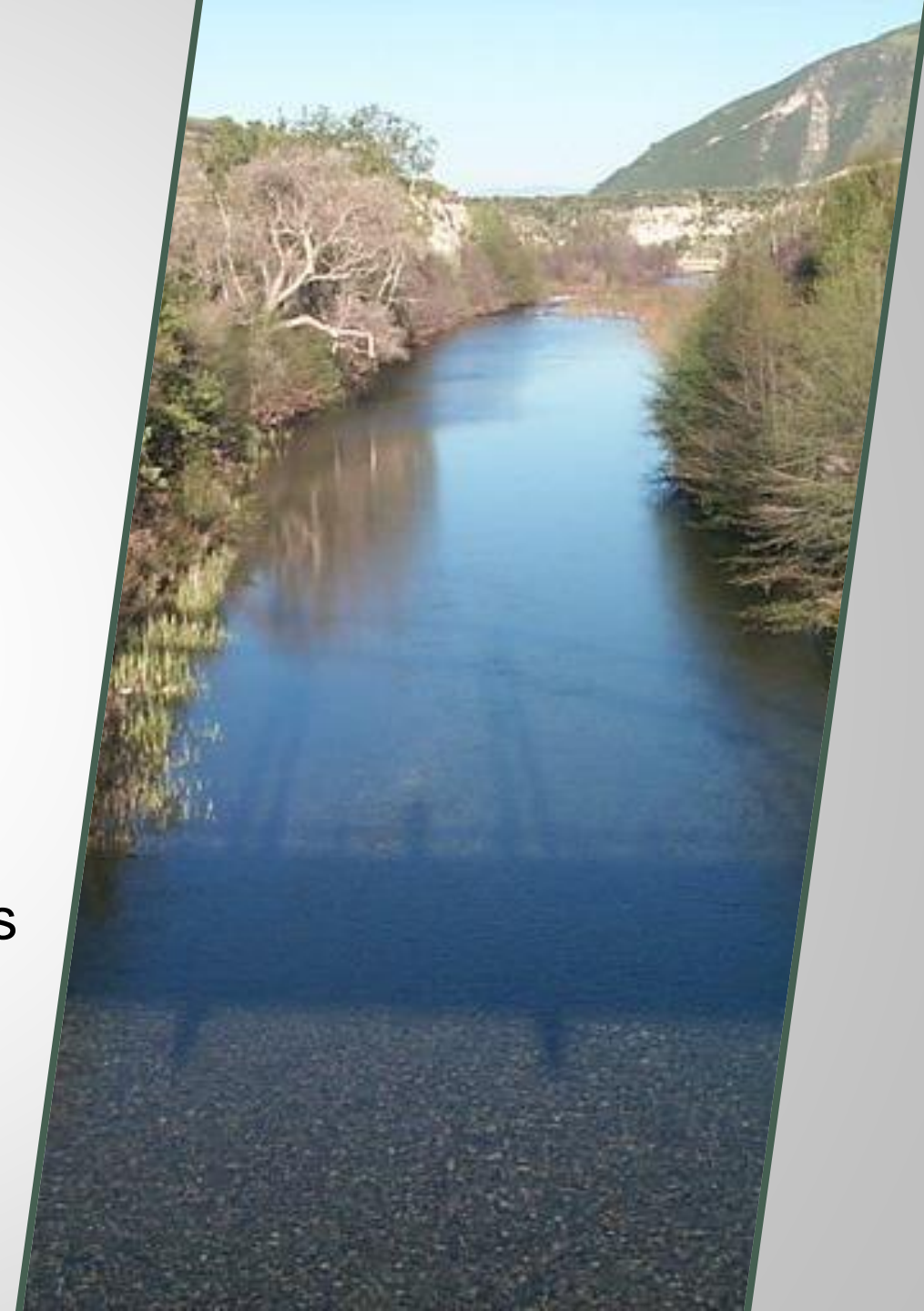


Water Quality Update

Policy Discussion

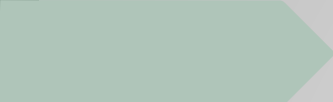
Presented to SVBGSA Board of Directors

July 8, 2021



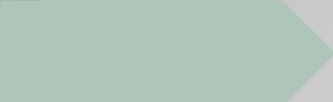
Overview and Purpose

- SVBGSA staff and consultants have been further refining the Agency's approach to water quality, based on feedback from the Board, AC, subbasin committees, stakeholders and DWR.
- This presentation will summarize water quality topics reflected in the 2022 GSPs. The Agency's broader approach is still under development.
- Draft GSPs seek to meet regulatory requirements and balance stakeholders' input.
- The purpose of this update is to share the 2022 GSP approach and make sure it reflects the Board's vision.



GSA Water Quality Approach

1. Meet SGMA requirements (GSPs)
2. Give subbasin planning committees the ability to define the water quality SMC for each respective subbasin. (GSPs)



GSA Water Quality Approach

3. Avoid duplication of tasks/responsibilities of other agencies, but work closely with those agencies to further define the GSA's role in groundwater quality management.
4. Undertake tasks that are useful to stakeholders but don't increase the scope or budget substantially.



GSA Water Quality Approach

5. Communicate key issues for underrepresented communities.
6. Leave the door open for additional water quality work in the future, while not committing to tasks immediately in the GSPs, so as to allow the Agency to balance all potential required and optional tasks in the future.
7. Recognize commitment to the Human Right to Water from the State and County



GSP Regulations

➤ 354.14 Hydrogeologic Conceptual Model

- Principal aquifers and aquitards, including the following information: ...**(D) General water quality of the principal aquifers**, which may be based on information derived from existing technical studies or regulatory programs.

➤ 354.16 Groundwater Conditions

