

December 30, 2021

Via email

Members of the 180/400-Foot Aquifer Subbasin Committee
Salinas Valley Basin Groundwater Sustainability Agency
P.O. Box 1350
Carmel Valley, CA 93924

Re: January 19, 2022 Meeting re SGMA Round 1 Implementation Grant for
180/400-Foot Aquifer GSP

Dear Committee Members:

I write on behalf of LandWatch Monterey County regarding the proposed spending plan for the expected \$7.6 million DWR grant.¹ LandWatch reiterates its concern that the spending plan still fails to provide funding for a systematic and comprehensive assessment of all of the projects and management actions that were identified in the 180/400 GSP and to provide for an adequate assessment of willingness to pay for these projects.

LandWatch urges the GSA to modify the Spending Plan to include two additional projects or tasks that would:

- Refine the yields and cost estimates for all of the sustainability options to a level of detail that would enable the GSA to identify the most cost-effective set of options to attain sustainability. At minimum, the study should include all of the Preferred Projects and Priority Management Actions identified in the 180/400 GSP together with a demand management/pumping reduction option. The study should provide refined estimates of yields, costs, and feasibility for each option at a sufficient level of detail to support a decision to focus future efforts on a subset of these options.

¹ “Draft Spending Plan Project Description and Benefits for Scoring Projects, SGMA Round 1 Implementation Grant” (Draft Spending Plan), attached to the January 20, 2022 Staff Report for Agenda Item, 4b.

- Provide a study of willingness to pay for water based on an agricultural production model for the Valley so that the GSA can (i) determine which projects and management actions are economically feasible and (ii) compare demand management to other options to find the least cost route to sustainability.

The need for these additional projects or tasks in the Spending Plan is set forth below.

A. The Draft Spending Plan should fund feasibility assessment and refinement of yields and costs for all of the Preferred Projects and Priority Management Actions, not just a subset.

As LandWatch has previously explained, the GSA cannot responsibly select projects and management actions without an assessment that reasonably leads to the least cost and most effective suite of projects and management actions that will attain and maintain sustainability.² To do this, the GSA must refine the yields and cost estimates for all of the Priority Management Actions and Preferred Projects identified in the 180/400-Foot Aquifer Subbasin GSP.

The Staff Report states that “Implementation Activity 7: Refine and Implement Management Actions and Projects is the focus of this Spending Plan.” (Draft Spending plan, p. 2.) Implementation Activity # 7 in the 180/400 GSP calls for refinement of all of the projects and management actions that are proposed to attain sustainability in the 180/400 Subbasin, including refinement of costs and yields, preparation of preliminary designs, and clarifying water rights. (180/400 GSP, pp. 10-9 to 10-10.)

Despite this, the Draft Spending Plan provides no funding to refine yields and cost estimates and to assess feasibility of most of the management actions and preferred projects in the 180/400 GSP. The Draft Spending Plan unaccountably omits the following Priority Management Actions and Preferred Projects:

- Priority Management Action 1: Agricultural Land and Pumping Allowance Retirement
- Priority Management Action 2: Outreach and Education for Agricultural BMPs
- Priority Management Action 3: Reservoir Reoperation
- Priority Management Action 4: Restrict Pumping in CSIP Area
- Priority Project #1: Invasive Species Eradication
- Preferred Project #4: Expand Area Served by CSIP
- Preferred Project #5: Maximize Existing SRDF Diversion
- Preferred Project #7: 11043 Diversion Facilities Phase I: Chualar
- Preferred Project #8: 11043 Diversion Facilities Phase II: Soledad

² See LandWatch’s December 22 and December 30, 2021 letters to this Committee and the Executive Committee.

The Draft Spending Plan would provide funding to construct Preferred Project #2, Optimize CSIP Operations, and to partially construct Preferred Project # 3, Modify M1W Recycled Water Plan. The Spending Plan would fund feasibility assessment of Preferred Projects #6 and 9, Seawater Intrusion Barrier and Aquifer Storage and Recovery. In effect, the Draft Spending plan would commit the GSA to construct parts of two of the Preferred Projects and to assess the feasibility of only two of the remaining Preferred Projects.

This piecemeal approach is not consistent with Implementation Activity #7 or with sound management practice. Focusing on only four of the nine Preferred Projects and ignoring any further assessment of the four Priority Management Actions for which no funding has been provided cannot support the selection of the most cost-effective sustainability options.

The Spending Plan does not even focus on the most cost-effective options based on previously available information. The 180/400 GSP ranks Priority Projects #1, 4, and 5 as more cost effective than the Seawater Intrusion Barrier.³ (180/400 GSP, pp. ES-14 to ES-15.)

