 92.
[43] Santa Cruz Mid-County 2019 GSP, Section 3.8.2, p. 352; 2021 Santa Cruz Mid-County Basin GSP Determination, Section 4.3.3.5, pp. 29-30, https://sgma.water.ca.gov/portal/gsp/assessments/11.
[44] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.9, pp. 94-97.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

using historical shallow groundwater levels as a proxy for pre-2015 ISW depletion. To track these conditions, groundwater levels are currently monitored at five shallow wells along Soquel Creek, which serve as representative monitoring sites for ISW depletion.[45] Undesirable results are defined as groundwater levels falling below the average monthly levels associated with the highest seasonal low groundwater levels observed in below-average rainfall years prior to 2015.

Consistent with its reliance on the 2015 baseline, the Plan establishes a conservative approach in which undesirable results for this sustainability indicator are triggered by a single minimum threshold exceedance.[46] The GSA reports that one well (Balogh) has remained slightly below its minimum threshold since WY 2021, indicating an undesirable result, although groundwater levels there have generally remained stable. The other four wells have remained above their minimum thresholds and 2025 interim milestones since WY 2022.[47]

In the 2019 GSP, the GSA estimated historical pumping-related losses to Soquel Creek using a “no-pumping” modeling scenario while acknowledging substantial uncertainty due to limited data and model constraints.[48] Staff understand that Soquel Creek was the primary focus of the GSA’s analyses for several reasons: it is one of the most hydraulically connected streams in the Basin; has a long monitoring record; includes adequate nearby shallow groundwater data for model calibration (at least along some segments); supports priority species such as steelhead trout, coho salmon, and riparian vegetation; and is located near major pumping centers.[49] Because of these factors, Soquel Creek is the stream most likely to exhibit appreciable depletion related to groundwater extractions that could adversely impact beneficial uses and users of surface water.

Notwithstanding the significance of Soquel Creek in the Basin, the Plan does not explain whether, or how, conditions in that creek are representative of other surface streams in the Basin. Branciforte Creek, for example, is also described as supporting priority species and being highly interconnected, yet elsewhere the Plan characterizes it as flowing largely over granitic bedrock with limited hydraulic interaction to the aquifer system.[50] This conflicting characterization raises questions about connectivity; however, assuming at least some groundwater-surface water connection exists, it remains unclear why Branciforte Creek (or other streams) were not analyzed or considered for ISW depletion.

Although Soquel Creek is a logical focus given its extensive connectivity to groundwater and proximity to pumping locations, staff note that relying on this rationale alone may overlook the complexity of subsurface flow paths within a basin. Pumping effects do not

[45] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.6.1, p. 80, Figure 4-18, p. 82.
[46] Santa Cruz Mid-County 2019 GSP, Section 3.9.1.2 and 3.9.2, pp. 355-356.
[47] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.6.1, p. 80, Table 4-8, p. 80; Santa Cruz Mid-County WY 2025 Annual Report, Section 3.6, p. 70, Table 11, p. 71.
[48] Santa Cruz Mid-County 2019 GSP, Section 3.9.1.1, pp. 353-355, Appendix 2-F, pp. 672-684.
[49] Santa Cruz Mid-County 2019 GSP, Section 2.2.4.6, pp. 172-178, Section 2.2.4.7, p. 179.
[50] Santa Cruz Mid-County 2019 GSP, Figure 2-10, p. 96, Section 2.1.5.1.1, p. 101, Section 2.2.3.6.3, p. 133, Section 2.2.4.6, p. 172.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

always manifest in predictable or nearby locations; deeper pumping can lead to depletion that propagates far from a well, sometimes appearing miles upstream, downstream, or in different tributaries. Staff recognize, however, that in this basin, where pumping volumes are relatively low and the hydrogeology is influenced by mountainous terrain and complex drainage patterns, these broader and more complex interactions and effects may be less pronounced than in larger and more heavily pumped alluvial systems. Even so, the GSA's emphasis on analyzing only areas near concentrated pumping may not fully capture the potential spatial extent of ISW depletion within the Basin.

