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**CUYAMA VALLEY GROUNDWATER SUSTAINABILITY PLAN, GROUNDWATER BASIN NO. 3-013**

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 Cuyama Valley Groundwater Basin (basin). 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 Quality
- Depletions of Interconnected Surface Water
- Projects and Management Actions
- Engagement

## Groundwater Quality

1. The GSP should include nitrate and arsenic sustainable management criteria (SMC). In general, in deciding which water quality constituents to consider when setting SMC, a Groundwater Sustainability Agency (GSA) should consider the best available water quality information for the basin, including data used to develop the hydrogeologic conceptual model, geochemistry of geological formations (for the potential of mobilization of natural constituents), and groundwater uses in the vicinity of the representative monitoring sites and the

basin as a whole when determining which constituents to evaluate for minimum thresholds (MTs). Different constituents may cause undesirable degradation of water quality in different areas based on the purposes for which groundwater is beneficially used. 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 basin, and that were not present prior to January 1, 2015, must be addressed in the GSP's MTs. 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 basin, 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 §106.3).

a. Nitrate Maximum Contaminant Level (MCL) exceedances in domestic wells have occurred over wide areas within the basin, while arsenic MCL exceedances have been found near the New Cuyama area and have impacted Cuyama Community Service District's (CCSD's) public supply well. Figures A-1 and A-2 in the Appendix show the locations of detections and MCL exceedances for nitrate and arsenic, respectively.

b. Projects and management actions under the Cuyama Basin GSA's authority have the potential to influence groundwater concentrations and distributions of arsenic or nitrate. Groundwater extraction or 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 basin, or release of harmful naturally occurring constituents. For example, some studies have indicated groundwater pumping can exacerbate arsenic-release to groundwater (see studies referenced in the Central Coast Regional Water Quality Control Board's [Central Coast Water Board's] March 15, 2019, and May 15, 2020, comment letters on the draft and final GSP).

c. The GSP states that arsenic near New Cuyama has only been detected at one of the CCSD's inactive wells or at depths greater than 700 feet and outside of range of drinking water pumping, and that uncertainty about the actual depth of arsenic contamination makes setting SMC infeasible (GSP Section 2.2.10, p. 2-121); however, staff from the State Water Board's Division of Drinking Water note that arsenic necessitates expensive treatment at the CCSD's sole public drinking water supply well, which is approximately 800 feet deep. In addition, the State Water Board's Groundwater Ambient Monitoring and Assessment Program's Groundwater Information System shows records of arsenic MCL

exceedances in drinking water wells perforated in both shallower (e.g., top of perforation at a depth of 340 feet) and deeper groundwater.

d. The GSP reasons that the GSA cannot set SMC for arsenic because concentrations are localized and vary from well to well; however, SGMA does not preclude a GSA from addressing localized water quality issues that may be exacerbated by pumping or management actions. In addition, arsenic detections in drinking water wells range in concentration between 1 microgram per liter and the MCL of 10 micrograms per liter over wide areas of the basin, making the issue relatively widespread (see Figure A-2).

2. In conclusion, staff recommend that the GSP include SMC and monitoring for nitrate and arsenic, and that the GSA coordinate with the Central Coast Water Board in setting MTs and developing a plan for addressing water quality degradation caused by continued pumping or other actions under the GSA's authority. The GSP's definition of an undesirable result for water quality degradation is not clearly linked to consideration of beneficial users of water and is not specific to each of the threshold regions for managing water levels. The GSP defines the undesirable result as "when 30 percent of the representative monitoring points (i.e., 20 of 64 sites) exceed the MT for a constituent for two consecutive years" (Section 3.6.4, p. 3-4). The six threshold regions each have unique characteristics in hydrogeology, land use and water use practices, and existing conditions of water level and water quality. For example, agricultural practices and groundwater pumping are extensive in the Eastern and Central threshold regions, moderate in the Western threshold region, and beginning to develop in recent years in the Northeastern threshold region. The areas with agriculture are more prone to water quality issues (e.g., see Figures A-1 and A-2 for nitrate and arsenic). Defining the undesirable result as 30 percent of wells exceeding the MT across the six threshold regions could dilute signals of local impacts and, when evaluated, cause water quality degradation in areas of concern to appear less notable. Staff recommend the GSA develop specific water quality SMC for each threshold region and more clearly tie whatever threshold the GSA uses to beneficial users, especially for the threshold regions with agricultural land and groundwater pumping. The GSA should reach out to beneficial users in each threshold region for input in the development of these SMC.