- Each Plan shall provide a description of current and historical groundwater conditions in the basin, including data from January 1, 2015, to current conditions, based on the best available information that includes the following: **(d) Groundwater quality issues that may affect the supply and beneficial uses of groundwater, including a description and map of the location of known groundwater contamination sites and plumes.**

➤ 354.28 SMC Minimum Thresholds

- **(4) Degraded Water Quality.** The minimum threshold for degraded water quality shall be the degradation of water quality, including the migration of contaminant plumes that impair water supplies or other indicator of water quality as determined by the Agency that may lead to undesirable results. The minimum threshold shall be based on the number of supply wells, a volume of water, or a location of an isocontour that exceeds concentrations of constituents determined by the Agency to be of concern for the basin. In setting minimum thresholds for degraded water quality, the Agency shall consider local, state, and federal water quality standards applicable to the basin.

➤ 354.34 Monitoring network

- Each monitoring network shall be designed to accomplish the following for each sustainability indicator: **(4) Degraded Water Quality. Collect sufficient spatial and temporal data from each applicable principal aquifer to determine groundwater quality trends for water quality indicators**, as determined by the Agency, to address known water quality issues

Water Quality in 2022 GSPs:

Communication & Stakeholder Engagement (Chapter 2)

- Outlines SVBGSA governance structure and process for developing the GSPs, which lays the foundation for how the balance between uses and users is determined
- Gives an overview of GSA communication and public engagement actions, which pertain to water quality, among other issues
- Highlights efforts to reach out to and engage DACs and other underrepresented communities.
 - *Adding a DAC map and DAC appendix in version 2 of GSPs (v2)*