Uncertainty in the depletion analysis is further compounded by limitations in the GSA's integrated surface water-groundwater model. According to the GSA, the model does not reliably simulate confined aquifer conditions or stream-aquifer interactions, and the lack of basin-wide shallow groundwater data to calibrate this model adds substantial uncertainty to the GSA's depletion estimates for Soquel Creek and limits the ability to assess depletion in other streams.[51]

While improvement and continued attention to the understanding and management of ISW depletion in the Basin is necessary as the GSA continues to implement its Plan, Department staff conclude that the above-discussed limitations in the current understanding and analysis of ISW dynamics are not significant enough to preclude an approval recommendation at this time. Department staff reached this conclusion, in part, because the GSA's past and ongoing efforts reflect a good faith and scientifically grounded attempt to address this complex issue, which SGMA introduced as a required component of groundwater management for the first time, and because the GSA's approach to managing ISW depletion is both permissible under SGMA and operationally practical.

Specifically, SGMA does not obligate the GSA to address or remediate pre-2015 ISW depletion conditions,[52] and the GSA's management strategy is to prevent ISW depletion from worsening relative to that baseline by maintaining groundwater levels above pre-2015 historical levels. Staff believe this approach achieves SGMA's objectives while allowing the GSA to focus resources on other important Plan implementation issues. Accordingly, despite data gaps in quantifying depletion or linking it to groundwater level thresholds, maintaining overall Basin groundwater conditions at or near pre-2015 levels is a reasonable proxy for preventing ISW depletions from increasing beyond levels that SGMA has expressly excluded from a GSA's responsibility to manage or avoid. In this context, the GSP provides a generally suitable management approach for ensuring ISW depletion does not increase relative to pre-2015 conditions. Additionally, given the Basin's generally stable groundwater levels, land-use restrictions that limit future rural development and associated groundwater demand, and potential forthcoming benefits

[51] Santa Cruz Mid-County 2019 GSP, Appendix 2-F, pp. 687-688.
[52] 23 CCR §§ 350.4(c) & 355.4(b); Water Code § 10727.2(b)(4).

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

from projects the GSA has begun to implement, staff consider the likelihood of ISW depletion significantly increasing prior to the Department's next periodic review to be low.

However, to better ensure the effectiveness of the GSA's 2015-groundwater level management approach to ISW, Department staff recommend that the GSA strengthen its use of groundwater levels as a proxy by considering groundwater conditions not only in the vicinity of streams but throughout the Basin. Maintaining Basin-wide groundwater levels at or above pre-2015 conditions may help ensure ISW depletion does not increase relative to that baseline, which is consistent with the Plan's undesirable result definition.[53] However, there appears to be a disconnect between the Plan's ISW management strategy and some of the minimum thresholds for the chronic lowering of groundwater levels. Specifically, the GSA has set minimum thresholds in interior portions of the Basin that allow groundwater levels to decline by as much as 30 feet below historical lows.[54] The GSP also acknowledges that long-term hydraulic connections likely exist between aquifers and notes that groundwater level declines within the deeper Purisima units could increase vertical hydraulic gradients and affect shallow groundwater and ISW systems.[55] Consequently, the groundwater level declines in some portions of the Basin that would be allowed under the management program described in the GSP could increase ISW depletion relative to pre-2015 conditions, indicating that the proposed criteria are not aligned with the GSA's objective of maintaining pre-2015 ISW depletion levels. Clarification or revision is therefore necessary to ensure that Basin-wide groundwater level thresholds are consistent with the ISW objective and management approach.

<u>Recommended Corrective Action 2 (2026): Basin-wide Groundwater Level Minimum Thresholds as they relate to ISW Depletion</u>

The GSA intends to manage the Basin so that ISW depletion does not increase beyond the levels observed from the start of shallow groundwater monitoring through 2015. To support this objective, minimum thresholds for ISW depletion are set in the shallow alluvium based on 2001-2015 conditions. However, the Plan sets Basin-wide minimum thresholds for chronic lowering of groundwater levels in the deeper Purisima aquifers and inland areas substantially lower (up to 30 feet below historic lows) creating an apparent discrepancy between the Plan's ISW management goal and the groundwater level management goal as reflected in the Plan's minimum thresholds for groundwater levels.