And the 180/400 GSP ranks all of the Priority Projects as more cost effective than the ASR project. Furthermore, if the ASR project scope is limited to assessment of injection wells as the method of storage, it may very well fail to consider the much more cost effective means of using available water moved from the south, including CSIP expansion or direct urban use. The estimates of the cost per acre-foot in the Monterey GSP indicate that ASR injection is substantially more expensive than direct urban use, and the 180/400 GSP identifies CSIP expansion as more cost effective than ASR.

Thus, the Spending Plan's inclusion of the pumping barrier and ASR coupled with its omission of the more cost-effective options risks a straw man comparison between two needlessly expensive options.

Indeed, the Draft Spending Plan admits that its activities will not support a "complete comparison" of the alternative projects:

The 180/400-Foot Aquifer GSP included other projects that could control seawater intrusion, including demand management and winter ASR. Not all of these projects have been developed to the same level, and therefore a complete comparison of the projects is not possible. However, the seawater intrusion model

³ As LandWatch has explained, on a cost per acre-foot basis, the cost estimates in the various GSPs indicate that essentially all of the proposed projects or management actions would be more cost effective than the Sea Water Intrusion Barrier and Desalination project. (See LandWatch's December 30, 2021 letter to the 180/400 Subbasin Committee, pp. 2-3.)

will be used to compare the relative benefits on seawater intrusion from each of these projects. This will allow the Board of Directors to assess which projects to continue forward with.

(Draft Spending Plan, p. 20.) The GSA cannot responsibly decide which projects to pursue unless it has developed comparably refined yields and cost estimates for each of the projects, i.e., unless it has the data that is supposed to be developed through Implementation Activity #7.

Furthermore, it makes no sense to limit the assessment to infrastructure projects. The most cost-effective options may include some or all of the Priority Management Actions, which the Draft Spending Plan does not propose to assess. The 180/400 GSP itself contains only preliminary cost estimates and no yield data for any of the proposed Priority Management Actions, and it does not rank their cost-effectiveness against the Preferred Projects. Thus, the GSA will be unable to decide whether these management actions would be more cost-effective than the two proposed infrastructure projects assessed through the Draft Spending Plan.

Finally, the most cost-effective option may include some pumping reductions if, for example, the opportunity cost of fallowing acreage is less than the costs for other options. As LandWatch has explained, the most cost-effective route to sustainability may need to combine pumping reductions with other management actions and infrastructure projects. This is evident from both the GSPs' preliminary estimates of fallowing costs and from the Public Policy Institute study of willingness to pay for agricultural water in the San Joaquin Valley.

Although the Draft Spending Plan includes an assessment of demand management feasibility, the description of the proposed tasks does not include any quantification of potential yields or costs. Without this information, the GSA would be unable to compare the cost-effectiveness of demand management to other options. As discussed in section B, below, quantification of the water yields and costs from demand management requires development of a water demand curve, which in turn requires an assessment of the economic impacts of reduced water use based on an agricultural production model.

Accordingly, LandWatch urges the GSA to modify the Spending Plan to include an additional project or task that would develop or refine the yields and cost estimates for all of the sustainability options to a sufficient level of detail to support a decision to select a subset of these options to carry forward. The Spending Plan's additional project or task should also include technical feasibility analysis and preliminary design work as needed to ensure that all of the project and management action comparisons are based on comparable levels of analysis.

Assuming that the Spending Plan retains its implementation or analyses of Preferred Projects #2, 3, 6, and 9, the additional options to be assessed should include:

- Priority Management Actions #1 through 4
- Preferred Projects # 1, 4, 5, 7, and 8
- Pumping reductions

For each option, the assessment should estimate yields and costs on an apples-to-apples basis, e.g., total capital and O& M costs, annual yields, and water cost per acre-foot.

If the GSA has somehow already reached conclusions as to the most cost-effective suite of projects, it has not done so comprehensively or transparently. The Draft Spending Plan states that the SWIG and SWIC TAC “generally supported” the seawater intrusion pumping barrier project and “generally supported conducting feasibility assessment” of the ASR project. (Draft Spending Plan, pp. 18, 21.) However, there is no indication that this general support was informed by a careful or detailed comparison to the other sustainability options. SGMA and the GSP itself (through its Implementation Activity # 7) both require that the GSA make critical decisions regarding sustainability projects and management actions based on the best available science and do so in a transparent, evidence-based process. Without assessing all of the projects and management actions, the GSA will not be positioned to fulfill this responsibility.

B. The Spending Plan should fund a study of willingness to pay for projects, management actions, and pumping reductions.

The GSA must determine the willingness to pay for long-term capital projects since they will not be feasible unless water users will finance them. In addition, the GSA must make some determination of willingness to pay for water in order to compare the cost-effectiveness of pumping reductions to infrastructure projects and management actions.

