KERN COUNTY SUBBASIN PROBATIONARY HEARING DRAFT STAFF REPORT

Appendix A – Summary Table of Proposed Deficiencies and Potential Actions

July 2024

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency Coordination 1 (CRD)-1: Undesirable results and SMC are not coordinated. • **Deficiency CRD-1a –** Undesirable results are poorly described, unworkably complex, and inconsistently implemented. • **Deficiency CRD-1b** – Sustainable management criteria rely on inconsistent datasets and methodologies.	SGMA requires that "Agencies intending to develop and implement multiple plans pursuant to Water Code § 10727(b)(3) shall enter into a coordination agreement to ensure that the Plans are developed and implemented utilizing the same data and methodologies…", and Regulations requires that "elements of the Plans necessary to achieve the sustainability goal for the basin are based upon consistent interpretations of the basin setting" (Cal. Code Regs., tit. 23, § 357.4, subd. (a)). In defining undesirable results, GSAs are required to "describe the process and criteria relied upon do define undesirable results [that would occur when significant and unreasonable effects are caused by groundwater condition in the Subbasin]" (Cal. Code Regs., tit. 23, § 354.26, subd. (a)). The undesirable result definition should include the cause of groundwater conditions occurring throughout the Subbasin that has or may lead to an undesirable result, the criteria used to define when and where the effects of groundwater conditions cause undesirable results, and the impacts on beneficial uses and users (Cal. Code Regs., tit. 23, § 354.26 subd. (b)). In establishing SMC, GSAs must "establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26." (Cal. Code Regs. tit. 23 § 354.28). Discussion of the MTs should include among other things the "relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (Cal. Code Regs. tit. 23 § 354.28). Undesirable results and SMC should be consistent with key details in the Coordination Agreement. Agencies should describe how they use the same data and methodologies for assumptions described in Water Code § 10727.6 by including monitoring objectives, a coordinated basin water budget, and sustainable yield for the basin supported by a description of an undesirable result for the basin, and an explanation of how the minimum threshold and measurable objectives relate to the undesirable result (Cal. Code Regs., tit. 23, § 357.4, subd. (b)(3)). The coordination agreement shall also explain how the Plans implemented together, satisfy the requirements of the Act (Cal. Code Regs., tit. 23, § 357.4, subd. (c)). GSP Regulations allow agencies to create "one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin" (Cal. Code Regs., tit. 23, § 350.20).	**DWR Inadequate Determination summary:** Ultimately, the fragmented management area approach to groundwater management, particularly in establishing minimum thresholds and measurable objectives, undermines the GSAs ability to clearly define the Subbasin-wide significant and unreasonable effects they hope to avoid. It is, therefore, unclear to Department staff how or whether the sustainable groundwater management approach described in the Plan will achieve the sustainability goals included in the amended Coordination Agreement (2022 Inadequate Determination). **Board issues:** None	**Potential Action CRD-1a –** Develop consistent, clear undesirable results. **Potential Action CRD-1b –** Use consistent data and methods to develop SMC.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency CRD-2: The Coordination Agreement, GSPs, and Management Area Plans lack key details necessary for coordinated implementation. • **Deficiency CRD-2a** – The Coordination Agreement is not sufficient to address disputes. • **Deficiency CRD-2b** – GSAs do not explain how the multiple plans will satisfy SGMA requirements, particularly for Management Areas.	The coordination agreement should be adopted by all relevant parties, explain how the multiple plans will satisfy SGMA requirements, should ensure that the agreement is binding on all parties and sufficient to address any disputes, and satisfies SGMA requirements (Code Regs., tit. 23, § 355.4, subd. (b)(8) and Cal. Code Regs., tit. 23, §357.4). GSP Regulations allow agencies to create "one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin" (Cal. Code Regs., tit. 23, § 350.20).	**DWR Inadequate Determination summary:** None **Board issues:** GSP and Coordination agreements do not have a basin wide exceedance policy to properly demonstrate how exceedances are investigated for relevance to SGMA or addressed if driving mechanism is outside of the local management area.	**Potential Action CRD-2a –** The Coordination Agreement should include a basin-wide minimum threshold exceedance plan. **Potential Action CRD-2b –** GSAs should revise plans to demonstrate the necessity and compliance of Management Areas.
