



January 8, 2018

Ms. Lauren Hersh  
California Department of Water Resources  
P. O. Box 942836  
Sacramento, CA 94236-0001

Dear Ms. Hersh:

The purpose of this letter is to provide comments to the Department of Water Resources (DWR) on the draft Best Management Practices (BMP) for Sustainable Management Criteria (BMP Document), which was released on November 7, 2017.

The Kern Groundwater Authority (KGA) has reviewed the draft BMP Document and appreciates the effort being made by DWR to provide technical support and information to groundwater sustainability agencies for implementing the Sustainable Groundwater Management Act (SGMA.) Overall, KGA supports the approach being taken by DWR of providing advice on potential approaches that could be taken to implement sustainable management criteria, while not being overly prescriptive. The BMP Document provides many examples that are helpful in understanding how sustainable management criteria such as minimum thresholds, measurable objectives and interim milestones can be developed, and how they could be implemented. SGMA includes numerous new concepts for sustainable management that provide new opportunities for approaching sustainable groundwater management, while maintaining local flexibility to achieve sustainability. The BMP Document is very helpful for GSAs in providing guidance and examples of what factors may be considered.

Besides providing input on how sustainable management criteria could be developed, the information in the BMP Document on how they may be implemented and be shown to be within requirements is also extremely helpful. The descriptions of different minimum thresholds for different kinds of undesirable results and how they would be implemented are very useful.

The BMP Document appropriately relates the sustainable management criteria to protection of beneficial uses. The examples shown are helpful in showing how the connection can be drawn from the more general (protection of beneficial uses) to the specific (for example, identifying the depth of domestic wells and how those would be affected by the GSP.) The examples were also useful for indicating flexibility for GSA's to specify interim objectives that may be below the 2015 benchmark and minimum threshold, and also allow for minimum thresholds that may be below the 2015 benchmark.

This flexibility for lowered groundwater conditions in the interim will be critical for GSA's to move towards sustainable management in ways that do not result in large scale, immediate economic dislocation.

In addition to the general comments on the draft BMP Document, KGA also has the following comments on specific topics within the document:

- **Presence of Sustainability Indicators.** The BMP states that a GSA should take the “default position” and assume all six sustainability indicators apply to each basin. (BMP, at 5.) The BMP further provides that if a GSA “believes a sustainability indicator is not applicable for their basin, they must provide evidence that the indicator does not exist and could not occur.” This standard is different than the standard set forth in the groundwater sustainability plan regulations. Specifically, California Code of Regulations title 23, sections 354.26(d) and 354.28(e) each state that a GSA that has “demonstrated that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin” the GSA “shall not be required” to establish criteria for undesirable results or minimum thresholds related to those sustainability indicators. The language in the BMP is more stringent in two ways. First, the threshold in the regulations is whether undesirable results are present, whereas the BMP threshold is whether a sustainability indicator is present. Second, the standard for exclusion in the regulations is that undesirable results are not present and not likely to occur, whereas the standard in the BMP is that the indicator does not exist and could not occur. We suggest DWR revise the BMP to use the same thresholds and language found in the regulations to promote consistency and ensure the BMP is not promoting a more stringent standard than is required.
- **Provision for use of spatial averages or indices for SGMA compliance.** The draft BMP Document raises questions about how SGMA and GSPs will be implemented. For example, the document appears to propose exclusive reliance for compliance on specific minimum thresholds that would be evaluated based on measurements at multiple individual monitoring sites. While the BMP Document examples show how this approach would be implemented in relatively small basins, such as the theoretical basins shown in the BMP examples, in the real world this could potentially result in information overload that could impair effective management. In the Kern Basin, for example, the total area is nearly 2,000,000 acres and there could be dozens, if not hundreds, of monitoring wells needed to indicate groundwater performance throughout the basin. While it is technically possible to designate and monitor potentially hundreds of minimum thresholds, measurable objectives and interim milestones for monitoring sites, as a practical matter the reporting of monitoring well measurements is likely to result in such large amounts of data as to be very difficult for the general public and non-technicians to comprehend. We suggest that DWR consider allowing annual compliance reporting through use of monitoring well indices that average water levels for within a management area. The monitoring indices would provide

summary information that can be easily explained to various stakeholder groups and be understandable to them.

