

231 **Table 11-3. Criteria and Triggers for the Six Sustainability Indicators**

| Sustainability Indicator | Minimum Threshold (Abbreviated description; see Section 9 for full definition) | Undesirable Result (Abbreviated description; see Section 9 for full definition) | Trigger | Initial Analysis and Response Action |
|-----------------------------------|--|--|--|--|
| Chronic Groundwater Level Decline | <u>Wells with >10 years historical groundwater elevation observations:</u> Minimum static fall (October) groundwater elevation prior to 2015. <u>Wells with <10 years historical groundwater elevation observations:</u> Inferred minimum static fall (October) groundwater elevation between 2005 to 2014 (observed or simulated). | 20% of designated RMS well levels fall below the MT in fall (October) for 3 consecutive years of fall measurements in non-drought years. | A Trigger occurs if 20% of designated RMS well levels fall below the MT in fall during a single year. | Initial exceedance of MT at any RMS well (or the occurrence of a Trigger) results in further assessment of conditions and vetting by the Implementation Team and also Technical Work Group. Assessment will seek to determine the causal factors of the groundwater level decline, including whether drought conditions have contributed to the decline. Assessment will include review of subsequent mid-winter precipitation/hydrologic conditions (see Section 11.2.2.7) to determine whether PMAs are warranted. |
| Reduction in Groundwater Storage | Net groundwater extraction that exceeds sustainable yield, where net groundwater extraction is the volume extracted less any volume of augmented recharge by projects. | 7-year avg. annual net groundwater extraction in Subbasin exceeds sustainable yield. | A Trigger occurs if net groundwater extraction in three consecutive non-drought years, or four consecutive years including drought years, exceeds the sustainable yield. | Initial exceedance of MT at any RMS well (or the occurrence of a Trigger) results in further assessment of conditions and vetting by the Implementation Team and also Technical Work Group. Assessment will seek to determine the causal factors of the reduced groundwater storage (which includes an analysis of groundwater level trends), including whether drought conditions have contributed to the exceedance. Assessment will include review of subsequent mid-winter hydrologic conditions (see Section 11.2.2.7) to determine whether PMAs are warranted. |
| Land Subsidence | <u>Land surface elevation RMS:</u> 0.2 ft/year inelastic land surface elevation reduction. <u>Groundwater level RMS:</u> Minimum historical groundwater levels | Annual MTs exceeded and groundwater extraction is cause of inelastic subsidence. | A Trigger occurs if either groundwater levels at 20% of the RMS wells exceed the MT, or land surface elevation at the RMS location exceeds 0.2 ft/year. | Initial exceedance of MTs for groundwater levels and also land surface elevation reduction (i.e., Triggers) results in further assessment of conditions to determine if the displacement is inelastic and vetting by Implementation Team and also Technical Work Group. Assessment will seek to determine the causal factors of the groundwater level decline and land surface displacement (whether due to groundwater pumping), including whether drought |

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| | | | | conditions have contributed to the exceedance. Assessment will include review of subsequent mid-winter precipitation/hydrologic conditions (see Section 11.2.2.7) to determine whether PMAs are warranted. |
| Degraded Water Quality | State drinking water standards at each RMS for: <ul style="list-style-type: none"> • TDS - 500 mg/L • Nitrate (as N) - 10 mg/L • Arsenic - 10 ug/L | Confirmed exceedance of an MT at any RMS. | Concentrations exceeding 75% of the primary MCL (or exceed 25% more than the baseline concentration) = Trigger; statistically significant increases in concentration at any RMS indicating nearing exceedance of criteria for Trigger may also be considered a Trigger. | Initial exceedance of MT at any RMS well (or the occurrence of a Trigger) results in further assessment of conditions and vetting by the Implementation Team and also Technical Work Group. Assessment will seek to determine the causal factors of the increasing constituent concentrations and whether the increasing concentrations are associated with actions under the purview of the GSA; if so, initial Response Actions will be determined and implemented. If water quality trends at an RMS well are determined to be unrelated to actions (i.e., PMAs) under the GSA's purview, the water quality results and findings will be communicated to regulatory agencies so those agencies can further examine the factors contributing to increased constituent concentrations. |

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|--|--|---|---|--|
| Seawater Intrusion | Chloride concentration of 250 mg/L established at designated RMS. | A detection and confirmed exceedance of the MT at any of the RMS wells | Concentrations exceeding 75% of 250 mg/L, which is the secondary MCL (or exceed 25% more than the baseline concentration) = Trigger; Statistically significant increases in concentration at an RMS indicating nearing exceedance of criteria for Trigger may also be considered a Trigger. | Initial exceedance of MT at any RMS well (or the occurrence of a Trigger) results in further assessment of conditions and vetting by the Implementation Team and also Technical Work Group. Assessment will seek to determine the causal factors of the increasing chloride concentrations and whether the increasing concentrations are associated with actions under the purview of the GSA; if so, initial Response Actions will be determined and implemented. If chloride concentration trends at an RMS well are determined to be unrelated to actions under the GSA's purview, the chloride results and findings will be communicated to other responsible agencies so those agencies can further examine the factors contributing to increased concentrations. |
| Depletions of Interconnected Surface Water | <p><u>Groundwater level RMS:</u> the inferred minimum static groundwater elevation between 2005 to 2014 (observed or simulated).</p> <p><u>Streamflow Depletion RMS (Interim MT):</u> The second highest seasonal volume of streamflow depletion (simulated) that occurred from 2005 to 2014 during June to October.</p> | <p><u>Groundwater level RMS:</u> 20% of RMS well levels are below the MT in the Fall for three consecutive years.</p> <p><u>Streamflow Depletion RMS (Interim UR):</u> Exceedance of MT for volume of streamflow depletion occurring 3 consecutive years at the Napa River at Pope St. (1,650 AF) or Napa River at Oak Knoll Ave. (3,300 AF).</p> | Exceedance of MT (Groundwater level or Streamflow Depletion Volume) = Trigger | Initial exceedance of MT (and similarly the Trigger) results in further assessment of surface water/groundwater interaction conditions, factors associated with those conditions, vetting by Implementation Team and also Technical Work Group, and initiating PMAs as recommended by the Work Group and approved by the NCGSA. Assessment will include review of subsequent mid-winter precipitation/hydrologic conditions (see Section 11.2.2.7) to determine whether PMAs are warranted. |