To address and reconcile this discrepancy the GSA should either:

a. Clearly explain why the difference between the ISW-based minimum thresholds and the Basin-wide chronic lowering of groundwater levels minimum thresholds will not result in increased ISW depletion relative to pre-2015 conditions. The explanation should describe the hydrologic and hydrogeologic basis for why declines in deeper aquifers and inland areas are either not expected to affect

[53] Santa Cruz Mid-County 2019 GSP, Section 3.9.1, p. 353.
[54] Santa Cruz Mid-County 2019 GSP, Appendix 3-A, p. 874.
[55] Santa Cruz Mid-County 2019 GSP, Section 3.4.2.3, p. 308.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

shallow alluvium or ISW conditions or would be detected early through the monitoring network and managed before influencing ISW systems. The GSA may also demonstrate, where supported by data, that ISW depletion is not worsening relative to pre-2015 conditions despite groundwater level declines in parts of the Basin due to the benefits of projects such as augmented baseflows from recharge or other actions that enhance surface-water/groundwater interactions. The GSA should reference the studies, analyses, and data supporting its assertions and conclusions (e.g., aquifer-response evaluations, updated modeling, nested-well and streamflow records, etc.) and identify any additional, important data gaps with a timeline for addressing them, as needed.

OR

b. Alternatively, revise the Basin-wide chronic lowering of groundwater level minimum thresholds to more closely reflect pre-2015 groundwater level conditions. Aligning management of these thresholds with the ISW objective would help ensure that declines in deeper aquifers or inland areas do not thwart or undermine management efforts by contributing to long-term increases in ISW depletion or seawater intrusion.

Whether the GSA addresses component a. or b. of the recommended corrective action, recent pumping redistribution has altered groundwater flow patterns. For example, the declines at SC-23B following start of pumping at the Granite Way supply well.[56] The GSA should consider how these changes may affect the location, quantity, and timing of ISW depletion and whether recharge operations or other projects may offset these impacts.

2.3 Projects and Management Actions

The Plan groups its projects and management actions into three categories: existing conservation efforts (Group 1), early-implementation recharge or replenishment projects (Group 2), and potential future actions if Group 1 and Group 2 efforts do not produce expected results (Group 3).[57]

Two Group 1 management actions are underway: long-term conservation measures implemented prior to GSP adoption, which have reduced annual Basin groundwater demand by 41% when comparing WY 2023 to WY 1997; and redistribution of municipal pumping to inland or optimal locations relative to the PWS and ASR projects.[58] The Periodic Evaluation notes that pumping at the Seascape well has been reduced since 2016 in response to increasing chloride trends, with further Aromas aquifer pumping reductions planned as the PWS project comes online.[59] The GSA plans to continue to

[56] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.4.1, p. 56.
[57] Santa Cruz Mid-County 2019 GSP, Section 4, p. 367, Table 4-1, pp. 368-369.
[58] Santa Cruz Mid-County 2025 Periodic Evaluation, Table 5-1, p. 101, Section 5.1.1.1 to 5.1.1.2, p. 102, Section 6.3.1, p. 113.
[59] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.5.1, p. 65, Section 5.1.1.2, p. 102.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

shift more pumping further inland, supported by a new inland Soquel Creek Water District (SqCWD) well expected to begin operating in the next evaluation cycle.[60]

Group 2 actions include PWS, ASR, Inter-Agency Transfers, and Distributed Storm Water Managed Aquifer Recharge (DSWMAR). The Periodic Evaluation reported that PWS, designed to recharge approximately 1,500 AFY of purified recycled water through three seawater intrusion prevention (SWIP) wells to raise coastal groundwater levels, is behind its original 2022 schedule.[61,62] Although, the WY 2025 Annual Report indicates that recharge began at the three PWS SWIP wells in December 2025.[63] ASR, which will inject treated San Lorenzo River water into the Basin to improve drought reliability, has also been delayed pending water-rights approvals (expected in 2024).[64] According to the WY 2025 Annual Report, one ASR well is on track for completion in 2026, a second is expected in 2027, and a third has advanced to the design phase for conversion to a permanent ASR well.[65] Once implemented, the PWS and ASR projects are expected to reduce net pumping (defined as pumping minus managed aquifer recharge)[66] in the Basin by a combined 1,740 AFY, though staff note that the individual contributions of each project remain uncertain due to inconsistently reported recharge estimates in the GSP.[67]

