

Sierra Valley Technical Advisory Committee Meeting Summary: July 19, 2021

Project Website: www.sierravalleygmd.org/sierra-valley-groundwater-sustainability-plan

Data Portal: <https://sierra-valley.gldata.com>

ACTION ITEMS

ACTION ITEM: Convene a small working session on GDEs. Judie to send out a Doodle poll, schedule a meeting, and distribute agenda and related materials.

ACTION ITEM: LWA to develop draft text on PMAs. A working session to review the text will be scheduled for late August.

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Welcome, Introductions, Agenda Review

The ninth 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. (Note: Go to <https://youtu.be/ifu-11F0k2s> for the video recording of the meeting.) The meeting agenda was reviewed, followed by introductions. The topics for this meeting covered:

- Project updates
- Highlights on basin conditions: sustainable yield and pumping data
- Initial discussion on implementation projects and management actions

There were 22 participants: 13 TAC members, 6 project team members and 3 community members.

Project Updates

GSP TEXT

Laura Foglia, LWA Project Manager, noted that a few comments had been submitted on the new text for Chapter 2. Comments received after that cutoff dates will be addressed in subsequent versions of the GSP. TAC members are encouraged to send in their edits and suggestions on GSP text, since the goal is to have a public draft available by the end of September. It may be necessary to identify topics that need fuller discussion as part of GSP implementation.

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GSA UPDATE: IRRIGATORS MEETING

Kristi Jamason reported that the District held an irrigators meeting on the previous evening, Sunday, July 18th, to engage agricultural producers in the basin. About 12 of the roughly 20 groundwater pumpers attended, to share their ideas on stopping groundwater decline. It was an encouraging session and people were fully engaged. Rick Roberti added that irrigators seemed encouraged to learn that the GSP is seeking to achieve sustainable groundwater management in a way that prevents or minimizes possible future curtailments on pumping. Quite a few ideas were generated. Also, there is time in the plan to work through the options. Craig McHenry added that funding for implementation projects will help put management actions in place. He has ideas about groundwater recharge that should be considered.

WORKSHOP SURVEYS

Judie Talbot, GSP Facilitator, highlighted that materials and surveys from the May workshops had been posted online and distributed through the listserve. Between the June Board meeting and online submissions, 10 additional surveys were received for a total of almost 25 responses. A summary sheet of the survey responses is currently being prepared.

INITIAL DWR ASSESSMENTS OF SUBMITTED GSPs

In enacting the Sustainable Groundwater Management Act, the California legislature designated the Department of Water Resources (DWR) as the agency responsible for reviewing and evaluating the Groundwater Sustainability Plans (GSPs) for completeness and adequacy. Critically over-drafted basins were required to submit their GSPs by January 2020. The first assessments conducted by DWR on four GSPs were recently released. Two GSPs were approved and two had deficiencies noted.

Final DWR determinations on the GSPs for high priority basins are due to be finalized by January 2022. GSP are ultimately determined to be: approved, incomplete, or inadequate. Once a determination is made, GSAs have 180 days to address any deficiencies regarding GSP completeness or adequacy. While the recently released (and upcoming) assessments are not formal determinations, they do provide a “heads up” to GSAs about what constitutes a successful GSP. Also, other basins can better anticipate where their GSPs may need additional work.

Judie Talbot is creating a summary sheet to explain what the assessments indicate, in terms of what DWR is looking for in approving the GSPs and how deficiencies are being identified. This provides an opportunity to double-check the plan being prepared for Sierra Valley.

At the June TAC meeting, Debbie Spangler, DWR SGMA Liaison for Sierra Valley, noted that the DWR assessments were comprehensive, clear and informative. The timing is helpful to inform the GSPs that are currently under development. The reviews emphasized good science and good data, seeking descriptions of why additional data may need to be developed and how it will be used. DWR reviewers did not provide many comments on management actions, with many of GSPs describing management actions at a conceptual level. DWR reviewers did look for GSA commitments to implementation of the GSPs.

