

May 14, 2020 Advisory Committee Meeting – Handout #2

Undesirable Results

This handout describes Undesirable Results for use in the Groundwater Sustainability Plan (GSP) for the San Pasqual Valley (SPV) Basin. Undesirable Results are used in two ways in a GSP

- To describe what happens if conditions are bad for local users, which would cause an ‘undesirable result’, this use is described in this handout.
- As a part of sustainable management criteria, where measurements are used to indicate if the basin is experiencing an ‘undesirable result’. This use of Undesirable Result will be addressed later in the GSP development process.

An Undesirable Result statement will be developed for each sustainability indicator as defined by SGMA:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.
- Significant and unreasonable reduction of groundwater storage.
- Significant and unreasonable seawater intrusion.
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
- Significant and unreasonable land subsidence that substantially interferes with surface land uses.
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

The Undesirable Results statements are a key component of the GSP, and require careful wording to reflect local stakeholder concerns while allowing for flexible management of the basin by the SPV Groundwater Sustainability Agency (GSA).

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As part of the January Advisory Committee meeting, the GSP development team asked stakeholders in a facilitated workshop to identify outcomes of groundwater management that they wanted, and those that they didn't want. Responses were written down and compiled. Responses were then sorted into a matrix, to better reflect where stakeholder input could be used in development of the GSP. Table 1 shows the matrix with responses.

Responses in the matrix were used alongside regulatory requirements to develop draft Undesirable Results statements for each sustainability indicator. The statements are:

Undesirable Result Statements

- The Undesirable Result for the chronic lowering of groundwater levels is a result that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.
- The Undesirable Result for reduction of groundwater storage is a result that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.
- The Undesirable Result for degraded water quality is a result stemming from a causal nexus between groundwater extractions and potential other SGMA-related groundwater quantity management activities, and groundwater quality that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.
- The Undesirable Result for land subsidence is a result that causes significant and unreasonable reduction in the viability of the use of infrastructure over the planning and implementation horizon of this GSP.
- Seawater intrusion is not an applicable sustainability indicator, because seawater intrusion is not present and is not likely to occur in the North and South Yuba Basins due to the distance between the basin and the Pacific Ocean, bays, deltas, or inlets.
- The Undesirable Result for depletions of interconnected surface water is a result that causes significant and unreasonable adverse effects on beneficial uses of interconnected surface water over the planning and implementation horizon of this GSP.



Sustainability Indicator ¹	I. STORAGE	II. GROUNDWATER ELEVATION	III. WATER QUALITY	IV. SURFACE WATER CONNECTIVITY
Undesirable Results Consideration ²	Unreasonable reduction of groundwater storage, which results in: a. Adverse impacts to the viability of agriculture, and the agricultural economy. b. Unusable and stranded groundwater extraction infrastructure. c. Need to deepen or construct new wells. d. Adverse impacts to domestic wells users. e. Adverse impacts on connected ecosystems.	Chronic lowering of groundwater levels indicating unreasonable depletion of supply, which results in: a. Adverse impacts to the viability of agriculture, and the agricultural economy. b. Unusable and stranded groundwater extraction infrastructure. c. Need to deepen or construct new wells. d. Adverse impacts to domestic wells users. e. Adverse impacts on connected ecosystems.	Significant and unreasonable degraded water quality that adversely impacts drinking, irrigation, industrial, and environmental uses, resulting from: a. Adverse impacts to the viability of agriculture, and the agricultural economy. b. Adverse impacts to ecosystems and habitat. c. Adverse impacts to the viability of drinking water.	Significant and unreasonable depletions of interconnected surface water that results in: a. Adverse impacts on downstream neighbors. b. Adverse impacts on the natural stream environment.
Minimum Threshold Consideration ³	<ul style="list-style-type: none"> TBD 	<ul style="list-style-type: none"> Local well infrastructure depths Groundwater dependent ecosystems 	<ul style="list-style-type: none"> Maintain and sustain water quality (no PFAS) Trend or exceedance of historic baseline of water quality indicators at representative sites (TDS, Nitrate) 	<ul style="list-style-type: none"> Understand historic rates of stream depletion for comparison
Measurable Objective Consideration ⁴	<i>Example</i> <ul style="list-style-type: none"> Maintain groundwater storage (<i>within the limits of basin sustainable yield</i>) that provide for sustainable use of the groundwater basin. 	<i>Example</i> <ul style="list-style-type: none"> Maintain groundwater elevations (<i>within xx at locations y, z</i>) that provide for sustainable use of the groundwater basin. 	<i>Example</i> <ul style="list-style-type: none"> Maintain groundwater quality in the San Pasqual Valley Basin for the benefit of groundwater users. 	<i>Example</i> <ul style="list-style-type: none"> Manage groundwater to protect against adverse impacts to surface water flows in creeks flowing through the San Pasqual Valley Basin.
Interim Milestones Consideration ⁵	<ul style="list-style-type: none"> TBD 	<ul style="list-style-type: none"> TBD 	<ul style="list-style-type: none"> TBD 	<ul style="list-style-type: none"> TBD
Projects & Management Actions Consideration	<ul style="list-style-type: none"> Lean and efficient management of groundwater Use recycled water for recharge or direct use Agricultural Best Management Practices (BMPs) 	<ul style="list-style-type: none"> Manage streambeds to increase percolation Maximize stormwater capture Work with RWQCB on runoff Limit new users if needed Allow alternate dust control methods 	<ul style="list-style-type: none"> Use recycled water for recharge or direct use Protect habitat restoration areas Limit contamination of groundwater due to stormwater infiltration 	<ul style="list-style-type: none"> TBD
Planning Principles ⁶	<ul style="list-style-type: none"> Consistent, reliable supplies of water desired Seek grant funds for conservation improvements Maintain ability to market crops 		<ul style="list-style-type: none"> Collaboration and cooperation Consider effects of west end pumping on east end groundwater levels Avoid economic impacts where possible Limit invasive species 	

Notes:

- Sustainability Indicator** refers to any of the effects caused by groundwater conditions occurring throughout the basin that, when significant and unreasonable, cause undesirable results
- Undesirable Result** means one or more of the following effects caused by groundwater conditions occurring throughout the basin: (1) Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. (2) Significant and unreasonable reduction of groundwater storage. (3) Significant and unreasonable seawater intrusion. (4) Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies. (5) Significant and unreasonable land subsidence that substantially interferes with surface land uses. (6) Depletion of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water. Seawater Intrusion and Subsidence are not occurring in the San Pasqual Valley Basin and are not included in this matrix
- Minimum Threshold** refers to a numeric value for each sustainability indicator used to define undesirable results
- Measurable Objective** refers to specific, quantifiable goals for the maintenance or improvement of specified groundwater conditions that have been included in an adopted Plan to achieve the sustainability goal for the basin within 20 years. Uses the same metric as defined by the minimum threshold for the same sustainability indicator.
- Interim Milestones** refers to a target value representing measurable groundwater conditions, in increments of five years using the same metric as the measurable objective.
- Planning Principles** describes “how” the planning process will be conducted and provide overall guidance.