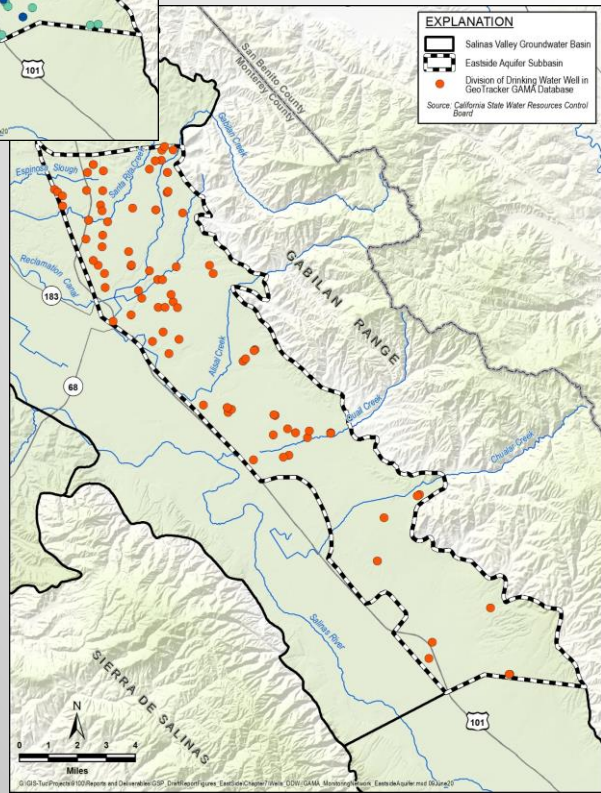
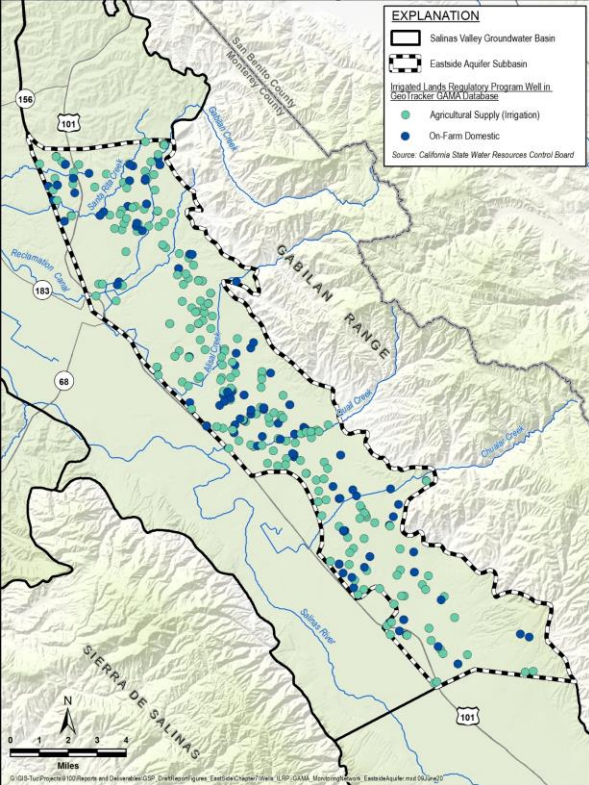
Water Quality in 2022 GSPs: Groundwater Conditions (Chapter 5)

- Reviews existing data sources, studies, and analyses on water quality
- Meets the requirements of GSP regulations
 - *For example, it presents historical and current conditions and maps of known exceedances of standards, but does not undertake additional analysis of trends over time*
- Does not duplicate other tools, but directs stakeholders to them as appropriate
 - SWRCB Geotracker GAMA database:
<https://gamagroundwater.waterboards.ca.gov/gama/datadownload>

Relationship between Groundwater Levels and Quality

- ▶ V2 includes revisions in Chapter 5 Groundwater Conditions to clarify the relationship between groundwater levels and quality.
 - ▶ Relationship varies based on the constituent, such as constituent depth dependence. Groundwater pumping can affect groundwater quality, but quality also depends on aquifer properties, distance to contamination, constituent characteristics and transport rate, and the time at which contaminants entered the subsurface.
- ▶ V2 includes clarification in Chapter 8 SMC on how the chronic lowering of groundwater levels minimum threshold could affect groundwater quality:
 - ▶ 1. Changes in groundwater elevation could **change groundwater gradients**, which could cause poor quality groundwater to flow toward production and domestic wells that would not have otherwise been impacted. These groundwater gradients, however, are only dependent on differences between groundwater elevations, not on the groundwater elevations themselves. Therefore, the minimum threshold groundwater levels do not directly lead to a significant and unreasonable degradation of groundwater quality in production and domestic wells.
 - ▶ 2. Decreasing groundwater elevations can **mobilize constituents of concern that are concentrated at depth**, such as arsenic. The groundwater level minimum thresholds are near or above historical lows. Therefore, any depth dependent constituents have previously been mobilized by historical groundwater levels. **Maintaining groundwater elevations above the minimum thresholds assures that no new depth dependent constituents of concern are mobilized and are therefore protective of beneficial uses and users.**