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Overview of Projects and Management Actions (PMAs)

Laura Foglia explained that Project Management Actions (PMAs) are a key component of the GSP and will inform future basin strategies and decisions. Actions must be identified for implementing the GSP starting in February 2022 or earlier. In the Sierra Valley GSP, PMAs form the basis of Chapter 4.

DEFINITIONS

- Projects: create or modify physical structures or elements
- Management Actions: create or modify policies, procedures or regulations

Broadly, PMAs address supply augmentation, demand management or “other” actions (such as data collection, monitoring, outreach and education).

OBJECTIVES

PMAs are developed to achieve the stated goals for the five Sustainability Indicators relevant to Sierra Valley: groundwater levels, groundwater storage, groundwater quality, Interconnected Surface Water (ISW) and Groundwater Depended Ecosystems (GDEs), subsidence. A sixth Sustainability Indicator, seawater intrusion, is not applicable to the SV sub-basin. Specifically, PMAs must:

- Prevent lowering of groundwater elevations beyond 2015 conditions
- Address concerns about stream / wetland depletions
- Establish funding mechanisms
- Contribute to a state-approved GSP

APPROACH

Within the basin, PMAs will strive to:

- Minimize impacts to the basin economy (primarily agriculture)
- Minimize costs and leverage external funding
- Promote incentives and voluntary actions over mandatory actions

Implementation of the GSP and PMAs includes partnering with other entities who have responsibilities and authorities for surface water and related land use and resource management.

REQUIRED ELEMENTS of GSP TEXT on PMAs (Chapter 4)

1. Description of the Measurable Objective expected to benefit from implementation of PMAs
2. General summary of permitting and regulatory processes required for PMAs
3. PMA status (e.g., existing, near-term, and future / conceptual) and expected timetable of implementation and accrual of benefits
4. Explanation of how the PMA will be accomplished including source water and source reliability.
5. Description of legal authority required for PMA
6. Estimated cost for PMA and how those costs will be met
7. A description of the management of groundwater extractions

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Including PMAs in the GSP does not represent a commitment to implementation any specific action. However, PMAs included in the GSP are eligible for grant funding. It was clarified that costs for permitting, monitoring and modeling would be included in grant applications as a component of the PMAs.

DISCUSSION

There is a concern about the availability of funding, especially if state grants become constrained in the future. It was noted that the next cycle of grants, for March 2022, are well-funded and that there is a process underway for DWR to identify criteria for the upcoming grants.

PMAs might be also be undertaken by non-profits, academia, and entities undertaking projects pilot studies (e.g., Resource Conservation Districts, Fire Safe Councils, etc.). People will be willing to help get projects implemented. It will help to think outside the box and recreate a vision for getting things done.

Pilot projects, to show proof of concept, can support requests for additional funding.

One key management action is a monitoring sufficient to show movement towards sustainable groundwater management. Other PMAs will focus on the key issue in the Sierra Valley basin: declines in groundwater levels. Other sustainability indicators flow from that.

NEXT STEPS FOR PMA DEVELOPMENT

Laura described the approach for developing PMAs:

1. Enhance data collection and pilot pilots that increase understanding of the basin
2. Create priority list for more feasible PMAs
3. Select PMA
4. Conduct feasibility study
5. Implementation (and benefit evaluation)

PMA IMPLEMENTATION

Referring to the following two graphics, Ms. Foglia mapped out the process and feedback loops associated with PMA implementation. She explained that Chapter 5 of the GSP, on implementation, will explain how the PMAs are described and evaluated. This will include feasibility studies and a schedule and timeline for GSAs to structure the overall process. Generally, PMAs will be implemented over a twenty-year timeframe from 2022 – 2042. Some aspects will be phased according priority, funding availability and overall timeline:

Tier 1: Existing PMAs currently being implemented, or that can be immediately implemented in Feb 2022.