The Inter-Agency Transfers project would deliver excess City of Santa Cruz Water Department (SCWD) surface water to SqCWD to offset groundwater pumping.[68] Pilot transfers have occurred since 2018, and the agreement now extends through May 2026; the most recent transfer occurred in WY 2023.[69] Transfers from SqCWD to SCWD remain under evaluation and are still several years away from implementation. The DSWMAR project, which recharges shallow groundwater using treated stormwater, is operating at two existing sites, but project expansion has stalled because the two primary GSP-identified sites on the Seascape Golf Course are no longer available.[70]

The Periodic Evaluation describes the Basin's Optimization Study, which the Department understands to include adaptive management approaches for refining Group 2 projects if needed. Although ASR and PWS are expected by the GSA to achieve Basin sustainability, updated analyses indicate potential SCWD water supply gaps during future

[60] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.1.2, p. 102.
[61] Santa Cruz Mid-County 2019 GSP, Section 4.2.1.7, p. 374; Santa Cruz Mid-County 2025 Periodic Evaluation, Table 5-1, p. 101, Section 5.1.2.1, p. 104.
[62] The Periodic Evaluation (p. 149) also notes that one individual filed eight lawsuits related to the project, four of which remained active at the time, but the GSA did not expect them to affect implementation.
[63] Santa Cruz Mid-County WY 2025 Annual Report, Section 3.7.2, p. 72.
[64] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.2.2, p. 105.
[65] Santa Cruz Mid-County WY 2025 Annual Report, Section 3.7.3, p. 75.
[66] Santa Cruz Mid-County 2019 GSP, Executive Summary, p. 20.
[67] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.2.1, p. 104; Santa Cruz Mid-County 2019 GSP, Section 2.2.5.6.3, p. 237, Appendix 2-I, Section 4.6, Table 10, p. 854.
[68] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.2.3, p. 106.
[69] Santa Cruz Mid-County 2019 GSP, Section 4.2.3.1, p. 387; Santa Cruz Mid-County WY 2025 Annual Report, Section 3.7.5, p. 76; Santa Cruz Mid-County WY 2023 Annual Report, Section 3.7.5, p. 71.
[70] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.2.4, pp. 106-107; Santa Cruz Mid-County 2019 GSP, Section 4.2.4.3, p. 393; Santa Cruz Mid-County WY 2025 Annual Report, Section 3.7.6, p. 76.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

droughts. The Optimization Study therefore evaluates alternative configurations and expansions of Group 2 projects using updated 2045 demand projections to identify options that improve water-supply reliability while achieving sustainable management criteria, giving the GSA greater flexibility to respond to changing Basin conditions.[71]

The Periodic Evaluation concludes that Group 1 and Group 2 efforts, especially PWS and ASR along with potential project expansions identified in the Basin Optimization study, are expected to achieve Basin sustainability and resolve current undesirable results.[72] Group 3 contingency projects such as recycled water reuse, desalination, and water use curtailment, are, according to the Periodic Evaluation, not currently needed.[73] Overall, the GSA is generally implementing projects and management actions as planned in the GSP, though several key projects have been delayed. The Department is encouraged by the progress to date and finds implementation adequate despite minor delays and challenges. The Department will continue to evaluate Plan implementation and monitor progress on delayed projects or management actions. Updates may be provided to the Department at any time but should also be included in annual reports and periodic evaluations.

2.4 Data Gaps and Reducing Uncertainty

Monitoring Network Revisions: The following revisions have been made to the Basin's monitoring networks, including updates intended to address previously identified data gaps with seawater intrusion and ISW monitoring.[74]

- Two deep coastal representative monitoring sites were added to improve seawater intrusion monitoring.[75]
- Seven shallow ISW wells were installed along stream gages and may become representative monitoring sites once sufficient data are collected.[76]
- Six new streamflow gages were added in Soquel Creek and Aptos Creek, replacing three older gages.[77]
- Ten new wells were installed to support monitoring of the PWS or ASR projects.[78]
- Eleven groundwater-level wells are inaccessible (none of which are representative monitoring sites).[79] Five were removed without creating data gaps while the remaining six wells (including SC-17, which is discussed as being important for

