

# Sierra Valley Technical Advisory Committee Meeting Summary: Sept. 20, 2021

Project Website: [www.sierravalleygmd.org/sierra-valley-groundwater-sustainability-plan](http://www.sierravalleygmd.org/sierra-valley-groundwater-sustainability-plan)

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## ACTION ITEMS

**ACTION ITEM:** TAC members to provide edits and suggestions on Chapter 3 text by September 30

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## Welcome, Introductions, Agenda Review

The twelfth meeting of the Technical Advisory Committee (TAC) for the Sierra Valley (SV) Groundwater Sustainability Plan (GSP) was an in-person meeting, with a zoom webinar option for remote participation. The video recording is at [https://youtu.be/sDBBhSP\\_Bkg](https://youtu.be/sDBBhSP_Bkg). The meeting agenda was reviewed, followed by introductions.

There were 17 participants: 11 TAC members and 6 project team members.

## Project Updates

A draft of Chapter 3 was sent out for review, Chapters 1, 4 and 5 will be sent in the next week or so.

The 90-day notice of the intention to adopt was sent out today.

## GSP Element: Sustainability Goal

Betsy Elzufon, LWA Project Coordinator, presented the draft Sierra Valley sustainability goal which was discussed at an early TAC meeting. The goal was edited as follows:

*To manage groundwater resources in a manner that best supports the long-term health of the people, the environment, and the economy of Sierra Valley. ~~into the future by maintaining groundwater levels at or above January 2015 levels.~~*

This is consistent with TAC priorities from September 2020 to: maintain a rural, agricultural setting; maintain and enhance habitat; prevent drying out of wetlands; prevent impacts to domestic well users; and minimize or prevent new development.

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## Discussion

Comment: It was clarified that the GSAs would not be penalized if groundwater levels fell below 2015 levels due to drought conditions alone.

## Chapter 3: Sustainable Management Criteria

Laura Foglia, LWA Project Manager, described each of the five groundwater sustainability indicators and the potential undesirable results and the sustainable management criteria associated with each indicator.

### GROUNDWATER LEVELS

Potential undesirable results associated with groundwater levels include:

- Excessive reduction in pumping capacity
- Excessive increase in pumping costs
- Excessive need for deeper wells
- Excessive burden to local agricultural interests
- Excessive number of wells going dry
- Adverse impacts to environmental uses and users (such as interconnected surface waters or ISWs, groundwater dependent ecosystems or GDEs, or land subsidence)

At a quantified level, **undesirable results** occur if 25% of low groundwater levels (in the fall) in any of the representative monitoring points fall below minimum thresholds for two consecutive years. It was noted that there are 36 wells (representative monitoring points that have a longer history of monitoring) that make up the monitoring wells. Therefore, an undesirable result would occur if 9 wells (monitoring points) experienced conditions where groundwater levels fell below minimum thresholds for two consecutive wells. Minimum thresholds were established for each representative monitoring point.

The **minimum thresholds** (MT) near ISWs and GDEs are the historic lows. Currently, all wells are above the historic lows recorded in 2015 and allow for up to 10' of decline from existing levels. Over the near-term (over the next 3 years), groundwater levels may decline in some areas below historic lows as projects and management actions are implemented. By 2023, projects and management actions should contribute to the recovery of groundwater levels.

Comment: This explanation needs to be called out in a footnote to the graphic, explaining this is a potential drawdown – and does not represent existing conditions.

Comment: It's important to note where serious declines are occurring.

The **management objective** (MO) is to keep groundwater elevations close to present-day levels

## Discussion

Comment: 25% seems high.

Comment: Could the monitoring points be grouped according to level of susceptibility for lowering of groundwater levels, with different percentages defining undesirable results for each group?

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Response: The western side of the basin is relatively stable, with greater levels of groundwater decline on the eastern side. At the next update of the GSP, in 5 years, we can assess whether it makes sense to establish two different management areas: one for the east, and the west.

Comment: Monitoring should also tie to where known problems exist.

Comment: This section should state that expansion of the monitoring network is tied to receiving grant funding.

Response: The discussion about funding is found in Chapter 4. We want to explain here level of monitoring is needed to fill data gaps. We can highlight that implementation is tied to funding.

Question: When projecting water levels through 2023, was there consideration of how climate change might affect those projections?

Response: The current projections are based on existing data, which does not accommodate for climate change. In the future, projections will be based on the model and scenarios can be run for climate change.