Deficiency CRD-3 – GSAs in the Subbasin have not demonstrated Basin-wide management.	Any *local agency* –a local public agency with water supply, water management, or land use responsibilities (Wat. Code, § 10721, subd. (n)) – or combination of local agencies overlying a groundwater basin may decide to become a GSA for that basin (Wat. Code, § 10723, subd. (a)). The statute allows some private and non-governmental water entities to *participate* in a GSA, but SGMA does not provide them any additional authorities (Wat. Code, § 10723.6, subd. (b)). Private entities therefore do not have authorities to manage the subbasin, so all areas of a GSA must still be covered by a local agency. GSAs are required to develop "one or more groundwater sustainability plans that will collectively serve as a groundwater sustainability plan for the entire basin" (Water Code § 10735.2, subd. (1)(B)). Portions of high- and medium-priority basins not within the management area of a GSA are considered unmanaged (Water Code § 10724.6, subd. (a)). Groundwater extractors in unmanaged areas must report extractions and pay fees to the State Water Board (Water Code § 10724.6, subd. (b)).	**DWR Inadequate Determination summary:** None **Board issues:** Board staff are concerned that the subbasin may not be able to reach sustainability because it lacks authority to manage pumping across the entire basin. Board staff are unable to properly evaluate basin management due to the complex arrangement of agencies involved and lack of clear detail demonstrating adequate coverage. Board staff note that inadequate coverage could undermine the subbasin's ability to reach sustainability, as pumping could shift to unmanaged areas where no GSA has authority to limit extractions.	**Potential Action CRD-3a –** GSAs should clearly define relationships and responsibilities consistent with SGMA requirements.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency Groundwater Level 1 (GL-1) – Groundwater Level undesirable results and SMC are not coordinated. • **Deficiency GL-1a** – Undesirable results are poorly described, unworkably complex, and inconsistently implemented. • **Deficiency GL-1b** – SMC rely on inconsistent datasets and methodologies.	SGMA requires that "Agencies intending to develop and implement multiple plans pursuant to Water Code § 10727(b)(3) shall enter into a coordination agreement to ensure that the Plans are developed and implemented utilizing the same data and methodologies…", and Regulations requires that "elements of the Plans necessary to achieve the sustainability goal for the basin are based upon consistent interpretations of the basin setting" (Cal. Code Regs., tit. 23, § 357.4, subd. (a)). In defining undesirable results, GSA are required to "describe the process and criteria relied upon do define undesirable results [that would occur when significant and unreasonable effects are caused by groundwater condition in the Subbasin]" (Cal. Code Regs., tit. 23, § 354.26, subd. (a)). The undesirable result definition should include the cause of groundwater conditions occurring throughout the Subbasin that has or may lead to an undesirable result, the criteria used to define when and where the effects of groundwater conditions cause undesirable results, and the impacts on beneficial uses and users (Cal. Code Regs., tit. 23, § 354.26 subd. (b)). In establishing SMC, GSAs must "establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26." (Cal. Code Regs. tit. 23 § 354.28). Discussion of the MTs should include among other things the "relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (Cal. Code Regs. tit. 23 § 354.28). Undesirable results and SMC should be consistent with key details in the Coordination Agreement. Agencies should describe how they use the same data and methodologies for assumptions described in Water Code § 10727.6 by including monitoring objectives, coordinated basin water budget, and sustainable yield for the basin supported by a description of an undesirable result for the basin, and an explanation of how the minimum threshold and measurable objectives relate to the undesirable result (Cal. Code Regs., tit. 23, § 357.4, subd. (b)(3)). The coordination agreement shall also explain how the Plans implemented together, satisfy the requirements of the Act (Cal. Code Regs., tit. 23, § 357.4, subd. (c)). GSP Regulations allow agencies to create "one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin" (Cal. Code Regs., tit. 23, § 350.20).	