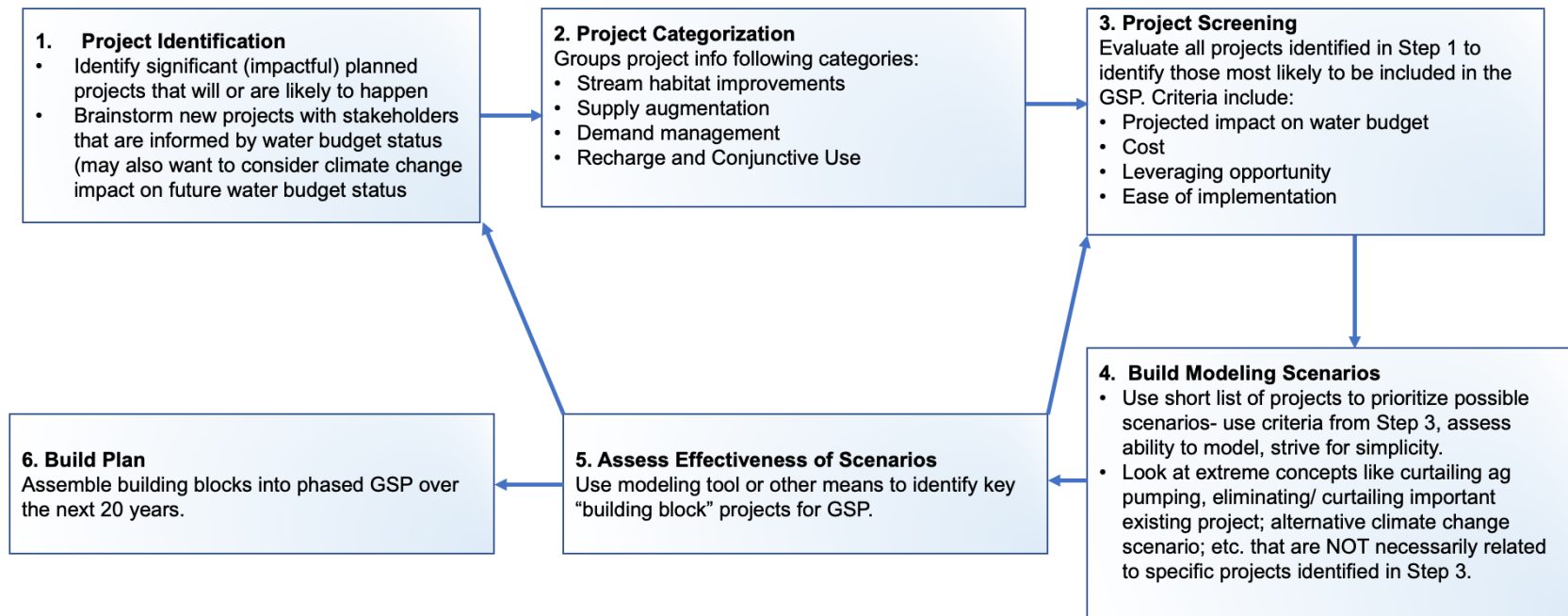
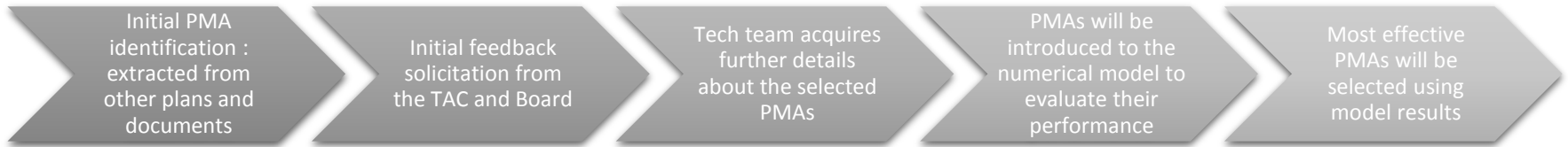
Tier 2: PMAs planned for near-term initiation and implementation by individual agencies.

Tier 3: Additional PMAs that may be implemented in the future as needed.

