

TECHNICAL MEMORANDUM

DATE: July 6, 2020 **PROJECT #:** 9601.0101

TO: Mr. Aaron Fukuda/Mid-Kaweah GSA

FROM: Derrik Williams

PROJECT: MKGSA GSP Review

SUBJECT: GSP Implementation Workplan

Introduction

As outlined in Task Order No. 1 of our consulting agreement with the Mid-Kaweah Groundwater Sustainability Agency (Agency), Montgomery & Associates (M&A) has prepared this conceptual two-year Workplan. This Workplan is intended to guide the Agency's priorities during implementation of the Groundwater Sustainability Plan (GSP). This Workplan primarily identifies high priority activities that M&A recommends the Agency initiate within the next two years. Although not specifically part of the two-year workplan, M&A has also included a list of longer-term implementation activities at the end of this document.

The recommended activities included in this Workplan are based on the following information:

1. Recommendations made in the final GSP
2. An implementation activity list prepared by Paul Hendrix, retired General Manager of the MKGSA
3. The draft GSP review conducted by M&A for Tulare Irrigation District (M&A, 2019)

In addition to the activities identified in this Workplan, it is likely that DWR will identify additional high priority activities during their review that the Agency should address. DWR's schedule for releasing results from its review is unknown, however, if the GSP is found to be incomplete, the Agency will have up to 180 days to clarify, correct, or rectify any issues in the GSP identified by DWR.

Recommended Activities

High Priority Activities for the Next Two-Years

The following activities should be addressed in the next two years. The activities are not listed in any priority, although activity 5 is dependent on completion of activities 3 and 4.

Activity 1: Submit Annual Reports
Estimated Timing: Annually Starting in 2020

Annual reports are due to DWR April 1 of every year. The annual report must be coordinated with the two other GSPs in the Subbasin.

Activity 2: Determine GSA Staffing Needs, Operational/Administrative
Funding Needs, and Member In-Kind Assistance
Estimated Timing: By end of 2020

The Agency should develop a staffing plan in preparation for budgeting and hiring a General Manager. Members should also prepare a budget forecast for administrative needs and GSP Implementation needs. This should provide each member with a sense of funding needs, allowing them to determine the appropriate mechanism to fund the MKGSA budget.

Activity 3: Complete the Future Baseline Water Budget
Estimated Timing: By end of 2022

The future water budget in Section 2.5.2 of the Basin Setting Report (page 766 of PDF; Appendix 2 of GSP) is incomplete. The appendix provides estimates of percent change in components of the water budget for a future baseline condition. However, as specified in Section §354.18 of the SGMA Regulations, the future water budget shall also estimate the future change in storage, and the future sustainable yield under baseline conditions. The MKGSA should use the existing Kaweah Subbasin groundwater model to develop a complete future baseline water budget. The groundwater model may need to be updated and recalibrated to develop future baseline water budgets.

Activity 4: Reconcile Water Budgets with Historical Data
Estimated Timing: By end of 2022

As noted in the GSP, and reiterated by M&A in its *Review of Groundwater Sustainability Plan, Mid-Kaweah Groundwater Subbasin* (M&A, 2019), the historical water budget's estimated change in groundwater storage does not match historical data. In particular, the estimated historical change in storage does not match the observed changes in groundwater levels.

For example, the GSP reports a water supply surplus over the period 1981 to 2000 of 323,000 acre-feet (GSP Section 2.5.1.4, pg. 758 of PDF). However, groundwater levels, and by inference the associated amount of groundwater in storage, generally declined over this time period in large parts of the Subbasin. This discrepancy is acknowledged in Section 7.4.2.2 of the GSP (pgs. 187-188 of PDF), which states, "...hydrogeologic evaluations will continue to determine the reason(s) for the differences between the water balance surplus and the conditions of decline." These discrepancies are a common problem when using an inventory method for estimating change in storage. The discrepancy could be reconciled by extracting the water budget from the existing groundwater model. The groundwater model may need to be updated and possibly recalibrated to provide a reliable groundwater budget and evaluate any influences that might be impacting the difference between the water balance and groundwater levels.

Activity 5: Confirm Kaweah GSA-level Water Accounting Framework (WAF) allocations

Estimated Timing: By end of 20223

Section 7.4.2 of the GSP discusses implementing a Subbasin-wide groundwater allocation framework. This framework will need to be developed cooperatively between all three GSAs. The framework cannot be developed until a reliable water budget that has been reconciled with historical hydrographs is completed, as discussed in Activities 3 and 4.

Activity 6: Revisit subsidence and storage Minimum Thresholds

Estimated Timing: By end of 2022

The *Review of Groundwater Sustainability Plan, Mid-Kaweah Groundwater Subbasin* (Montgomery & Associates, 2019) stated that, "The minimum threshold for subsidence may be deemed inadequate by DWR." MKGSA should review the justification for the subsidence thresholds and develop new Sustainable Management Criteria that more closely reflect the goal of sustainable groundwater management. This analysis may entail modeling future subsidence.

Similarly, the minimum threshold for change in storage seems to be developed for storage changes before 2040. Minimum thresholds only apply to undesirable results after 2040. The change in storage minimum threshold should be revised to reflect the change in storage that will be maintained after reaching sustainability, not the change in storage expected during the 20 years allotted to reach sustainability.

Activity 7: Revisit Undesirable Results
Estimated Timing: By end of 2022

The *Review of Groundwater Sustainability Plan, Mid-Kaweah Groundwater Subbasin* (Montgomery & Associates, 2019) stated that, "...undesirable results ... may be viewed as unacceptable by DWR. For example, [undesirable] results for subsidence would not occur until one-third of representative monitoring locations exceed their already high annual subsidence rates." MKGSA should modify the undesirable results to more closely reflect the goal of sustainable groundwater management.

Extended Workplan Activities

Although not part of this Workplan, M&A is including a list of activities that the Agency should initiate during the first five to ten years of GSP implementation. Based on perceived importance, the Agency may wish to incorporate some of these activities into the two-year Workplan. Any of these activities could be initiated earlier if funding becomes available.

Activity 8: Expand groundwater monitoring program

Activity 9: Address Subbasin-Wide Funding Mechanisms

Activity 10: Establish extraction measurement program for ag wells

Initial stages of this activity have recently been funded through a Proposition 68 grant. This activity has been initiated in coordination with Fresno State University. The University will identify a meter, communication, and database platform that can be implemented across the subbasin.

Activity 11: Devise MKGSA groundwater marketing program

Initial stages of this activity have recently been funded through a USBR grant. Program development will be overseen by a committee that plans to retain the services of a consultant specializing in water markets

Activity 12: Develop Five-Year GSP update

Activity 13: Engage adjacent subbasins to agree on groundwater flow/boundary conditions

Activity 14: Prioritize Projects/Actions

References

Mid-Kaweah GSA, 2019. Groundwater Sustainability Plan: Mid-Kaweah Groundwater Sustainability Agency. Submitted to the California Department of Water Resources.

Montgomery & Associates, 2019. Review of Groundwater Sustainability Plan, Mid-Kaweah Groundwater Subbasin, Technical Memorandum submitted to Aaron Fukuda, Tulare Irrigation District.