

March 31, 2016

California Department of Water Resources
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Subject: Draft GSP Emergency Regulations Public Comments

To the DWR Draft GSP Emergency Regulations team –

This letter includes a list of comments on the draft GSP Emergency Regulations, released on 18 February 2016. The task that DWR has undertaken, to produce a set of regulations to govern California's movement toward groundwater sustainability, is a difficult one, considering the breadth of interests in groundwater use and the momentum of a system that has resulted in poor groundwater management for numerous decades. Overall, DWR has done an admirable job of crafting these regulations on such short notice. The 22 comments provided below represent opportunities for DWR to clarify certain points in the regulations, to ease or reconsider requirements, or to level the playing field for potential GSAs in different situations.

1. Article 3, §352.6(a)(2) and (3): The required accuracy of groundwater, surface water, and land elevations is at least 0.1 feet, while that of reference point elevations is at least 0.5 feet, or the best available information. Groundwater head elevations cannot be assigned an accuracy of 0.1 feet if the RP elevation is only known to within 0.5 feet.
2. Article 3, §352.6(b)(2): Much of the particular information on location, construction, and use of wells is still subject to restrictions due to confidentiality. Exact well locations are required, with a minimum accuracy of 30 feet (§352.6(a)(4)). Requiring that this information be published with the plan may decrease the willingness of well owners to provide information to GSAs. It may be more palatable to instead require GSAs to include some kind of summary statistics on wells, for example per Section or Township/Range block.
3. Article 3, §352.6(b)(3)(A): A CASGEM well ID number is required for each well used to monitor groundwater conditions. A GSA (or participating agencies) may utilize a more extensive system of wells to monitor groundwater than they currently include in their CASGEM program. In that case, would a GSA only report water levels from their CASGEM wells?
4. Article 3, §352.6(e): Although I understand the desire of DWR to have all models be built using public domain, open-source software, this may represent an undue burden on agencies that possess a pre-existing numerical model, built in some other software, that may have required considerable capital investment. Converting their model to a different software may require significant time and money that could be better spent on other parts of the investigations supporting a GSP.
5. Article 3, §352.6(e): There should be an additional requirement that models be built in an up-to-date version of the modeling software. When modeling groundwater-surface water interaction, older versions of IGSM or MODFLOW suffered from serious inadequacies.

6. Article 5, §354.8(a)(4): The existing information on land use is very poor in many places. The last DWR land use survey for Monterey County was 1997, and there have been significant changes there over the past 20 years. DWR should commit to updating all land use surveys during the period of preparation of the GSPs, and make those land use data available to the GSAs. Without a consistent set of land use data, it will be extremely difficult for multiple GSAs in a single basin or GSAs in neighboring basins to reconcile their plans as desired by DWR.
7. Article 5, Subarticle 2, §354.12: Not every agency may have an in-house professional geologist or professional engineer, but they may have had one prepare a basin description in the past. Provision should be made for GSAs utilizing an existing basin description, rather than having to employ a PG or PE to rewrite an existing report.
8. Article 5, Subarticle 2, §354.16(a)(1): The draft regulations seem to indicate that a GSA can use its suite of CASGEM wells to monitor groundwater conditions (§352.6(b)(3)(A)), but a CASGEM program may not have the spatial resolution to do an adequate job of representing the three dimensional distribution of groundwater head in an aquifer system. GSAs should be allowed to incorporate groundwater head data from wells that are not in the CASGEM program.
9. Article 5, Subarticle 2, §354.16(d): The discussion of groundwater quality effects should be more explicit in requiring that GSAs address the problem of extensive non-point source contamination from, e.g., fertilizer runoff or salinization. This may not be limited to a single site, or be subject to WDRs.
10. Article 5, Subarticle 2, §354.18(a)(3): Estimation of streamflow from ungauged watersheds could be an incredibly time- and capital-intensive pursuit. DWR should provide some guidance on what exactly is expected from GSAs in this regard.
11. Article 5, Subarticle 2, §354.18(b)(3)(A) and (B): Although how precipitation will vary in the future due to climate change is not readily predictable, we have a better handle on temperature, and therefore evapotranspiration. Using past evapotranspiration in the baseline will create a situation where there is always an increased demand from ET in future scenarios compared to the baseline; this may imply that a GSA's best efforts are not sufficient because increased ET due to climate change is lowering groundwater levels or affecting surface water flow. Therefore, increased ET should be incorporated into the projected hydrology for the baseline.
12. Article 5, Subarticle 2, §354.18(e): DWR will be providing C2VSIM and the CVIWFm to agencies to aid them with preparation of GSPs. I hope that DWR will give consideration to the fact that critical basins located outside of the Central Valley may have a significantly larger burden stemming from the development of their own numerical models not incurred by Central Valley basins.
13. Article 5, Subarticle 3, §354.24: This section states that each GSA will have to establish a sustainability goal for the basin. Based on other parts of the regulations, in situations where multiple GSAs exist in a basin it is stated that the various GSAs must come to consensus on sustainability goals.
14. Article 5, Subarticle 3, §354.28(b)(1): Is the minimum threshold for chronic lowering of groundwater levels to be defined as a single value for the entire basin, or as a value at each individual monitoring point (as implied in §354.34(e)(3))?
15. Article 5, Subarticle 3, §354.28(b)(2)(A): The concept of sustainable yield is one that resists any kind of simple definition. There needs to be an extensive discussion to give context to this