Question: The current monitoring network exceeds the minimum requirements stated in DWR's best practices guide. Why does the GSP contain more than what is required?

Response: These monitoring points represent District wells that are already monitored.

Comment: Is the District monitoring on a quarterly basis? Describe what the level of monitoring that has been ongoing.

Suggestion: Describe that a nested DWR monitoring well is being installed using grant funds, as part of expanding the monitoring network.

## **GROUNDWATER STORAGE**

Laura explained that the Sustainability Indicator for Groundwater Storage, basically provide a three-dimensional representation of groundwater levels. Therefore, the Sustainable Management Criteria used for groundwater levels can be used as a proxy for groundwater storage (the amount of groundwater being stored in the aquifer). Once the model is completed, calculations can be used to verify anticipated groundwater storage.

## **DEPLETION OF INTER-CONNECTED SURFACE WATER (ISW)**

Laura Foglia noted that interconnected surface water and GDEs are often considered together. Within Sierra Valley, there is special interest in maintaining habitat – especially for sensitive species. This warranted additional studies on impacts to GDEs. SGMA requires that ISWs be mapped, and identifying data gaps where surface waters are not know to be connected to (or disconnected from) groundwater.

To completely address water budget data gaps on ISW, up to 13 shallow wells and 9 stream gages would be established. Some new shallow wells would be needed, some existing shallow wells could be equipped with instrumentation. For stream gaging, the current water master measurements could be leveraged and enhanced to provide additional information. The level of improvements in measuring stream conditions rests with cooperative efforts with other agencies

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and grant funding. The resulting information will help clarify which surface waters are (or are not) dependent on groundwater.

Comment: Eliminate or clarify language about adoption of ag irrigation efficiency practices.

Comment: It would be helpful to have stream gages to better inform the model and to track conditions over time.

Comment: Natural groundwater discharge, late in the summer, may be important for maintaining GDEs.

Question: What do the red lines on the map represent?

Response from David Shaw, Balance Hydrologics: The interpretation is that the streams entering the valley are draining into the aquifer, but not through a saturated zone – and therefore not connected to a groundwater condition. In those areas, groundwater levels are not close to the surface.

Question: How is it that surface water is connected to groundwater in the center of the valley?

Response from David Shaw: There are relatively shallow groundwater conditions in that area, including springs and a flowing well on the edge of the valley. With water coming up to the ground surface and discharging, there is upward flow in that area. Streams are receiving perhaps 1-5% of their flow from groundwater.

An assessment was made of whether ISWs would be impacted by Minimum Threshold groundwater levels. Extra scrutiny was given to those areas where surface water is connected with groundwater, mostly in the western area.

## **Assessing potential SMC impacts to groundwater-dependent ecosystems (GDEs)**

Christian Braudrick recapped that his team reviewed the Management Objectives and Minimum Thresholds for groundwater levels, as developed and proposed by LWA, to assess their possible impacts on GDEs. Any SMCs, that might create GDE impacts, would be changed.

The potential impact of Sustainable Management Criteria (SMC) on GDEs was assessed based on the following sequence of considerations:

1. Extent of GDE acreage within a 1-mile radius of the well / monitoring point
2. Likelihood that groundwater elevations occur within rooting depth (within 30 feet)
3. Type of GDE (e.g., riverine, freshwater emergent wetland, etc.)
4. Correlation of GDE health (based on measure of GDE “green-ness”) with groundwater elevation

If SMCs might impact GDEs, a second level of review considered whether SMCs needed to be adjusted:

- Are the Minimum Thresholds (MTs) and Measurable Objectives (MOs) within historic groundwater levels? (If no, adjust MT to historic low for groundwater level)
- Did GDEs recover within a reasonable time when previous groundwater levels equaled the MT? (If no, adjust MT and MO.)
- Is the MO appropriate for historic groundwater levels and GDE health? (If no, adjust MO.)

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As an example, a shallow (18' well) showed how different groundwater elevations did not show any systemic GDE declines. Even when groundwater levels declined below the, GDEs recovered over time.

Of the 36 wells that compose the monitoring network, adjustments were made to MT and MO for four wells: 2 in the western portion, 2 in the eastern portion. The adjustments reflected about a foot different in the MT and MO for groundwater levels.

Question: Within the cone of depression, are the wells deeper? (Yes)

Question: Is it less likely for deeper wells to impact GDEs? (Yes, because there are no GDEs near the deeper wells.)

Question: Can some surface water diversions support GDEs?