3. The GSP identifies locations with water quality data gaps (i.e., total dissolved solids) and possible temporal data gaps due to different monitoring schedules by management entities (Section 4.8.8, p. 4-58), but provides no detail on how to address the data gaps. Staff recommend the GSP further consider spatial data gaps for nitrate and arsenic and include plans to address both spatial and temporal data gaps for all constituents with SMC.

## Depletions of Interconnected Surface Water

4. The GSP does not identify interconnected and disconnected stream reaches when defining SMC for depletions of interconnected surface water (ISW). SGMA requires identification of interconnected surface water systems within the basin (23 CCR §354.16(f)) and monitoring of surface water and groundwater, where interconnected surface water conditions exist, to characterize the spatial and temporal exchanges between surface water and groundwater (23 CCR §354.34(c)(6)). Moreover, MTs for depletions of ISW must be supported by the location, quantity, and timing of depletions of ISW. The GSP identifies gaining and losing reaches based on a numerical model with limited stream gage data, but falls short of identifying (possible) ISW; gaining reaches would be, by definition, interconnected, but losing reaches may be connected or disconnected, depending on local groundwater conditions. This makes it difficult to evaluate where pumping may exacerbate depletions and whether representative monitoring wells (RMWs) selected for ISW are representative of depletions in the basin. Low groundwater levels near some stream reaches indicate probable disconnection since before 2015 (e.g., the majority of the Cuyama River in the Central threshold region, based on the depth-to-water contour maps), but other losing reaches may be interconnected, so additional supporting data is needed to assess which reaches are interconnected. Staff recommend that the GSP more specifically describe interconnected or possibly interconnected stream reaches with available data (e.g., modeling results, field measurements of groundwater levels near streams) and, based on that data, develop a plan to address remaining data gaps related to the location, timing and volume of depletions due to groundwater pumping.

5. The GSP uses the groundwater elevation thresholds developed to manage for declining groundwater levels as a proxy to also manage for depletion of ISW; however, the GSP does not draw a direct link between the SMC for declining groundwater levels and undesirable results related to depletions of ISW. Moreover, the GSP defines an undesirable result related to ISW as water levels at 30 percent of *all* water level RMWs falling below MTs, rather than a subset of wells near streams, which would likely be more representative of ISW conditions. As a result, substantial stream depletions could occur under the GSP during its implementation without triggering any management action. It's not clear to Board staff how the GSA can manage for depletions of ISW using this undesirable result definition and monitoring network. Staff recommend the GSA develop MTs supported by the location, quantity, and timing of depletions of interconnected surface water (23 CCR §354.28(c)(6)(A)) and a monitoring network specifically for ISW. The GSA should reach out to surface water users and the California Department of Fish and Wildlife for input in the development of these SMC.

6. The GSP proposes three stream gages to fill data gaps in ISW (Section 4-10, p. 4-66), but lacks details on where the gages will be located. Staff recommend the GSA identify the gage locations soon (possibly in the next annual report), and incorporate considerations of each stream reach's potential for increased depletions due to groundwater pumping and the associated impacts to beneficial

uses and users. For example, new agricultural development in the Northwestern threshold region has the potential to increase stream depletions and cause harm to groundwater-dependent ecosystems and surface water users.

7. The GSP's approach to identifying potential groundwater-dependent ecosystems in the basin relies on the presence of surface water and aerial imagery and is not scientifically sound, as described in comment letters from the Nature Conservancy and the California Department of Fish and Wildlife to DWR on the final GSP. Staff recommend the GSP reassess potential presence of these ecosystems with consideration of depth-to-groundwater data and further investigate related data gaps.

## Projects and Management Actions

8. The feasibility of Project 1, Flood and Stormwater Capture, and Project 3, Water Supply Transfers/Exchanges, is difficult to assess. Project 1 proposes to recharge flood and stormwater using 300 acres of spreading basins to capture up to 4,400 AFY of stormwater (averaged over 10 years). Project 3 proposes to purchase transferred water and exchange it with water rights holders downstream of Lake Twitchell to allow for additional stormwater and floodwater capture in the Cuyama Basin. The GSP should further detail whether the projects may be conducted under existing water rights (identifying the specific water rights) and/or whether they may require new water rights or changes to existing rights. The need to obtain a new or modified water right for a project has implications for project feasibility within GSP implementation timelines. To provide more context for the feasibility of the projects that may require a new or modified water right, the GSP should discuss the timing for obtaining those approvals and describe any known uncertainties involved (e.g., water availability in the source stream, whether the source is on the inventory of fully appropriated streams (https://www.waterboards.ca.gov/waterrights/water_issues/programs/fully_appropriated_streams/), or potential protests from downstream water users).

