Kaweah Sub-Basin

Sustainable Management Criteria:
Sustainability Goal & Undesirable Results

Sustainability Goal:

Main focus per SGMA: Implementation of GSPs such that a basin is operated within its sustainable yield. Driver for sustainable yield is chronic lowering of groundwater levels deemed to be a significant and unreasonable depletion of supply or cause of other undesirable results. [SGMA §10721(t); Regs §354.24]]

The broadly-stated Sustainability Goal for the Kaweah Sub-Basin is, through implementation of measures tailored to each GSA and described in each corresponding GSP, to ensure that groundwater production will preserve the viability of existing agricultural enterprises of the region as well as the smaller communities that provide much of their job base in the sub-basin, to and including school districts serving these communities. The Goal will also strive to fulfill the water needs of existing and amended county and city general plans that commit to continued economic and population growth within Tulare County.

The Sustainability Goal is derived from the Basin Setting and its characterization as described in the Hydrogeologic Conceptual Model, the historical and current groundwater conditions, and its water budget. To accomplish this Goal, the Sub-Basin's underlying aquifer supply will be managed such that long-term overdraft is eliminated within the SGMA-mandated time frame. This Goal will be achieved by:

- The implementation of the EKGSA, GKGSA and MKGSA GSPs, all designed to identify phased implementation of measures (Projects & Management Actions) targeted to ensure that the Kaweah Sub-Basin is operated within its Sustainable Yield by 2040 or as may be otherwise extended by DWR, thereby avoiding Undesirable Results as herein defined.
- Projects to sustain and maximize the delivery of local and imported water supplies into the sub-basin for beneficial use, including groundwater recharge via sinking basins, incentivized on-farm programs, and natural and man-made water conveyance systems. It is recognized that maximizing deliveries of Sierra watershed surface supplies into the sub-basin will provide inherent water quality improvements for all beneficial uses.
- Where necessary, Management Actions to ensure that the rate of groundwater hydrostatic pressure/water level decline in semiconfined zones and rate of groundwater level decline in the unconfined zone reaches zero on a rolling 10-yr average basis in GSAs and Management Areas as identified herein {herein being the

Coordination Agreement} by 2040 or as otherwise extended by DWR. Management Actions may include land fallowing or other land-use conversion alternatives and will incorporate a demand reduction program.

- Implementation of water conservation measures consistent with state mandates and as reflected in urban water management plans.
- Where feasible, modification of waste water treatment facilities where effluent discharges reach the underlying aquifer, all as approved and authorized by the owner/operator of such facilities.
- Placement of recharge projects and management of pumping regimes in each GSA/Management Area such that acceleration of contaminant plume migration that impairs domestic and municipal supply well production as induced by GSP Projects and Management Actions is avoided. Where technologically and economically feasible as determined by the GSA, consideration may be given to those projects and pumping regimes that could result in key water quality constituent improvements for potable uses, consistent with any MCLs as established by applicable regulatory agencies.
- Placement of recharge projects and management of pumping regimes and adherence to Minimum Thresholds in each GSA/Management Area such that newly-induced subsidence is not causing significant and unreasonable harm to surface and sub-surface infrastructure, including water conveyance systems, or contributing to significant and unreasonable sub-surface water quality degradation.
- Application of the Kaweah Sub-Basin Hydrologic Model (KSHM) and the initial selection of Projects and Management Actions by the sub-basin GSAs and its simulation output is summarized herein (herein being the Coordination Agreement) to explain how the Sustainability Goal is to be achieved within 20 years of GSP implementation.
- Assessments at each Interim Milestone of those Projects & Management Actions that were implemented and their achievements towards avoiding Undesirable Results as defined herein.
- Continuance of Projects & Management Action implementation through the Planning Horizon to maintain this Sustainability Goal.

Undesirable Results:

- *Must cite (1) causes, (2) criteria (Min. Thresholds), and (3) effects on beneficial uses. [SGMA §10721(w); Regs §354.26]*

    - Causes leading to Undesirable Results
        - Causes are over-pumping or nominal groundwater recharge operations such that groundwater levels fall and remain below Min. Thresholds. This applies for

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the following Sustainability Indicators: Groundwater levels and, by proxy, for changes in storage and differential land subsidence.

- Cause is pumping localities and rates, as well as other induced effects by implementation of a GSP, such that known migration plumes and contaminant concentrations are threatening production well viability. This applies for the following Sustainability Indicator: Degraded water quality.
- The Kaweah Sub-Basin GSAs have concluded that Sustainability Indicators for seawater intrusion are non-existent; and for depletions of interconnected surface water are minimal and, to the extent they occur, impact only vegetation along the banks of unlined channels.

o Criteria to define Undesirable Results

- Min. Thresholds are defined such that, when Sustainability Indicators within *30%* of Management Areas and corresponding monitoring sites as among all three GSAs are exceeded, an Undesirable Result occurs. Should this occur, a determination shall be made of the then-current GSA water budget and its resulting indication of net reduction in storage. Similar determinations shall be made of adjacent GSA water budgets in neighboring sub-basins to ascertain the causes for the occurrence of the Undesirable Result.
- Groundwater elevations shall serve as the Sustainability Indicator for chronic lowering of groundwater levels and, by proxy, for reductions in groundwater storage and differential land subsidence.
- Worsening groundwater quality measurements shall serve as the Sustainability Indicator for degraded water quality.

o Potential effects on beneficial uses and users

- The potential effects of lowered groundwater levels, when exceeding Min. Thresholds and becoming an Undesirable Result, is reduced irrigation water supplies for agriculture and for municipal systems through loss of well capacity, loss or degradation of water supplies for smaller community water systems and domestic wells due to well failures, increased energy consumption due to lowered water levels, induced land subsidence if water levels fall below historical lows, and the adverse economic consequences of the aforementioned effects such as increased energy usage to extract groundwater from deeper levels.

- The potential effects of degraded water quality from migrating plumes includes municipal, small community and domestic well sites rendered unfit for potable supplies and associated uses, and/or the costs to treat groundwater supplies at the well head or point of use so that they are compliant with state and federal regulations