Comment: It would be difficult to separate out surface water that does not connect to groundwater. Some GDEs that appear in mapping may reflect vegetation supported by surface water.

Clarification: It was noted that while GDEs need to be considered, SGMA does not require Sustainable Management Criteria GDEs.

## WATER QUALITY

Laura Foglia explained that undesirable results for groundwater quality include:

- Impacts to save drinking water
- Impacts to irrigation water
- Spread of degraded water quality

In the valley, there are pockets of naturally occurring constituents of concern; we do not want to see those spread further. Sustainable management criteria were established for nitrogen and total dissolved solids. Generally, water quality is good. Annual monitoring includes 17 wells within the existing Groundwater Ambient Monitoring and Assessment (GAMA) database and a few volunteered wells.

Question: Should arsenic be checked near the well where it was found?

Response: Individual constituents can be monitored for in specific wells, perhaps every two or three years.

## SUBSIDENCE

Laura reported that subsidence has been measured in the valley at different locations. The GSP summarizes the subsidence studies conducted in Sierra Valley. Subsidence can cause economic impacts if wells and infrastructure are damaged. It can also create irreversible losses to aquifer permeability and storage capacity.

The GSP collected subsidence reports and DWR satellite data and estimated land subsidence in areas lowered groundwater elevation levels. Additional data is needed to better correlate groundwater levels with subsidence. Four ground-level elevation monuments will be installed and augmented by DWR satellite data (InSAR which is provided annually). The installation of the four monuments includes an initial surveying of the ground elevation. The additional data will

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help clarify where subsidence is occurring near the cone of depression. Part of the future work determining how much subsidence is significant.

Comment: Perhaps there is an opportunity to partner with the Union Pacific railroad, since they might be impacted also.

**Action Item:** TAC members to provide edits and suggestions on Chapter 3 text by September 30.

### *Projects and Management Actions (PMAs)*

Judie Talbot recapped that discussions on PMAs started with a working session on September 8 and continued at a TAC meeting on September 13. Several of the PMAs categories (ag irrigation efficiency, watershed management, voluntary managed land repurposing, and demand management) were refined and clarified during those meetings. Combined, the PMAs and expanded monitoring efforts represent key aspects of implementation.

### *Chapter 5: Implementation*

Laura previewed the elements for Chapter 5, Implementation, which will provide a roadmap for GSAs in future efforts:

- GSP management and administration (including reporting)
- Monitoring, modeling, and protocols for maintaining management objectives
- Projects and management actions
- Outreach and education

Implementation activities will start immediately after submission of the GSP, with work on the Annual Report due on April 1. Across the state, different GSPs contain very different levels of details regarding implementation. The GSP also provides preliminary estimates of costs for GSP administration.

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## Participants

### TAC MEMBERS

X = attendance

	<b>Organization, Name</b>		<b>Organization, Name</b>
X	Agricultural Commissioner, Plumas-Sierra Willo Viera		Sierra County Environmental Health Elizabeth Morgan
	City of Loyalton Jerry Gerow		Sierra Valley Groundwater Mgmt. District Einen Grandi and Dwight Cerasola (alternate)
X	Feather River Land Trust Ken Roby	X	Sierra Valley Resource Conservation District Rick Roberti
X	Feather River Trout Unlimited William Copren	X X	Sierraville Public Utility District Thomas Archer, Paul Rose (alternate)
	Hinds Engineering Greg Hinds	X	UC Cooperative Extension Tracy Schohr
X	Integrated Environmental Restoration Svcs. Michael Hogan		Upper Feather River IRWM Uma Hinman
	Plumas Audubon Jill Slocum		USFS – Plumas National Forest Joe Hoffman
X	Plumas County Tracey Ferguson		USFS – Tahoe National Forest Rachel Hutchinson
X	Sierra Brooks Water System Tom Rowson		

### EX-OFFICIO MEMBERS

X	CA Department of Water Resources Debbie Spangler and Pat Vellines (alt.)		CA Department of Fish and Wildlife Bridgett Gibbons
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### TECHNICAL TEAM & PLANNING COMMITTEE

- |   |                                    |   |                                     |
|---|------------------------------------|---|-------------------------------------|
| X | Laura Foglia, LWA Project Manager  | X | Christian Broderick                 |
| X | Betsy Elzufon, LWA                 | X | Dwight Smith, McGinley & Associates |
| X | Kristi Jamason, Planning Committee | X | Judie Talbot, Outreach Facilitator  |

### COMMUNITY MEMBERS (none)