State Water Resources Control Board

December 8, 2020

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PASO ROBLES AREA GROUNDWATER SUSTAINABILITY PLAN, GROUNDWATER SUBBASIN NO. 3-004.06

Provided for your consideration are comments submitted on behalf of the State Water Resources Control Board (State Water Board) by the State Water Board's Groundwater Management Program in support of the Department of Water Resources' (DWR) review of the Groundwater Sustainability Plan (GSP) for the Salinas Valley – Paso Robles Area Groundwater Subbasin (subbasin). The State Water Board recognizes that DWR will determine the adequacy of the GSP, and these comments are intended to support DWR's review by providing the State Water Board's additional expertise and regulatory experience with regard to GSPs. In preparing comments, the Groundwater Management Program has consulted the State Water Board's Division of Water Rights and Division of Drinking Water as well as the appropriate Regional Water Quality Control Board to seek local information and programmatic concerns.

The State Water Board's comments on the GSP relate to the following areas:

- Groundwater Levels and Potential Drinking Water Impacts
- Groundwater Quality
- Water Budget
- Projects and Management Actions
- Projects Reliant on Water Rights
- Depletions of Interconnected Surface Water
- Engagement

Groundwater Levels and Potential Drinking Water Impacts

1. The GSP does not appear to explicitly consider the interests of domestic well users and public water systems in setting its minimum threshold (MT) for declining water levels, as described below. State Water Board staff recommend the Groundwater Sustainability Agency (GSA) conduct further analysis to better

characterize the effects declining groundwater levels could have on shallower wells. That analysis could then be used for a more robust discussion in the GSP of what level of groundwater decline would constitute an undesirable result.

a. The GSP defines Undesirable Results partially on the protection of domestic wells of "average" depth. State Water Board staff appreciate the inclusion of domestic well impacts but are concerned about potential impacts to wells that are not of "average depth." It is also unclear how the GSP defined "average depth" and how protection of wells at that depth was translated into the MT for declining water levels.

b. The GSP does not analyze the impact of MTs on domestic wells or public water supply wells, making it unclear how the GSAs for the subbasin considered the interests of domestic well users and public water suppliers in developing the MTs. State Water Board staff completed a preliminary analysis to assess potential impacts of measurable objectives (MOs) and MTs on domestic wells and public water supply wells identified using the Domestic well dataset from the University of California Berkeley Water Equity Science Shop. That analysis indicates that domestic wells may experience substantial impacts should groundwater elevations (GWEs) be allowed to drop to MTs. Of public water supply wells identified in staff's analysis, only one was projected to experience possible impacts at the MTs.

c. State Water Board staff analyzed historical trends in GWEs. If historical trends are allowed to continue, that analysis indicates that annual GWEs will drop below MTs at approximately half of Representative Monitoring Sites (RMSs) for water levels by about 2027, and that fall season GWEs will drop below MTs at approximately half of the RMSs by about 2024.

d. Given the above findings, State Water Board staff recognize that the GSAs face a challenging situation. Based on staff's assessment, MTs represent groundwater levels that may cause partial or full dewatering of over half the wells in the analyzed domestic wells dataset. Many of these wells may have already been experiencing impacts from declining water levels by 2015. When comparing 2015 conditions with the proposed MTs, 123 of the wells included in the analysis that were unimpacted in 2015 would be impacted or go dry at the MT; this represents 17 percent of the domestic wells in the analysis. Setting shallower MTs, however, to protect these wells may be difficult: the historical rate of GWE decline indicates that MTs will be exceeded at most representative monitoring sites within the next decade unless the GSAs progress quickly with projects and management actions.

e. State Water Board staff strongly recommend that the GSAs analyze data to better understand the impacts of MTs and projected groundwater management outcomes on domestic wells and public water supply wells,

update the GSP with this information, and consider how those effects compare with the GSAs' definition of an undesirable result related to declining groundwater levels. The GSAs should reach out to domestic well users and public water systems as part of both the analysis and the discussion of what constitutes an undesirable result. If that evaluation by the GSAs indicates the proposed allowable decline in groundwater levels could constitute a significant and unreasonable depletion of supply, the GSAs have options beyond enhancing supply or reducing demand for avoiding undesirable results. The GSAs could consider developing or implementing a well mitigation plan to replace or repair domestic or drinking water system wells impacted by groundwater level declines. The GSAs could also support expansion of public water system boundaries to private well communities or consolidation of smaller drinking water systems dependent on at-risk wells with larger public water systems.

2. The GSAs should consider whether any additional California Statewide Groundwater Elevation Monitoring Program (CASGEM) measuring points should be added to the RMS network when assessing data gaps. State Water Board staff analyses indicate that groundwater level interpolations using the current RMS network appear to overestimate groundwater levels in some locations.