[71] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.2, pp. 109-110.
[72] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.3, p. 107, Section 5.2, p. 109.
[73] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 5.1.3, p. 107, Table 5-2, p. 108.
[74] Santa Cruz Mid-County 2019 GSP, Sections 3.3.4.1-3.3.4.2, pp. 300-302.
[75] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 7.1.1, pp. 123-124, Section 7.2, p. 128.
[76] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 7.1.1, p. 124, Section 7.2, pp. 128-129.
[77] Santa Cruz Mid-County 2019 GSP, Figure 3-10, p. 303; Santa Cruz Mid-County 2025 Periodic Evaluation, Figure 7-1, p. 129, Section 7.4.4, p. 136, Figure 7-4, p. 137.
[78] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 7.1.1, pp. 123-124, Table 7-3, p. 125.
[79] Santa Cruz Mid-County 2025 Periodic Evaluation, Table 7-4, p. 126, Section 7.4.1.1, p. 130.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

contouring) tentatively remain in the network and are prioritized for possible reinstatement.[80]

- Four groundwater-quality wells are inaccessible.[81] Three wells, two of which are representative monitoring sites with permanent access issues, were removed from the network without creating data gaps due to either adequate coverage or replacement wells.[82] The fourth well tentatively remains in the network for possible reinstatement and can be replaced by a shallower well in the cluster if necessary.[83]
- Four wells were added to the extraction network (used to monitoring change in storage), and three production wells are planned for conversion to ASR wells.[84]

The Periodic Evaluation identifies no new or remaining monitoring data gaps.[85] Department staff likewise consider the monitoring networks adequate at this time and have not identified any significant new data gaps during this review.

Seawater Intrusion Investigation: Chloride concentrations continued to increase in the Seascape area during the evaluation period, prompting the GSA to investigate potential causes.[86] Groundwater use in this area includes municipal pumping at the Seascape well, private agricultural and landscape irrigation, and use by a camp, with additional municipal wells inland.[87] From 2016 to 2023, the private wells pumped about 108 AFY, and the Seascape well averaged 31 AFY. The Periodic Evaluation notes that seawater intrusion may be influenced by Aromas aquifer pumping, which might draw high-chloride water upward from deeper Purisima F zones. As of WY 2025, the GSA reports that the investigation is complete; activities included installing conductivity loggers, sampling private wells to refine chloride distribution data, and conducting a land-based geophysical survey to fill data gaps from previous DWR airborne electromagnetic surveys and better delineate the extent of seawater intrusion.[88] The Periodic Evaluation also notes that reduced Aromas aquifer pumping from the PWS project and the operation of the future ASR project are intended to help mitigate seawater intrusion in the Seascape area.[89]

Groundwater Extraction: The 2019 GSP identified data gaps in groundwater extraction monitoring and proposed a new metering program for private wells pumping more than two AFY in priority management zones (related to seawater intrusion and ISW depletion) and more than five AFY elsewhere.[90] The Periodic Evaluation reports that the

[80] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 7.4.1.1, pp. 130-132.
[81] Santa Cruz Mid-County 2025 Periodic Evaluation, Table 7-4, p. 126.
[82] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 7.1.1, pp. 124-125, Section 7.4.2.1, pp. 133.
[83] Santa Cruz Mid-County 2025 Periodic Evaluation, Table 7-4, p. 126, Section 7.4.2.1, p. 133.
[84] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 7.1.2, p. 127, Section 7.4.3, p. 135.
[85] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 7.2 and 7.3, pp. 128-130.
[86] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.5.1, p. 65; Santa Cruz Mid-County WY 2023 Annual Report, Section 3.3.1, pp. 54-55.
[87] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.5.1, p. 65.
[88] Santa Cruz Mid-County WY 2025 Annual Report, Section 3.3.1, pp. 59-60.
[89] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 4.5.1, pp. 65 and 73.
[90] Santa Cruz Mid-County 2019 GSP, Section 3.3.4.3, p. 304.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

Groundwater Well Registration and Metering Policy for Non-De Minimis users was adopted by the GSA in June 2024, with registration and annual reporting required starting in 2025.[91]