9. Staff recognize that the GSP proposes Management Action 2, Pumping Allocations in Central Basin Management Area, in which the amount of the pumping reduction will depend on the volume of recharge resulting from the proposed supply enhancement projects. Such a demand management effort is expected to be an adequate contingency measure in the case that Projects 1 or 3 are unsuccessful in increasing groundwater supply in the basin.

## Engagement

10. The GSP states that no California Native American Tribes are present in the basin; however, the GSP does not describe the GSA's process for identifying or reaching out to Tribes with potential interests in groundwater management in the basin. Without this information, it is difficult to discern whether the GSA appropriately considered the interests of California Native American Tribes in developing the GSP (Water Code, §10723.2(h)). The GSP should elaborate on the GSA's tribal engagement effort. If the GSA has not already done so, the

GSA should consult with the Native American Heritage Commission (NAHC) to obtain information about Tribes that have current and ancestral ties in the basin. To request this information, the GSA 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
Chief, Groundwater Management Program
Office of Research, Planning, and Performance

Enclosure: Appendix – Detections and MCL Exceedances of Select Contaminants in Drinking Water Wells

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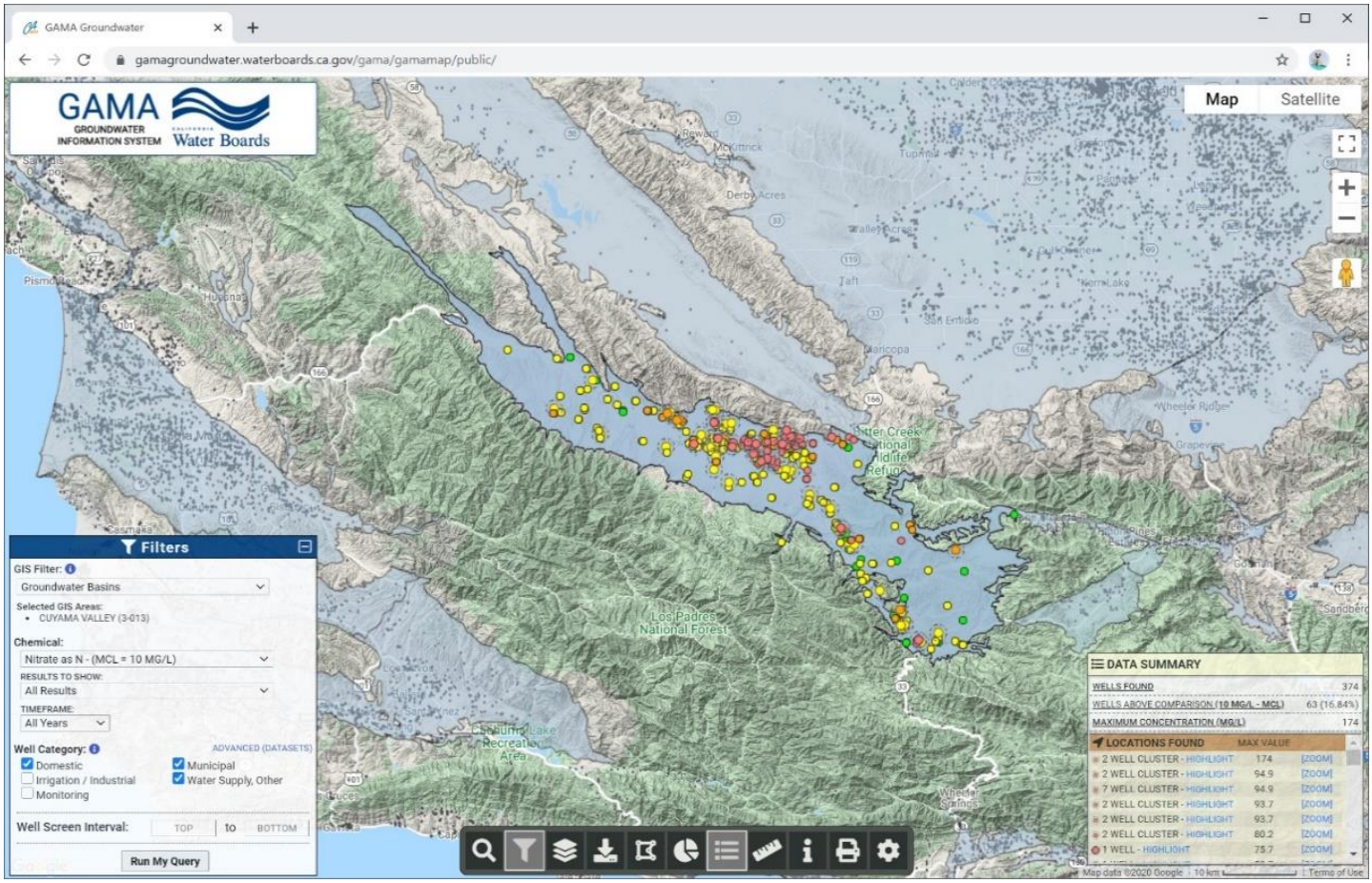