- **Clarification on spatial scale of minimum thresholds and undesirable results.** The spatial scale the sustainability criteria vary significantly (i.e., a sustainability goal is defined at the basin level, while a minimum threshold can be defined at a single monitoring site). Similarly, the scale at which the minimum thresholds apply also varies (e.g., it is defined for each representative monitoring site for chronic lowering of groundwater levels, for a basin or management area for reduction in groundwater storage, etc.). The BMP could better represent this variation in applicable scale either in a table or graphic that summarizes the different spatial scales for each sustainability criteria and each sustainability indicator's minimum threshold/Measurable Objective, etc. The list on page 10 does not discuss spatial scale for land subsidence or depletion of interconnected surface water affecting beneficial uses of surface water minimum thresholds; this should be clarified. Further, it would be helpful to clarify the scale at which undesirable results can be defined in relation to the spatial scale of each sustainability indicator's minimum threshold.
- **Clarification on role of Management Areas.** By requiring specification and validation of most sustainability criteria at either the site or basin scale, the value and local autonomy or recourse at the management area level seems to be significantly diminished in this BMP. Especially in large basins with multiple GSAs and GSPS, the BMP should provide for more management area-based definition of sustainability criteria. The BMP needs to better preserve the local management options/recourse within management areas, including establishing sustainable management criteria.
- **Clarification on Specification of Spatial Scale of Minimum Thresholds.** The BMP Document appears to indicate that sustainable management criteria would be specified for individual monitoring sites. However, other language in the regulations (specifically the management area references) could imply that different minimum thresholds apply only within designated management areas. It would be helpful to have a confirmation by DWR in the final report that minimum thresholds can be specified for individual wells, even if within the same management area.
- **Clarification on Spatial Consistency of Hydrogeological Conceptual Model and Management Areas.** On page 6, the BMP Document states that the hydrogeological conceptual model, water budget, notice and communication much be consistent for the entire GSP area. This statement should be clarified. It appears to conflict with the intent of management areas within the GSP, which are areas that are physically inconsistent with other areas of the basin and therefore require different management.

- **Clarification on definition of undesirable results.** On page 21, the BMP includes discussion of the possibility of a basin having an undesirable result when there is a minimum threshold exceedance at just one monitoring site, using an extreme and unrealistic example (800' below minimum threshold), although the rest of the monitoring sites in the basin do not have minimum threshold exceedances. We ask that the BMP be clarified that as a general matter having a single or small % of water levels below the minimum threshold is not necessarily an undesirable result.
- **Clarification on how to address hydrologic variability in the definition of minimum thresholds and undesirable results.** California Water Code specifies that “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” (California Water Code 10721(x)(1)). California Water Code and the GSP Regulations do not discuss similar exceptions for the other sustainability indicators. The impact of allowing for minimum threshold exceedances in the time of drought varies by sustainability indicator (e.g., groundwater levels may be recoverable but inelastic subsidence cannot be reversed), and more specific guidance on how to accommodate potential variability in projected climate scenarios for each sustainability indicator would be helpful. The BMP states that the difference between a minimum threshold and measurable objective should “accommodate droughts, climate change, conjunctive use operations, or other groundwater management activities” (page 27), which may imply that minimum thresholds should be set to account for the worst possible scenarios in terms of these items that may be out of a GSA’s control, and measurable objectives should assume better conditions. The interim milestones, especially for the first ten years, could be greatly affected by hydrologic variability. It would be useful to allow GSA’s to specify a range of interim milestones for each period that reflect the potential for lower or higher runoff to change basin water levels. As an example, such an approach might use a 25-percentile to 75-percentile range to show the expected variation in potential interim groundwater levels.

We appreciate the opportunity to comment on the draft BMP Document and are available to respond to any follow-up questions that you may have.

Sincerely Yours,



Terry L. Erlewine  
Basin Coordinator