3. The GSP defines two principal aquifers but establishes sustainable management criteria (SMC) for only one. The GSP indicates that data are insufficient to establish SMC for the alluvial aquifer. State Water Board staff recognize data constraints, but recommend that the GSAs develop a plan and timeline to fill data gaps and establish SMC for the alluvial aquifer.

Groundwater Quality

4. The GSP developed degraded groundwater quality MTs based on number of impacted supply wells in the GSP monitoring program. Analytes with MTs include chloride and boron in agricultural supply wells and total dissolved solids, chloride, sulfate, nitrate and gross alpha radiation in public supply wells. State Water Board staff appreciate the comprehensive approach to include water quality constituents for developing MTs. However, based on its prevalence above the maximum contaminant level (MCL) of 10 micrograms per liter within the subbasin, GSP implementation should also include SMC and monitoring for arsenic in public supply wells and domestic wells, which are not currently included in the water quality monitoring network.

    a. Not all water quality impacts to groundwater must be addressed in the GSP but significant and unreasonable water quality degradation due to groundwater conditions occurring throughout the subbasin, and that were not present prior to January 1, 2015, must be addressed in the GSP's minimum thresholds. Both groundwater extraction and the implementation of projects to achieve sustainability may cause impacts from migration of contaminant plumes, changes in the concentration of contaminants due to reduction in the volume of water stored in the subbasin, or release of

harmful naturally occurring constituents. A GSA should particularly consider whether any groundwater quality constituents in the basin may impact the state's policy of protecting the right of every human being to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes (Water Code Section 106.3). Coordination by the GSAs with agencies that oversee the remediation of existing groundwater contamination is highly recommended, both in setting minimum thresholds and developing a plan of implementation.

b. Staff have attached a map from the State Water Board Groundwater Ambient Monitoring and Assessment Program's (GAMA) database (https://gamagroundwater.waterboards.ca.gov/) showing arsenic impacts in subbasin groundwater (Figure 1). The GSP recognizes that projects such as groundwater recharge and changes in pumping have the potential to affect existing contaminants within the subbasin. Projects and management actions under the GSAs' authority also have the potential to influence groundwater concentrations and distributions of arsenic. Both groundwater extraction and the implementation of projects to achieve sustainability may cause impacts from migration of contaminant plumes, changes in the concentration of contaminants due to reduction in the volume of water stored in the subbasin, or release of harmful naturally occurring constituents.

c. Additionally, staff note that domestic well water quality data may be available from the Central Coast Regional Water Quality Control Board (Central Coast Water Board) through its Irrigated Lands Regulatory Program (ILRP). Furthermore, the GAMA database also includes domestic wells. Many of the arsenic results in the attached map are from domestic wells (Figure 1).

5. The GSP water quality monitoring network uses existing State Water Board Division of Drinking Water wells and existing Central Coast Water Board ILRP wells for monitoring. The GSP states that the primary water quality monitoring network data gap is well construction details, particularly for ILRP wells, and that this data gap will be addressed during GSP implementation. Staff recommend that the GSAs provide additional details regarding the construction of the wells in the water quality monitoring network.

6. In developing MTs for nitrate, the GSAs used the outdated MCL of 45 milligrams per liter (mg/L) for Nitrate as NO_3. The GSP Figure 5-17, Nitrate Regional Distributions and Trends, displays concentrations of Nitrate as N, which has an MCL of 10 mg/L. Also, the State Water Board GAMA database, which was used to determine monitoring locations, reports Nitrate as N. The GSAs should confirm that concentrations of Nitrate as N at the water quality monitoring wells were not compared to the MCL for Nitrate as NO_3 when developing MTs for the Paso Robles Formation and Alluvial Aquifers. While Nitrate as NO_3 concentrations can

be converted to Nitrate as N concentrations and vice versa, staff recommend the GSAs revise the Nitrate MTs to use the MCL for Nitrate as N to be consistent with monitoring results, prevent possible data analysis errors, and provide clarity in reporting going forward.

7. The GSP states that only water quality impacts caused by GSP implementation are unacceptable but does not explain how SGMA-related water quality changes will be distinguished from other water quality changes. The GSP should outline the process the GSAs would use to decide whether or not an exceedance of an MT for water quality degradation was caused by GSP implementation; otherwise, it is difficult to judge how adequately the GSP addresses undesirable results related to water quality degradation. Staff recommends that the GSAs consult with the Central Coast Water Board in developing this process.

Water Budget

8. State Water Board staff analyzed GWE trends from CASGEM data. It appears the decadal trend in GWE decline is relatively consistent through the historical (1981 to 2011) and current (2011 to 2017) water budgets. Current overdraft, however, is estimated by the GSP's current water budget to be about five times larger than historical overdraft. State Water Board staff therefore recommend that subbasin models be evaluated against historical GWE trends. While subbasin models are conceptual approximations that are not expected to exactly match reality, more accurate budgets better inform subbasin management and therefore improve the ability to successfully meet SMC and reach sustainability.

