
MEMORANDUM

TO: YSGA BOARD OF DIRECTORS

FROM: YSGA EXECUTIVE OFFICER

SUBJECT: SUSTAINABLE MANAGEMENT CRITERIA

DATE: JUNE 15, 2018

CC: YSGA WORKING GROUP

BACKGROUND

The Sustainable Management Criteria term collectively refers to the Sustainability Goal, Undesirable Results, Minimum Thresholds, and Measurable Objectives and is an assessment of sustainability indicators, significant and unreasonable conditions, management areas, and representative monitoring sites. Development of the Sustainable Management Criteria relies upon information about the subbasin developed in the hydrogeologic conceptual model, the description of current and historical groundwater conditions, and the water budget (DWR SMC BMP, 2017).

GSP REGULATIONS

DWR's Groundwater Sustainability Plan (GSP) Regulations contain specific requirements and metrics for each sustainability indicator (GSP Regs §354.28). GSP Regulations require six components of information be documented for each minimum threshold¹, and three components of information be documented for each undesirable result².

Specific requirements for the minimum threshold metrics used to quantify each sustainability indicator are listed below:

1. **Chronic lowering of groundwater levels:** a groundwater elevation measured at the representative monitoring site.

¹ A minimum threshold is the quantitative value that represents the groundwater conditions at a representative monitoring site that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may cause an undesirable result(s) in the subbasin.

² Undesirable results occur when conditions related to any of the six sustainability indicators become significant and unreasonable.

2. **Reduction of groundwater storage:** a volume of groundwater that can be withdrawn from the basin or management area, based on measurements from multiple representative monitoring sites, without leading to undesirable results.
3. **Degraded water quality:** water quality measurements that indicate degradation at the monitoring site (can be defined at a site, along the isocontour line, or as a calculated volume).
4. **Land subsidence:** a rate and the extent of land subsidence.
5. **Depletion of interconnected surface waters:** a rate or volume of surface water depletion.
6. **Seawater intrusion:** location of a chloride isocontour (not applicable in the Yolo Subbasin).

All undesirable results will be based on minimum threshold exceedances and the Yolo Subbasin GSP must define when an undesirable result is triggered. Avoidance of the defined undesirable results must be achieved within 20 years of GSP implementation. (GSP Regs 354.26).

Measurable objectives³ are set for each sustainability indicator at the same representative monitoring sites and using the same metrics as minimum thresholds. In addition, interim milestones must be defined in five-year increments. Interim milestones must be coordinated with projects and management actions proposed by the YSGA to achieve the sustainability goal. (GSP Regs 354.30).

As one of the final components of GSP development, the YSGA must define the sustainability goal for the entire Yolo Subbasin. The YSGA must succinctly state the objectives and desired conditions of the Yolo Subbasin, how the Subbasin will get to that desired condition, and why the measures planning will lead to success. The sustainability goal is supported by the locally-defined minimum thresholds and undesirable results. Demonstration of the absence of undesirable results supports a determination that the Subbasin is operating within its sustainable yield, and therefore, the sustainability goal has been achieved.

YOLO SUBBASIN GSP PLANNING PROCESS

The development of the Sustainable Management Criteria is a culmination of the Hydrogeologic Conceptual Model, Water Budget, Monitoring Network Update, Data Management System Update, and Stakeholder Communication and Engagement tasks. The results of the WEAP/MODFLOW model, the hydrogeologic conceptual model, and data collected from the monitoring network will be used to inform the stakeholders of current conditions within the subbasin and to provide input for the development of measurable objectives and minimum thresholds for each sustainability indicator.

The criteria will also be based on the information gathered during working group, committee, and entity meetings. After the measurable objectives and minimum thresholds have been established, it may be necessary for the YSGA to develop surface water and groundwater management actions designed to enable the YSGA to achieve its sustainability objectives and avoid the occurrence of undesirable results. These management actions will be evaluated by the YSGA members and may not be necessary for each management area.

³ Measurable objectives are quantitative goals that reflect the subbasin's desired groundwater conditions and allow the YSGA to achieve the sustainability goal.

Cost Estimate: \$197,000 (work is also embedded in other tasks)

\$75,000 Proposition 1 Grants Funds

\$122,000 Agency Cost Share = \$74,000 Historical (subsidence survey) + \$48,000 Future

Schedule: September 2018 – September 2019 (originally estimated September 2017 – September 2018)

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