This is the corresponding subsidence level deficiency for coordination deficiency CRD-1. **DWR Inadequate Determination summary:** The Coordination Agreement requires two conditions to trigger an undesirable result: 1) an MT exceedance must occur in 40% of RMS for four consecutive measurements (at least 2 years) for a management area to contribute to an undesirable result and 2) three adjacent management areas (accounting for at least 15% of basin area) or any management areas accounting for 30% or more of the basin area must be contributing to the undesirable results. DWR found that it "may allow for situations where groundwater conditions could degrade for sustained periods of time for portions of the Subbasin without triggering an undesirable result" (2022 Inadequate Determination, p. 10). DWR also found that the SMC set by each management are, to avoid MA exceedance (40% of MTs for 2 years), were set using various methods and sources and are not easily comparable across plans. **Board issues:** None	**Potential Action GL-1a –** Develop consistent, clear undesirable results. **Potential Action GL-1b –** Use consistent data and methods to develop SMC.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency GL-2 – The GSPs and Coordination Agreement lack necessary detail about well mitigation.	Although SGMA and the GSP Regulations do not require development of a well impact mitigation plan, the State Water Board considers them to be an important component of SGMA implementation to ensure for availability of water for all beneficial uses and users in the subbasin.	**DWR Inadequate Determination summary:** The 2022 GSPs are not implementing or plan to implement a well mitigation plan. **Board issues:** There is a lack of coordination on well mitigation plans for the subbasin and when present, discussion of well mitigation does not contain sufficient detail and is not yet implemented.	**Potential Action GL-2 –** Establish accessible, comprehensive, and appropriately funded well impact mitigation programs that mitigate impacts to wells affected by lowering of groundwater levels and/or degradation of water quality with clear triggers, eligibility requirements, and funding sources.
Deficiency GL-3 – The GSPs do not describe a feasible path for halting chronic lowering of groundwater levels.	Each GSP is required to include a description of the projects and management actions the GSA has determined will achieve groundwater sustainability in the basin. The description must include project and management actions, a summary of data used to support proposed actions, and a review of the uncertainty associated with the basin setting when developing projects or management actions. The GSP must also describe the criteria that would trigger implementing or stopping a project or management action and the process for determining whether that trigger has occurred (Cal. Code Regs., tit. 23, § 354.44). More fundamentally, for basins in a condition of overdraft, the GSP "shall describe projects or management actions, including a quantification of demand reduction or other methods, for the mitigation of overdraft" (Cal. Code Regs., tit. 23, § 354.44, subd. (b)(2)) GSPs need to include a description of the management of groundwater extractions and recharge to ensure that chronic lowering of groundwater levels or depletion of supply during periods of drought is offset by increases in groundwater levels or storage during other periods (Cal. Code Regs., tit. 23, § 354.44, subd. (b)(9)). In reviewing GSPs, DWR must consider, among other questions, "whether sustainable management criteria and projects and management actions are commensurate with the level of understanding of the basin setting, based on the level of uncertainty, as reflected in the plan" and "whether the projects and management actions are feasible and likely to prevent undesirable results and ensure that the basin is operated within its sustainable yield" (Cal. Code Regs., tit. 23, § 355.4, subds. (b)(3), (5)).	**DWR Inadequate Determination summary:** The 2022 GSPs do not demonstrate feasibility of projects, but they rely heavily on projects to demonstrate future sustainability. DWR notes in its 2022 Inadequate Determination that the GSPs rely on more than 180 projects and management actions to reach sustainability and that, without these projects and management actions, "extractions would exceed the estimated sustainable yield by 25 to 34 percent" (2022 Inadequate Determination, p. 32). **Board issues:** Demand management actions in the 2022 GSP appear voluntary and therefore unlikely to provide sufficient contingency in case GSAs fail to secure new supplies or overdraft is greater than estimated.	