9. Future water budgets are based on an approach that DWR developed that uses "change factors" to update subbasin models for future impacts from climate change. DWR provides "change factors" for 2030 and 2070. The GSP indicates that DWR recommends 2030 change factors be used to "evaluate conditions over the implementation period" ; however, in "Guidance Document for the Sustainable Management of Groundwater – Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development," DWR recommends 2030 change factors to "evaluate projects and actions to achieve sustainability in the early future" and 2070 change factors to "show that sustainability will be maintained into the planning and implementation horizon (i.e., late future), within 50 years after GSP approval." Based on the 2030 change factors, the future water budget indicates an overdraft increase of just about 4 percent over the historical water budget. This appears optimistic to State Water Board staff. Board staff recommend the GSP use 2070 change factors and current climate conditions to help inform climate change scenarios and associated water budgets for the following reasons:

    a. Historical GWE trends indicate that GWEs are on-track to fall below MTs within approximately ten years;

    b. Staff analyses indicate that GWEs at MTs will likely cause impacts to domestic wells; and

c. GWEs have experienced a decadal declining trend. Potential hotter and drier conditions due to climate change may make his declining trend worse absent any changes to pumping or current groundwater management practices. Staff are concerned that a future water budget that does not adequately consider climate change may result in insufficient project and program contingency planning.

Projects and Management Actions

10. The future water budget indicates an annual overdraft of about 13,700 acre-feet per year (AFY). The GSP includes four sources for projects that it finds are sufficiently reliable to justify capital expense. These projects would contribute an additional 9,200 AFY, which is below estimated future overdraft. Moreover, future overdraft is estimated considering DWR change factors for 2030, and so overdraft is likely underestimated relative to conditions to which the GSAs will need to adapt.

11. GSP project timelines indicate that construction of most projects will not start until at approximately 2025 at the earliest. State Water Board analyses, however, indicate that, based on historic GWE decline, MTs will be exceeded within a decade. This leaves very little time for the GSAs to implement projects. Board staff recommend that the GSAs move forward aggressively with projects now so that they can successfully maintain subbasin conditions within SMC.

12. The GSP references voluntary demand reduction programs, but few details are provided. State Water Board staff recommend that the GSAs develop a more specific plan for demand reduction programs before these programs may become necessary, which may be sooner rather than later based on the projected overdraft and contribution of supply augmentation projects.

13. As noted in the Groundwater Levels and Potential Drinking Water Impacts section above, State Water Board staff recommend that the GSAs develop a plan to identify domestic and public water system wells that may be impacted by water level declines allowed under the GSP.

Projects Reliant on Water Rights

14. Implementing some of the projects identified in the GSP may require new or amended water rights:

    a. New surface water right permits: An applicant must gather all information necessary to complete the application, which could be extensive. Once the application is publicly noticed, other water right holders may protest the project based on potential injury to their water rights. Parties may also protest if the project has the potential to harm public trust resources. The GSAs should contact the Division of Water Rights' Permitting and Licensing Division or consult the Division's Permitting and Licensing Frequently Asked Questions to develop an informed timeline for project implementation that includes necessary water right actions.

b. Amendment of an existing surface water right: The time required to amend an existing water right depends on multiple factors, including but not limited to whether the change is minor, major, or controversial. The GSAs can learn more from the Division of Water Rights' Petitions Frequently Asked Questions.

15. Given there is no certainty that a particular water right permit or petition will ultimately be approved, or when, it is important the GSP clarify its proposed timelines for projects and management actions and consider how changes in those timelines could impact the subbasin's ability to achieve sustainability by 2040. This would ensure the GSP can effectively evaluate when it should move towards implementing contingency projects or management actions if primary projects or management actions are not implemented on projected timelines.

Depletions of Interconnected Surface Water

16. The GSP indicates that there are insufficient data to determine whether interconnected surface water and groundwater exist within the subbasin and does not define SMC for depletions of interconnected surface waters. The GSP indicates that SMC will be developed if future data indicate the presence of interconnected surface waters. Given the potential for interconnection based on mapped seeps and springs and groundwater discharge to streams identified in the groundwater flow model, it's not clear that depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water are not present and are not likely to occur in the subbasin. The GSAs should propose initial SMC for depletions of interconnected surface water and outline a plan and timeline to fill data gaps regarding the location (extent), quantity, and timing of interconnection in the subbasin. The GSAs should reach out to surface water users and the California Department of Fish and Wildlife for input in the development of these SMC.