Hydrogeologic Conceptual Model: The 2019 GSP also identified six data gaps (such as unclear stratigraphy and aquifer extent) related to the Basin's hydrogeologic conceptual model.[92] Although many hydrogeologic conceptual model data gaps remain, the Periodic Evaluation states that most will be addressed using Airborne Electromagnetic (AEM) Surveys to update the conceptual and numerical model geometry before the next periodic evaluation.[93]

2.5 Amendment to Plan or Additional Changes

A Plan amendment was not submitted with the Periodic Evaluation. The GSA in its Periodic Evaluation concluded that an amendment is not needed at this time, as the GSP remains a viable path to sustainability.[94] Department staff note no substantive changes or revisions to projects and management actions, sustainable management criteria, or other elements affecting Basin progress, and find that the Plan and its implementation (including minor changes made through adaptive management) remain substantially compliant with GSP Regulations.[95]

2.6 Consideration of Adjacent Basins

The Basin borders the Pajaro Valley Subbasin (3-002.01) and the Santa Margarita Basin (3-027).[96] The Periodic Evaluation, consistent with the 2019 GSP, notes limited hydrologic connectivity with the Santa Margarita Basin.[97] In April 2024, Santa Cruz Mid-County Subbasin and Pajaro Valley Subbasin representatives met to share monitoring results, discuss seawater intrusion along their boundary, and plan future data sharing. The GSA reports that their management approaches are aligned and that neither Plan is expected to affect the other's sustainability goal.[98] Department staff appreciate the coordination efforts between the two basins and will continue evaluating potential cross-basin impacts in future reviews.

3 CONCLUSION

Department staff recommend the Plan be approved with recommended corrective actions related to water quality monitoring and depletions of ISW sustainable management

[91] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 8, p. 139, Section 11, p. 151.
[92] Santa Cruz Mid-Count 2019 GSP, Section 2.2.3.8, p. 137.
[93] Santa Cruz Mid-County 2025 Periodic Evaluation, Table 6-1, pp. 111-112.
[94] Santa Cruz Mid-County 2025 Periodic Evaluation, Executive Summary, pp. 10 and 16.
[95] 23 CCR § 350.4.
[96] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 9.3.1, p. 146.
[97] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 10.1, p. 148.
[98] Santa Cruz Mid-County 2025 Periodic Evaluation, Section 9.3.1, p. 146, Section 10.1, p. 148.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

criteria. This section summarizes those recommended corrective actions, identifies required updates on the SGMA Portal, and provides additional technical feedback and considerations to help guide development of the next periodic evaluation. Together, these elements are intended to support continued progress toward Basin sustainability and assist the GSA with effective Plan implementation.

3.1 Summary of 2026 Recommended Corrective Actions

By the next periodic evaluation, the GSA should demonstrate clear progress in addressing the recommended corrective actions. Department staff are available to discuss the GSA's progress on these actions or answer questions at any time before the next evaluation, if needed.

Table 1 provides a high-level overview of the recommended corrective actions. This summary is for convenience only and does not replace the full descriptions provided in Section 2. GSAs should review the complete text to ensure each recommended corrective action is understood within its full context.

Table 1: Recommended Corrective Actions Overview

Recommended Corrective Action	Note	Summary	Reference
RCA 1 (2026): Water Quality Monitoring and Trend Evaluation	Part (a)	Clarify the status of perchlorate and PFAS monitoring.	Section 2.2, Degraded Water Quality
	Part (b)	Improve consistency of sampling frequency and methods for all COCs.	
	Part (c)	Provide a groundwater quality trend analysis supporting the conclusion of stable conditions.	
RCA 2 (2026): Basin-wide Groundwater Level Minimum Thresholds as they relate to ISW Depletion	Option (a)	If current minimum thresholds remain unchanged, evaluate potential ISW-depletion impacts from inland or deeper groundwater declines and explain how or why ISW increases above 2015 baseline levels will not occur or how they will be avoided.	Section 2.2, Depletions of Interconnected Surface Water
	Option (b)	Consider establishing basin-wide ISW minimum thresholds for groundwater levels, not only at locations near ISWs.	