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Why are PMAs Needed: Sierra Valley Sub-basin Conditions

Laura Foglia presented a high-level overview of the overall water budget for Sierra Valley. At a high-level, the goal is to stabilize the cone of depression and to protect wetlands and ecosystems from adverse impacts due to reduced groundwater levels. Another key groundwater use in Sierra Valley is domestic wells. It would be helpful to establish an inventory of domestic wells.

Previous studies have projected a sustainable yield of 6,000 AF. In extreme years, pumping levels may reach 14,000 AF. While overall trends are for reduced groundwater levels, the basin recovers significantly during wet years.

The GSP will take a comprehensive approach to listing a very broad array of possible management actions to prevent undesirable results and protect all beneficial users of groundwater. Input from the TAC will describe what approaches are reasonable and appropriate for Sierra Valley.

Initial Discussion on Projects and Management Actions (PMAs)

CATEGORIES AND TYPES OF PMAs

Demand Management

- Irrigation Efficiency Improvements
- Voluntary Conservation / Conservation Easements
- Pumping limits for time of use: with or without compensation (based on water-year type)
- Pumping Restrictions

Supply Augmentation

- Upland Management / Green Infrastructure / Multi-benefit Projects (perhaps pilot projects; may be different for precipitation as snow v. rain) including meadow and stream restoration, habitat restoration that may shade streams (Carmen Valley is a good example of habitat restoration providing water supply benefits)
- Instream Flow Leases (transferring surface water rights)
- Reservoirs including off-stream storage (this involves redirecting surface water which can affect water rights)
- Recharge
 - Managed Aquifer Recharge (MAR)
 - In-lieu recharge (ILR) where surface water is used to replace groundwater pumping
 - Injection wells for deep aquifer recharge

Other

- Data collection (including monitoring and studies) to learn more about the basin: including pumping tests, soil moisture, infiltration rates, etc.)
- Education and outreach

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EXAMPLES OF PMAs by TIER (existing, near-term, future / conceptual)

Laura provided examples of PMAs according to Tiers (based on timeframes and specificity):

Tier 1: Existing PMAs	Tier 2: Near-term PMAs (to 2027)	Tier 3: Long-term PMAs / concepts
<p>Demand Management: well moratorium, irrigation efficiency, crop substitutions, timing of irrigation applications</p> <p>Supply Augmentation: recycled water from Loyalton WWTP and biomass facility, use of surface water supplies when feasible</p> <p>Habitat Improvement: local General Plans, forest management plans</p> <p>Data: SVGMD flow meter maintenance and calibration</p>	<p>Demand Management: additional irrigation efficiency improvements</p> <p>Supply Augmentation: conservation easements</p> <p>Habitat Improvement/Multi-Benefit: green infrastructure in upper watershed; fuels management</p> <p>Recharge: enhanced recharge in upper watershed, MAR or injection wells</p>	<p>Demand Management: possible approaches such as parcel allocations</p> <p>Supply Augmentation: off-stream storage</p> <p>Habitat Improvement/Multi-Benefit: possible recharge opportunities near GDEs</p> <p>Recharge: MAR or injection wells</p>

GSP IMPLEMENTATION

Demand Management

Dwight Smith, McGinley & Associates Principal Hydrogeologist, will be supporting GSP implementation and is currently assisting SVGMD with their efforts with updating flow meters. Two other key initiatives are expanding the monitoring network looking at the feasibility of different PMAs. Improving the efficiency of water use (especially for agricultural application) is a top priority, where capital investments range from minimal to more substantial. Improvements in water conveyance are also being looked at in the shorter-term timeframe. Efficiencies can range from lining of canals, to conversion of crops, to timing of irrigation, to different irrigation technologies. Fish Lake Valley is an example of using bubblers.

Supply Augmentation

From a longer-term perspective, potential recharge projects will need to identify sources water – along with appropriate receiving locations. A nearby example of a recharge project comes from Carson City, where the Vice Canyon project has been operating for 20 years. This can be looked at for lessons learned. Dwight noted that flood control catchments may not yield much in terms of supply looking at long-term averages. A different type of supply augmentation occurs as icing of field, where water is applied and then stored on pasture as ice.