17. From the March 25, 2020, Annual Report, staff are aware that the GSAs submitted a proposal to the State Water Board to use Supplemental Environmental Project (SEP) funds to assess the potential for interconnected surface water within the Alluvial Aquifer. Staff have confirmed with Central Coast Water Board staff that the proposal was approved by the Central Coast Water Board and the Bay Conservancy; however, without more information about the SEP proposal in the GSP, it is difficult to assess how well the proposal will fill identified data gaps and how new data will be used to develop SMC for interconnected surface water. Staff recommend that the GSAs submit information including the proposed actions, approval status and schedule of the SEP proposal to DWR as soon as possible.

Engagement

18. State Water Board staff appreciate that the GSAs appear to have made a significant effort to engage with a broad range of stakeholders and Native American Tribes in the subbasin during preparation of the GSP. The Communication and Engagement Plan addresses Native American Tribes in

general and the interested persons list names two Tribes: the Chumash and Salinan Tribes. The GSP appendices include a copy of an invitation letter sent to Native American Tribal Governments in the region but does not record any response. If the GSAs have not already done so, the GSAs should consult with the Native American Heritage Commission (NAHC) to obtain information about Tribes that have current and ancestral ties in the subbasin. To request this information, the GSAs can email the NAHC at nahc@nahc.ca.gov.

If you any have questions regarding these comments, please do not hesitate to contact State Water Board Groundwater Management Program staff by email at SGMA@waterboards.ca.gov or by phone at 916-322-6508.

Sincerely,

Natalie Stork

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Enclosure: Figure 1. GAMA Arsenic in Paso Robles Area Subbasin

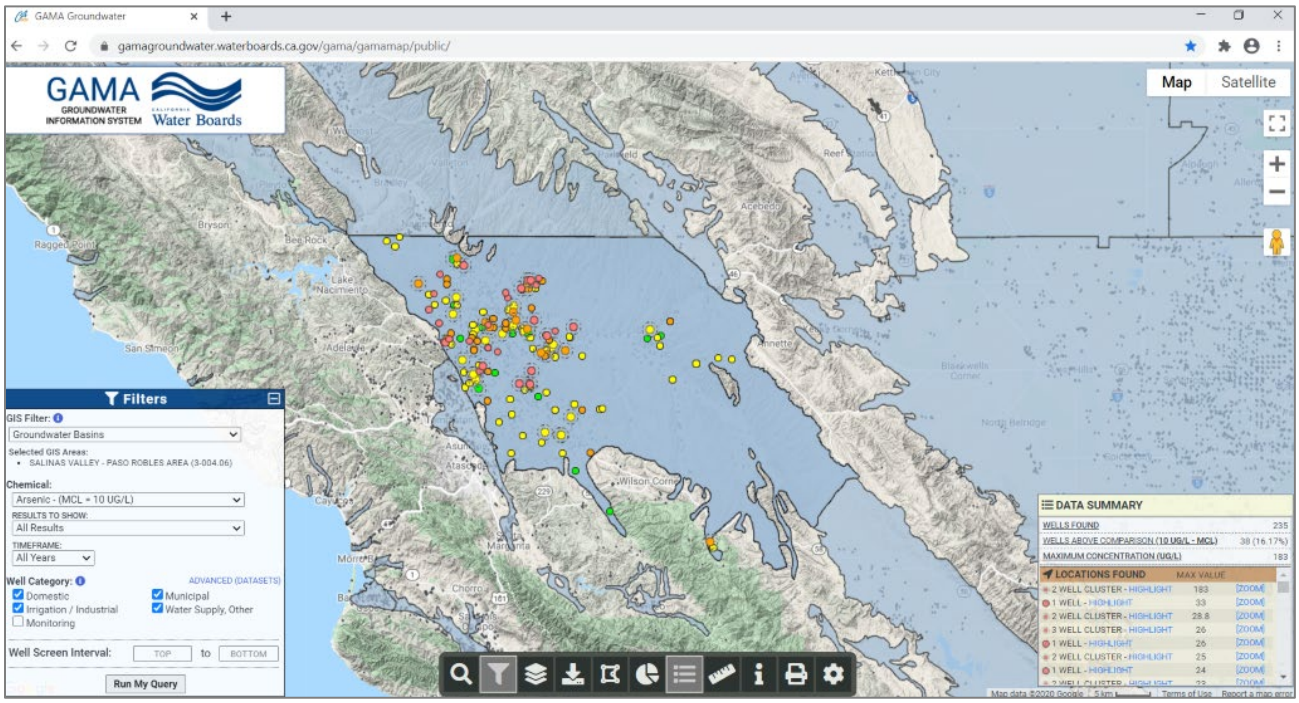

Figure 1. GAMA Arsenic in Paso Robles Area Subbasin