

Summary of Responses to Corrective Actions – Merced Subbasin GSP (July 2022)

Corrective Action #	Corrective Action	Response
1a	Department staff believe the management approach described in the GSP, which couples minimum thresholds and measurable objectives that account for operational flexibility during dry periods with a definition of undesirable results that disregards minimum threshold exceedances in all years except consecutive below normal, above normal, or wet years, to be inconsistent with the objectives of SGMA. Therefore, the GSAs should remove the water-year type requirement from the GSP's undesirable result definition.	The water year type requirement has been removed from the sustainability management criteria.
1b	The GSP should be revised to include specific projects and management actions the GSAs would implement to offset drought-year groundwater level declines.	This is resolved by removal of the water year type requirement. Further, a new management action "Domestic Well Mitigation Program" has been added to the GSP.
1c	The GSAs should thoroughly explain how their approach avoids undesirable results for subsidence and depletion of interconnected surface waters, as SGMA does not include an allowance or exemption for those conditions to continue in periods of drought.	This is resolved by removal of the water year type requirement. Further, the sustainable management criteria for subsidence have been revised to reflect no long-term subsidence and is consistent with revised thresholds for groundwater levels. Additionally, a new management action "Above Corcoran Sustainable Management Criteria Threshold Adjustment Consideration" has been added that provides for adjustments to sustainable management criteria for groundwater levels in the Above Corcoran Principal Aquifer to manage subsidence and depletions of interconnected surface waters.
1d	The GSAs should revise the GSP to describe how they would address drinking water impacts caused by continued overdraft during the period between the start of GSP implementation and achieving the sustainability goal. If the GSP does not include projects or management actions to address those impacts, the GSP should contain a thorough discussion, with supporting facts and rationale, explaining how and why the GSAs determined not to include specific actions to mitigate drinking water impacts from continued groundwater lowering below pre-SGMA levels	The Merced Subbasin may experience undesirable results within the 20-year implementation period. The occurrence of one or more undesirable results within the initial 20-year period does not, by itself, necessarily indicate that a basin is not being managed sustainably, or that it will not achieve sustainability within the 20-year period. The GSP has clearly defined a pathway to reach sustainability in the form of interim milestones, and will show actual progress in annual reporting. Additionally, the GSP has been revised to include consideration of a domestic well mitigation program, which the GSAs may implement to address drinking water impacts.
1e	The GSP should be revised to explain how the GSAs will assess groundwater quality degradation in areas where further groundwater level decline, below historic lows, is allowed via the minimum thresholds. The GSAs should further describe how they will coordinate with the appropriate groundwater users, including drinking water, environmental, and irrigation users as identified in the GSP. The GSAs should also discuss efforts to coordinate with water quality regulatory agencies and programs in the Subbasin to understand and develop a process for determining if continued lowering of groundwater levels is resulting in degraded water quality in the Subbasin during GSP implementation.	Sustainable management criteria for groundwater levels have been revised such that the minimum threshold is based on fall 2015 elevations. Thus, groundwater quality degradation due to groundwater level declines below 2015 elevations (pre-SGMA) is not expected in the long-term.

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2a	<p>As required by the GSP Regulations, the GSP must provide a description of how the minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property. In particular, the GSAs should address the apparent or potential discrepancies between the stated rationale for the minimum thresholds versus the results of multiple studies showing a potentially significant number of well impacts if groundwater levels are operating near those minimum thresholds. Furthermore, the GSAs should explain whether other drinking water users that may rely on shallow wells, such as public water systems and state small water systems, were considered in the GSAs' site-specific thresholds. If not, the GSAs should conduct outreach with those users and incorporate their shallow wells, as applicable, into the site-specific minimum thresholds and measurable objectives.</p>	<p>The minimum thresholds have been raised to reflect 2015 levels, which are higher than the levels in the 2019 GSP and typically higher than current levels.</p> <p>Further, the GSAs have evaluated in the GSP the impact of the new groundwater level minimum thresholds on both domestic well users and Public Water System wells in the Subbasin. This analysis expanded from a 2 mile radius to a 5 mile radius to capture the vast majority of the users of these types across the Subbasin.</p>
3a	<p>The GSAs should identify the amount of subsidence that can be tolerated by critical infrastructure during the implementation of the GSP. This identification should be supported by information on the effects of subsidence on land surface and groundwater beneficial uses and users, and the amount of subsidence that would substantially interfere with those uses and users.</p>	<p>The sustainable management criteria for subsidence have been revised to reflect a zero foot per year subsidence rate by 2040. In addition, some recent work completed by USBR & DWR that evaluated projected impacts of subsidence on the Middle Eastside Bypass have been referenced in the GSP.</p>
3b	<p>If, pending resolution of this corrective action, rates of delayed or residual compaction are used to inform minimum thresholds or measurable objectives, then information should be provided to substantiate those rates, or explanation should be provided for how those rates will be evaluated as a data gap.</p>	<p>The sustainable management criteria for subsidence have been revised to reflect no long-term subsidence (0 ft/yr), with impacts of measurement error or residual compaction considered if exceeded. A new study on time scales related to residual compaction is cited and included in the references.</p>
3c	<p>The GSAs should revise their minimum thresholds and measurable objectives for land subsidence to reflect the intent of SGMA that subsidence be avoided or minimized once sustainability is achieved. The GSAs should explain how the implementation of the projects and management actions is consistent both with achieving the long-term avoidance or minimization of subsidence and with not exceeding the tolerable amount of cumulative subsidence (i.e., less than substantial interference)</p>	<p>The sustainable management criteria for subsidence have been revised to reflect a zero foot per year subsidence rate by 2040. Additionally, a new management action "Above Corcoran Sustainable Management Criteria Threshold Adjustment Consideration" has been added that provides for adjustments to sustainable management criteria for groundwater levels in the Above Corcoran Principal Aquifer to help meet subsidence criteria.</p>