**Potential Action GL-3a –** Evaluate the feasibility of proposed supply augmentation projects. **Potential Action GL-3b –** Develop basin-wide allocations or utilize another demand management structure to help bring the subbasin into balance and meet basin sustainability goals. **Potential Action GL-3c –** Identify key indicator wells in each aquifer, with sufficient spatial coverage to represent beneficial uses and users in each aquifer and identify groundwater levels that will trigger specific demand management.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency Land Subsidence 1 (LS-1) – Land Subsidence undesirable results and SMC are not coordinated. • **Deficiency LS-1a** – Undesirable results are poorly described, unworkably complex, and inconsistently implemented. • **Deficiency LS-1b** – SMC rely on inconsistent datasets and methodologies.	SGMA requires that "Agencies intending to develop and implement multiple plans pursuant to Water Code § 10727(b)(3) shall enter into a coordination agreement to ensure that the Plans are developed and implemented utilizing the same data and methodologies…", and Regulations requires that "elements of the Plans necessary to achieve the sustainability goal for the basin are based upon consistent interpretations of the basin setting" (Cal. Code Regs., tit. 23, § 357.4, subd. (a)). In defining undesirable results, GSA are required to "describe the process and criteria relied upon do define undesirable results [that would occur when significant and unreasonable effects are caused by groundwater condition in the Subbasin]" (Cal. Code Regs., tit. 23, § 354.26, subd. (a)). The undesirable result definition should include the cause of groundwater conditions occurring throughout the Subbasin that has or may lead to an undesirable result, the criteria used to define when and where the effects of groundwater conditions cause undesirable results, and the impacts on beneficial uses and users (Cal. Code Regs., tit. 23, § 354.26 subd. (b)). In establishing SMC, GSAs must "establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26." (Cal. Code Regs. tit. 23 § 354.28). Discussion of the MTs should include among other things the "relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (Cal. Code Regs. tit. 23 § 354.28). Undesirable results and SMC should be consistent with key details in the Coordination Agreement. Agencies should describe how they use the same data and methodologies for assumptions described in Water Code § 10727.6 by including monitoring objectives, coordinated basin water budget, and sustainable yield for the basin supported by a description of an undesirable result for the basin, and an explanation of how the minimum threshold and measurable objectives relate to the undesirable result (Cal. Code Regs., tit. 23, § 357.4, subd. (b)(3)). The coordination agreement shall also explain how the Plans implemented together, satisfy the requirements of the Act (Cal. Code Regs., tit. 23, § 357.4, subd. (c)). GSP Regulations allow agencies to create "one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin" (Cal. Code Regs., tit. 23, § 350.20).	This is the corresponding subsidence level deficiency for coordination deficiency CRD-1. **DWR Inadequate Determination summary:** The DWR Inadequate Determination found that GSPs and Management Area plans did not consistently identify critical infrastructure. DWR further notes that, "[s]ome GSPs or management area plans defined Management Area Critical Infrastructure but did not develop sustainable management criteria…" (ibid, p. 38). **Board issues:** Board staff agree and further note that GSPs and Management Areas do not consistently define "significant and unreasonable," as evidenced by evidence in text and additional inconsistent definitions of the quantitative undesirable results.	**Potential Action LS-1a –** Develop consistent, clear undesirable results. **Potential Action LS-1b –** Use consistent data and methods to develop subsidence MTs.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency LS-2 – The GSPs do not provide adequate implementation details.	Each GSP is required to include a description of the projects and management actions the GSA has determined will achieve groundwater sustainability in the basin. The description must include project management actions, summary of data used to support proposed actions, and a review of the uncertainty associated with the basin setting when developing projects or management actions (Cal. Code Regs., tit. 23, § 354.44). In reviewing GSPs, DWR must consider, among other questions, "whether sustainable management criteria and projects and management actions are commensurate with the level of understanding of the basin setting, based on the level of uncertainty, as reflected in the plan" and "whether the projects and management actions are feasible and likely to prevent undesirable results and ensure that the basin is operated within its sustainable yield" (Cal. Code Regs., tit. 23, § 355.4, subd. (b)(3), (5)).	