requirement, describing exactly what DWR means by this term and how GSAs can come to quantify it.

16. Article 5, Subarticle 4, §354.34(a)(4): The regulations should explicitly state here that the annual changes in water budget components may be calculated based on a numerical model that is calibrated to current conditions, in lieu of calculating changes based directly on data.
17. Article 5, Subarticle 4, §354.34(a)(5): The ability to identify impacts on adjacent basins strongly implies that, where two basins abut, the boundary conditions for a numerical model cannot be prescriptive (e.g., specified head or specified flux boundaries), and instead must be dynamic and able to react to conditions within the basin being simulated.
18. Article 5, Subarticle 4, §354.34(h)(6): Can a GSA determine that interconnected GW/SW is not an important consideration, or that impacts to surface water systems are considered acceptable?
19. Article 5, Subarticle 4, §354.34(h)(6): This section seems to enforce some rather large monitoring burdens on GSAs that they may not have experience with, such as determining where and when streams do or do not flow. DWR should provide some guidance on how GSAs can do this effectively.
20. Article 5, Subarticle 4, §354.36(b)(2): If a GSA uses changes in one critical parameter (e.g., groundwater head elevation) as a proxy for another (e.g., land subsidence), is a larger margin of operational flexibility required to account for any uncertainties in the correlation between the two parameters?
21. Article 7, Subarticle 1, §356.4: The requirements for annual reporting specifically indicate groundwater head elevations, groundwater use, and groundwater storage as reporting requirements, but not other critical parameters (e.g., water quality degradation). The annual reports should also include any collected data on seawater intrusion front migration, chemographs of constituents of potential concern at monitoring wells, etc.
22. Article 8, §357.4(a): This section implies that multiple GSPs can be prepared for a single basin, subject to a coordination agreement between all GSAs within a basin. Article 6, §355.4(a)(3) states that a GSP will be considered inadequate unless it covers the entire basin. This is inconsistent. Is, in fact, the synthesis report required in §357.4(d) the “Plan” that covers the entire basin?
23. Clarifying questions:
 - a. Do GSAs stop updating GSPs after the 2022 deadline, or continue ad infinitum?
 - b. If a GSP is approved prior to 2020/2022, does the schedule for interim milestones and groundwater sustainability also move forward?
 - c. Does the five-year cycle for re-evaluation of the plan start with the year of submission or the year of approval?

Again, the work that DWR has done to put together these regulations is critical for moving us forward into sustainable management of groundwater using a base of good science.

Respectfully Yours,

A handwritten signature in blue ink, appearing to read 'MB', with a long horizontal flourish extending to the right.

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A handwritten signature in blue ink, reading 'Leslie L. Chau', with a long horizontal flourish extending to the right.

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