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

3.2 Required Reporting Updates and Additional Technical Feedback

In addition to the recommended corrective actions summarized in Section 3.1, Section 3.2 identifies reporting-related actions the GSA should complete to comply with SGMA's monitoring and reporting requirements, as well as additional technical feedback intended to support development of the next periodic evaluation and demonstrating continued progress toward Basin sustainability.

3.2.1 Required Monitoring Network Module Updates

Maintaining an accurate and complete monitoring network is essential for evaluating Basin conditions and meeting SGMA's annual reporting requirements.[99] The GSA should ensure the Monitoring Network Module (MNM) on the SGMA Portal remains current and reflective of actual efforts and capabilities throughout Plan implementation.

Required updates include:

- Updating the MNM to include all monitoring wells added or subtracted during the evaluation period, including the new deep coastal wells and ISW wells.
- Submitting groundwater level data for the new wells and adding sustainable management criteria once established.[100]
- Adding all active stream gages used for ISW monitoring.

3.2.2 Required Projects and Management Actions Module Updates

Department staff did not identify any required Basin updates to the SGMA Portal's Projects and Management Actions Module at this time. The GSA should ensure the Module remains up to date throughout Plan implementation.[101] Annual updates in the Module allow the Department to track the status, accrued benefits, and funding of individual projects and management actions, and help demonstrate that progress is being made in implementing the GSP and achieving the Basin's sustainability goal.

3.2.3 Additional Technical Feedback to Support Adaptive Management and the Development of the Next Periodic Evaluation

To help ensure the next periodic evaluation continues to demonstrate that the Basin remains on track toward sustainability, the Department is providing the GSA with additional technical feedback on the Plan and its implementation. At this time, Department staff consider there to be a low likelihood that any of these observations represent an imminent risk (i.e., prior to the next periodic evaluation) to achieving sustainability within SGMA's required timeline. However, these issues could or could not develop into longer-term concerns, and if warranted by future conditions, the Department may determine that a tailored recommended corrective action is necessary. For now, this feedback is offered

[99] 23 CCR §§ 354.40, 354.34(c).
[100] 23 CCR §§ 354.34(1)(B), 356.2.
[101] 23 CCR §§ 353.2,353.4, and 356.2(c).

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

simply as considerations for the GSA to support adaptive management and to inform the development of the next periodic evaluation should projected or anticipated conditions differ from actual conditions, adverse conditions persist, or new issues emerge.

- Describe the implementation status and data-supported effectiveness of the PWS and ASR projects in mitigating seawater intrusion and identify whether additional actions are needed. Clearly report and attribute project benefits (e.g., recharge quantities) for each project individually.
- If seawater intrusion persists, summarize findings from the investigation into rising chloride concentrations in the Seascape area. Identify remaining data gaps, describe planned steps to address them, and explain how the results from the GSA's investigation are informing project and management action implementation.
- Similarly, if Group 2 projects prove insufficient to avoid undesirable results or meet drought demands once PWS and ASR are fully operational, identify specific management actions the GSA will implement, such as expanding Optimization Study projects or advancing Group 3 projects, and provide an implementation timeline.
- Continue monitoring potential impacts of pumping redistribution on inland domestic wells and any changes in the location, quantity, or timing of ISW depletion associated with altered groundwater flow patterns. Revisit sustainable management criteria, as needed, if new long-term declines or significant well impacts emerge.
- If sustainable management criteria for the new ISW-depletion monitoring wells are not established by the next periodic evaluation, provide a timeline and identify the data needed for doing so.
- As needed, the GSA should continue its consideration of future conditions, including climate-driven changes in water use and reduced surface-water reliability. The Department recognizes that the GSA has already been evaluating these factors and encourages ongoing efforts to reassess groundwater level thresholds, review monitoring data under increasing aridification, incorporate updated watershed studies, and coordinate with groundwater users and local drought-planning efforts.

These items should be regarded as conditional considerations that depend on how Basin conditions evolve over time, rather than required actions. The Department appreciates the GSA's ongoing efforts and looks forward to reviewing future annual reports and the next periodic evaluation.

Docusign Envelope ID: A5B567DF-04C1-840E-83AE-07AE21F98051

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).