**DWR Inadequate Determination summary:** None. **Board issues:** The 2022 Coordination Agreement does not provide details about projects and management actions to slow subsidence for both regional and Management Area critical infrastructure. The 2022 Coordination Agreement states that "it is apparent that key data gaps pertaining to the various causes and rates of subsidence in the [Kern County Subbasin] still remain and that further study is needed to better define realistic management objectives for the [Subbasin]." (2022 Amended Coordination Agreement, pdf, p. 356).	**Potential Action LS-2a –** Develop and implement a plan to trigger sufficient management actions when subsidence exceeds defined thresholds, especially near critical infrastructure/facilities. **Potential Action LS-2b –** Reduce pumping and do not allow new wells in areas where subsidence threatens critical infrastructure. **Potential Action LS-2c –** Develop infrastructure mitigation programs with clear triggers, eligibility requirements, metrics, and funding sources.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency Groundwater Quality 1 (GWQ-1) – Groundwater Quality undesirable results and SMC are not coordinated. • **Deficiency GWQ-1a –** Undesirable results are poorly described, unworkably complex, and inconsistently implemented. • **Deficiency GWQ-1b –** SMC rely on inconsistent datasets and methodologies.	SGMA requires that "Agencies intending to develop and implement multiple plans pursuant to Water Code § 10727(b)(3) shall enter into a coordination agreement to ensure that the Plans are developed and implemented utilizing the same data and methodologies…", and Regulations requires that "elements of the Plans necessary to achieve the sustainability goal for the basin are based upon consistent interpretations of the basin setting" (Cal. Code Regs., tit. 23, § 357.4, subd. (a)). In defining undesirable results, GSA are required to "describe the process and criteria relied upon do define undesirable results [that would occur when significant and unreasonable effects are caused by groundwater condition in the Subbasin]" (Cal. Code Regs., tit. 23, § 354.26, subd. (a)). The undesirable result definition should include the cause of groundwater conditions occurring throughout the Subbasin that has or may lead to an undesirable result, the criteria used to define when and where the effects of groundwater conditions cause undesirable results, and the impacts on beneficial uses and users (Cal. Code Regs., tit. 23, § 354.26 subd. (b)). In establishing SMC, GSAs must "establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26." (Cal. Code Regs. tit. 23 § 354.28). Discussion of the MTs should include among other things the "relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (Cal. Code Regs. tit. 23 § 354.28). Undesirable results and SMC should be consistent with key details in the Coordination Agreement. Agencies should describe how they use the same data and methodologies for assumptions described in Water Code § 10727.6 by including monitoring objectives, coordinated basin water budget, and sustainable yield for the basin supported by a description of an undesirable result for the basin, and an explanation of how the minimum threshold and measurable objectives relate to the undesirable result (Cal. Code Regs., tit. 23, § 357.4, subd. (b)(3)). The coordination agreement shall also explain how the Plans implemented together, satisfy the requirements of the Act (Cal. Code Regs., tit. 23, § 357.4, subd. (c)). GSP Regulations allow agencies to create "one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin" (Cal. Code Regs., tit. 23, § 350.20).	This is the corresponding groundwater quality deficiency for coordination deficiency CRD-1. **DWR Inadequate Determination summary:** Not specific to groundwater quality, see CRD - 1. **Board issues:** Board staff agree and elaborate that the fragmented approach for setting SMC would result in localized disproportional impacts in the subbasin without triggering undesirable results. The fragment approach is further exacerbated by lack of coordination between GSAs using inconsistent data and methodologies for monitoring groundwater quality throughout the subbasin.	