Water Quality in 2022 GSPs: Monitoring (Chapter 7)



- Relies on existing monitoring networks, including public water system supply wells that report to the SWRCB Division of Drinking water and the irrigation supply and on-farm domestic wells that report under the CCRWQCB's Irrigated Lands Regulatory Program
- Monitoring network is representative of basin conditions
- Originally planned to include all small water system wells in groundwater quality monitoring network but are not including them because well location coordinates, construction information, and quality data is not easily accessible. County Health Department is responsible for monitoring their water quality and the information is not easily transferable. There is sufficient coverage of the basin without these data.
- The State is working with Counties to streamline drinking water quality data. When data from small state and small local water systems is electronically available in an accessible format, it can be included in the monitoring networks.

Chapter 8 – SMC – Water Quality

- ▶ **Background:** SGMA acknowledges that GSAs are not responsible for all water quality degradation, as other agencies have water quality responsibilities. SGMA does not require GSPs to address groundwater quality impacts present prior to 2015
- ▶ **Current GSP approach:** GSP approach to water quality has been do-no-harm - no additional exceedances of drinking water regulatory standards or basin objectives as a direct result of projects or management actions taken as part of GSP implementation
 - ▶ Water Quality SMC minimum thresholds and measurable objectives are set to zero additional exceedances beyond those observed in 2019, measured by the number of supply wells in monitoring network (public drinking water supply wells, irrigation, and on-farm domestic wells)
- ▶ **DWR's 180/400 determination:** Indicated that this was insufficiently narrow and should include groundwater management
- ▶ **GSPs address or could address this through:**
 - ▶ Groundwater Level SMC minimum thresholds are set at or above historic lows to limit water quality degradation resulting from groundwater management
 - ▶ Groundwater Quality SMC could include impacts from groundwater management and a reference to groundwater levels
- ▶ **Future collaboration:** As included in the GSPs, SVBGSA will work with other agencies responsible for water quality through the Water Quality Partnership



Water Quality in 2022 GSPs: Projects & Management Actions (Chapter 9)

- **Water Quality Partnership** – a working group will be formed for agencies and organizations to collaborate on addressing water quality concerns
- **Agricultural BMPs** could include water quality protection (this is a big focus of the current ILRP)
- **Upper Valley and Forebay SMC TACs** include water quality
- *All projects and management actions that could have an impact on water quality will be designed with the intention of not harming water quality and will have a monitoring network sufficient to detect any potential impacts*

Key Take-aways

- ▶ The GSA will meet regulatory requirements and will work with other agencies to further define the GSA's role in groundwater quality but not duplicate other agencies' responsibility and efforts.
- ▶ As far as groundwater quality protection, thanks to bottom-up input of the subbasin committees, the GSPs are taking a do-no-harm approach that is not responsible for fixing previous groundwater quality impacts, but will not harm groundwater quality through any of its actions. This approach meets SGMA requirements, allows the GSA to focus on supply side issues while considering the water quality impacts, and leaves the door open for priorities like communication and community outreach.
- ▶ Staff and consultants are adapting according to feedback from the State, and based on the 180/400 determination, the Groundwater Quality SMC may need to be expanded to include groundwater management.
- ▶ A do-no-harm approach does not preclude additional action later, but acknowledges the numerous responsibilities and tasks the GSA must take on, and it allows for prioritization of those tasks during GSP implementation, hand-in-hand with the dialogues with partner agencies.
- ▶ This approach aims to acknowledge the Human Right to Water, not duplicate other agencies' responsibilities, and balance the impacts on uses and users.

Questions