The Draft Spending Plan suggests that the seawater intrusion barrier feasibility study would include some assessment of willingness to pay for that specific project:

The feasibility study will include outreach through a stakeholder process that addresses the willingness and ability of beneficial users, including agriculture and domestic users, to fund the project.

(Draft Spending Plan, p. 18.) However, there is no indication of the scope or methods of this stakeholder outreach process or whether it will be applied to the other sustainability options. Furthermore, it is not likely that mere consultation with stakeholders without economic data would be sufficient to develop a robust assessment of willingness to pay to support selection of an optimal suite of sustainability options.

LandWatch recommends that a separate task or project be added to the Draft Spending Plan to determine the willingness to pay for any source of water or the willingness to forego water. **This study should be based on an agricultural production model for the Salinas Valley designed to determine the marginal value of water to water users by determining the economic impact of reducing existing water use.** LandWatch has

recommended to the GSA staff that this analysis could be based on the work done for the Public Policy Institute in connection with its analysis of San Joaquin Valley projects and willingness to pay.⁴

Of particular interest in the PPIC report are its Technical Appendices B, C, and D, which could serve as a model for the needed assessments.

The PPIC study's Technical Appendix B: Options to Improve Water Availability in the San Joaquin Valley⁵ estimates the costs and benefits of a range of water projects that may be useful in attaining sustainability. These data are used to prepare a water supply curve in Appendix D relating available project funding to the quantity of water that could be supplied from the various possible water supply projects. For the Salinas Valley, estimates of project costs and benefits could be developed from the preliminary work in the GSPs, further refined as discussed in section A, above. An adequate water supply curve cannot be developed without considering the yields and costs of all of the available projects and management actions.

Technical Appendix C: Potential Economic Impacts of Reducing Water Use on San Joaquin Valley Agriculture,⁶ uses an agricultural production model to estimate the economic impacts from changes in water availability. These data are used to develop a demand curve for water in Appendix D. The demand curve relates the quantity of water users would be willing to finance at various prices per acre-foot. **A similar study is the essential basis for determining willingness to pay for any water projects or management actions in the Salinas Valley.**

An adequate demand curve that reflects willingness to pay for water should be based on an agricultural production model that considers the actual acreage, water use, cropping, and revenues for the 180/400 Subbasin or the Salinas Valley as a whole. Stakeholder outreach that is not based on an economic production model would not likely provide meaningful information about willingness to pay. For example, collection of anecdotal evidence or opinions about future Proposition 218 votes uninformed by systematic assessment of actual agricultural economics would not be a reliable basis to make hundreds of millions of dollars of infrastructure investment decisions.

⁴ Hanak et al., Water and the Future of the San Joaquin Valley, Feb. 2019 is available at <https://www.ppic.org/wp-content/uploads/water-and-the-future-of-the-san-joaquin-valley-february-2019.pdf>.

⁵ Available at <https://www.ppic.org/wp-content/uploads/0219ehr-appendix-b.pdf>.

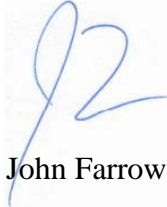
⁶ Available at <https://www.ppic.org/wp-content/uploads/0219ehr-appendix-c.pdf>.

Technical Appendix D: Optimizing Supply and Demand Management Actions to Bring Groundwater Basins into Balance⁷ addresses the dual questions of how much water supply augmentation would be practical and how much water use reduction will be needed. Both of these decisions are practically constrained by willingness to pay for water. Thus, Appendix D constructs a water demand curve based on the data from Appendix C. It constructs a water supply curve by considering the range of possible water projects for which cost estimates and water yields were developed in Appendix B. The objective was to find the point where the demand and supply curves intersect to determine the "optimal combination of supply and demand management actions that lead to the least expensive portfolio of options to achieve groundwater sustainability." (App. D, p. 24.) This is precisely what the GSA should do to select the projects, management actions, and possible pumping reductions needed to attain sustainability in the 180/400 Subbasin. If such an analysis is feasible in the San Joaquin Valley, it should be feasible in the Salinas Valley.

Accordingly, LandWatch recommends that the Spending Plan be revised to include an additional task or project to provide a study of willingness to pay for water based on an agricultural production model so that the GSA can (i) determine which projects and management actions are economically feasible and (ii) compare demand management to other options to find the least-cost route to sustainability.⁸

Yours sincerely,

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⁷ Available at <https://www.ppic.org/wp-content/uploads/0219ehr-appendix-d.pdf>.

⁸ See LandWatch, Selection of Projects and Management Actions for Salinas Valley Water Supplies, Draft Report, Oct. 28, 2021, pp. 3-6.