**Potential Action GWQ-1a –** Develop consistent, clear undesirable results. **Potential Action GWQ-1b –** The GSPs should use consistent data and methods to develop groundwater level MTs.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency GWQ-2 – Groundwater quality monitoring networks are not consistent with SGMA requirements. • **Deficiency GWQ-2a –** The Monitoring Networks are not protective of all beneficial uses and users in the subbasin. • **Deficiency GWQ-2b –** Data collection sampling frequencies are sometimes inadequate. • **Deficiency GWQ-2c –** It is unclear how monitoring networks are monitoring for recharge projects.	The GSP Regulations require GSPs to include a description of the monitoring network objectives for the basin including how the GSA will "monitor impacts to the beneficial uses or users of groundwater" (Cal. Code Regs., tit. 23, § 354.34, subd. (b)(2)). The monitoring network must be "capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in groundwater and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate [GSP] implementation" (Cal. Code Regs., tit. 23, § 354.34, subd. (a)). Data collected must be of "sufficient quality, frequency, and distribution" to characterize and evaluate groundwater conditions (Cal. Code Regs., tit. 23, § 354.32). GSAs "may designate a subset of monitoring sites as representative of conditions in the basin or an area of the basin...", known as RMSs (Cal. Code Regs., tit. 23, § 354.36). GSAs identify MTs, MOs, and Interim Milestones at these sites. "The designation of [an RMS] shall be supported by adequate evidence demonstrating that the site reflects general conditions in the area" (Cal. Code Regs., tit. 23, § 354.36, subds. (a) & (c)).	**DWR Inadequate Determination summary:** None. **Board issues:** Board staff find that the GSPs monitoring networks are not protective of beneficial uses and users and do not promote the sufficient quality and collection of data, frequency, and distribution to characterize groundwater quality conditions and evaluate changing conditions that occur throughout the implementation of the GSP.	**Potential Action GWQ-2a –** GSAs should add additional wells to monitoring well networks. **Potential Action GWQ-2b –** Revise GSPs and monitoring well networks and exercise coordination with existing regulatory programs to meet the goals of SGMA. **Potential Action GWQ-2c –** GSAs should define RMS that will be used to ensure PMAs do not impact groundwater quality in the Subbasin.

Deficiency	What SGMA Requires	Deficiency Summary	Potential Actions to Correct the Deficiency
Deficiency GWQ-3 – Management actions are not responsive to water quality degradation. • **Deficiency GWQ-3a –** Additional sampling is not triggered when Minimum Thresholds are exceeded. • **Deficiency GWQ-3b –** Well mitigation plans don't address water quality degradation.	Each GSP is required to include a description of the projects and management actions the GSA has determined will achieve groundwater sustainability in the basin. The GSAs must include projects and management actions "that may be utilized to meet interim milestones, the exceedance of minimum thresholds, or where undesirable results have occurred or are imminent" (Cal. Code Regs., tit. 23, § 354.44, subd. (b)(1)). The description must include project and management actions, a summary of data used to support proposed actions, and a review of the uncertainty associated with the basin setting when developing projects or management actions (Cal. Code Regs., tit. 23, § 354.44). In reviewing GSPs, DWR must consider, among other questions, "whether sustainable management criteria and projects and management actions are commensurate with the level of understanding of the basin setting, based on the level of uncertainty, as reflected in the plan" (Cal. Code Regs., tit. 23, § 355.4, subd. (b)(3)).	**DWR Inadequate Determination summary:** None. **Board issues:** To ensure the human right to water, GSAs should develop mitigation plans for sustainability indicators impacted by basin management. Board staff note that elevated concentrations of arsenic, nitrate, uranium, gross alpha, 1,2,3,-Trichloropropane, and other constituents detected above regulatory thresholds in the Subbasin can severely impact human health (See Table 3-2). Given the potential for these exceedances to occur, GSAs do not propose PMA to mitigate for groundwater quality exceedances as a result of groundwater management activities in the Subbasin.	**Potential Action GWQ-3a –** Plan additional sampling when water quality is degraded. **Potential Action GWQ 3b** is addressed by Groundwater Level Potential Action GL-2.