**Figure A-1: Nitrate Detections (yellow and green) and MCL Exceedances (red) in Drinking Water Wells.**

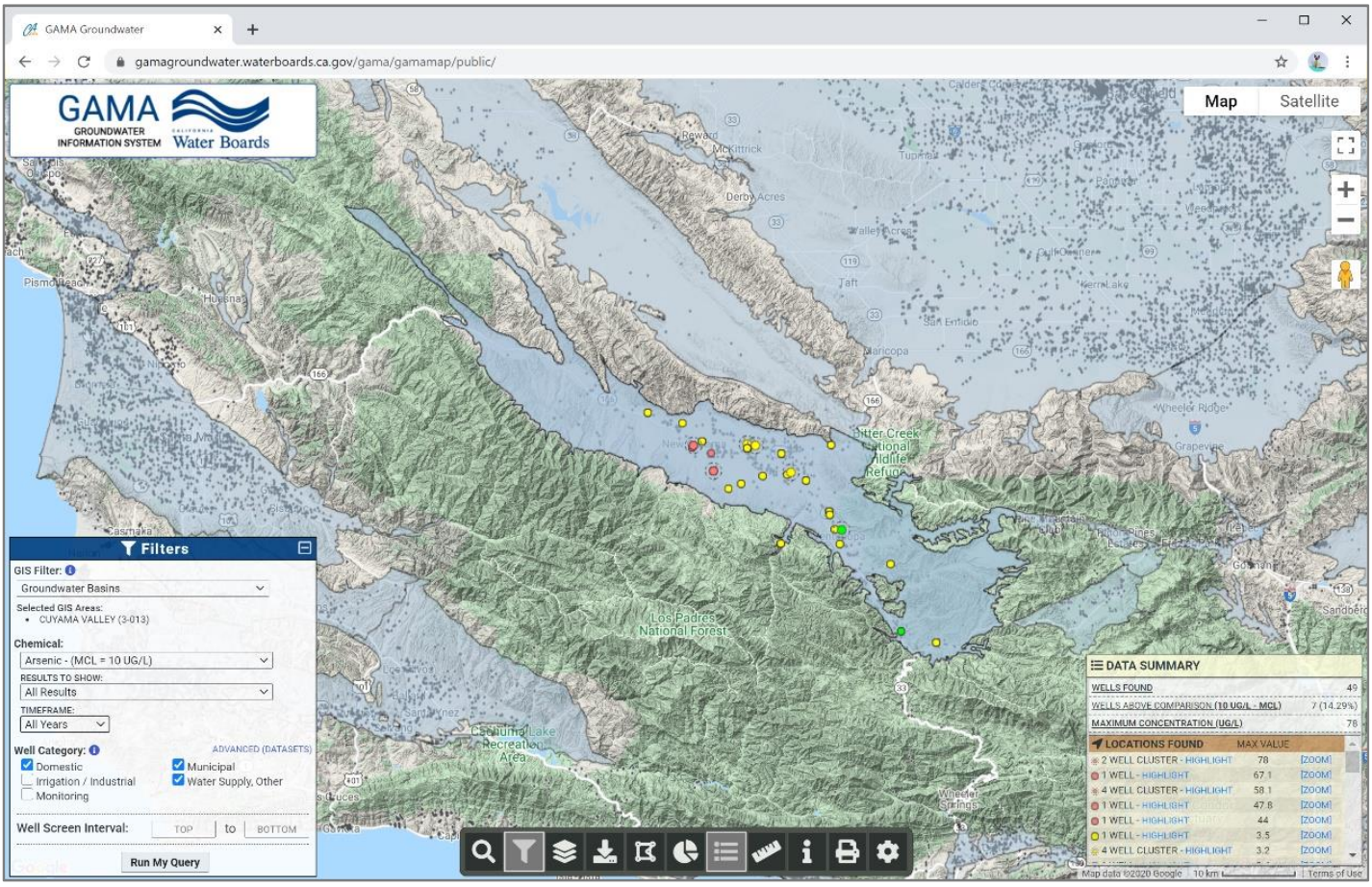


**Figure A-2: Arsenic Detections (yellow and green) and MCL Exceedances (red) in Drinking Water Wells.**