Deficiency Interconnected Surface Water 1 (ISW-1) – Interconnected Surface Water undesirable results and SMC are not coordinated. • **Deficiency ISW-1a** – Undesirable results are poorly described, unworkably complex, and inconsistently implemented.	SGMA requires that "Agencies intending to develop and implement multiple plans pursuant to Water Code § 10727(b)(3) shall enter into a coordination agreement to ensure that the Plans are developed and implemented utilizing the same data and methodologies…", and Regulations requires that "elements of the Plans necessary to achieve the sustainability goal for the basin are based upon consistent interpretations of the basin setting" (Cal. Code Regs., tit. 23, § 357.4, subd. (a)). In identifying ISWs, GSP Regulations state that ISWs refer to "surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted," (Cal. Code Regs., tit. 23, § 351, (o)). The GSP Regulations require GSAs to provide "Identification of interconnected surface water systems within the basin and an estimate of the quantity and timing of depletions of those systems, utilizing data available from the Department, as specified in Section 353.2, or the best available information," (Cal. Code Regs., tit. 23, § 354.16, (f)). Where ISWs are identified, GSPs define ISW undesirable results unless they demonstrate that ISWs undesirable results are "not present and are not likely to occur…" (Cal. Code Regs., tit. 23, § 354.26, (d)). In defining undesirable results, GSA are required to "describe the process and criteria relied upon do define undesirable results [that would occur when significant and unreasonable effects are caused by groundwater condition in the Subbasin]" (Cal. Code Regs., tit. 23, § 354.26, subd. (a)). The undesirable result definition should include the cause of groundwater conditions occurring throughout the Subbasin that has or may lead to an undesirable result, the criteria used to define when and where the effects of groundwater conditions cause undesirable results, and the impacts on beneficial uses and users (Cal. Code Regs., tit. 23, § 354.26 subd. (b)). In establishing SMC, GSAs must "establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26." (Cal. Code Regs. tit. 23 § 354.28). Discussion of the MTs should include among other things the "relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (Cal. Code Regs. tit. 23 § 354.28). Undesirable results and SMC should be consistent with key details in the Coordination Agreement. Agencies should describe how they use the same data and methodologies for assumptions described in Water Code § 10727.6 by including monitoring objectives, coordinated basin water budget, and sustainable yield for the basin supported by a description of an undesirable result for the basin, and an explanation of how the minimum threshold and measurable objectives relate to the undesirable result (Cal. Code Regs., tit. 23, § 357.4, subd. (b)(3)). The coordination agreement shall also explain how the Plans implemented together, satisfy the requirements of the Act (Cal. Code Regs., tit. 23, § 357.4, subd. (c)). GSP Regulations allow agencies to create "one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of	**DWR Inadequate Determination summary:** None. **Board issues:** This is the corresponding Interconnected Surface Water level deficiency for CRD-1. Deficiency CRD-1 concerns undesirable results and SMC that are poorly coordinated across the subbasin. And, Despite the fact that GSAs and Management Areas claim there is no ISW and therefore no potential undesirable results, the methods used to determine that there are no potential undesirable results are inconsistent. And in some cases, the GSPs do not provide adequate technical justification to demonstrate ISW is not present in the subbasin.	**Potential Action ISW-1a** – Revise GSPs to use best available consistent Data and Methodologies to evaluate for ISW.

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	the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin" (Cal. Code Regs., tit. 23, § 350.20).		