Other Ideas

Other options to explore include:

- Moving irrigation start date to March 1
- Moving water in later February or early March for on-farm storage

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- Revise policy at the state level for use of flood flows
- If more aggressive demand management options are needed in the future, there are more equitable approaches – for example, shares of groundwater to each parcel

Discussion

Comment: In terms of using the existing grants, the basin will want to start with small projects that can be accomplished and identify larger projects that can be done further down the road. Smaller projects might include data collection, pilot projects and irrigation efficiencies.

Comment: For larger projects, requests should be submitted in the next cycle of grant applications. Money is available now for large projects, that may not be available in the future. Now is the time to get funds dedicated for a large project.

Comment: The Bachand study on low-elevation study was inconclusive. It would be helpful to think about a pilot project on bubblers.

Comment: Lower drops for irrigation are not especially useful with grains, which get tangled up in the irrigation heads.

Question: There have been comments about greater infiltration in the uplands. Will that be looked at: forest management, road restoration?

Response: Extra attention will be given to the fringes of the basin where recharge opportunities are likely greatest. There could be some rudimentary simulation on that.

POSSIBLE PMAs to CONSIDER for SIERRA VALLEY

Recharge Ideas

Much of Loyalton is designated as a floodplain. On the Santa Clara property, there is a roughly 4-6 foot depression about the size of a full-sized pivot. The thinking was that Staverville flood waters could be diverted into the depression. The key is to take advantage of flood years and to redirect flood waters back into the basin. While average precipitation is 12", the normal is 8" due to high volumes during wet years.

The GSP needs to include a pilot project for mountain recharge as a tier 2 PMA. The site at Staverville has both opportunities and limitation, including that the land is owned by Santa Clara. The area seems to have recharge properties that will require looking at soil maps. NRCS looked at runoff for different flood event. Another question relates to water rights: runoff and limitations in adjudicated basins where water is tied to use on the property. Notably, the Water Master authority does not extend to Staverville. It was noted that flooding occurs when water is needed and causes erosion and damage to habitats.

Next steps would start off with infiltration tests at the area. If water ponds, then we would need to go to the next steps. Detained water might have to be pumped to upland recharge areas or injected. It might be possible to direct the water to an abandoned well. This would require pressure. Also, injection wells frequently clog up; water must be very clean. It would be easier to pond water where natural infiltration occurs, where little construction would be needed. Temporary permits can be obtained for pilot projects, to divert winter water. Monitoring components must be part of the permit application.

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Initiating a reasonable project will provide benefits, even if it doesn't work out as planned. We don't need to get pilot projects right the first time. We'll learn from every experience. Water can be spread on appropriate locations, informed by AEM surveys with information about geology. Also, electro-geophysics studies are not very expensive and are another source of information.

Tracey Ferguson noted that the USFS will be looking at forest thinning and recharge possibilities.

Offstream Storage

There are a lot of potential locations for recharge. However, recharge is dependent on high-water years. Those will come – it may be worthwhile to look at offstream ponds for storing runoff. This would depend on the State allowing us to pond water, which hasn't happened in the past.

Ponding is cost-effective and would generate multiple partners.

Ponding would trigger the question of who gets to use the water.

Downstream users will be paying attention to upstream diversions. PG&E and Lake Oroville will be looking at flows from Sierra Valley. It will be important to track how much water is being requested for ponding and the timing of supply.

Demand Management

Efficiency alone doesn't necessarily reduce groundwater use, since ranchers could direct the amount of water "saved" to other uses. This gets back to the idea of shares of water for each parcel.

Eventually, there will be greater transparency on the amount of water pumped. There will need to be some accountability for reducing the amount of groundwater use. There could be incentives for conserving water – and what are the right incentives? Beyond that, publicly funded projects will require greater transparency. Perhaps a pilot project could be a trial around allocating shares of water per parcel. There have been discussions for many years about some type of limit on pumping. Also, at some point it will become too expensive to pump. At what level do wells need to be modified? Avoided costs are definitely an incentive.

ACTION ITEM: LWA to develop draft text on PMAs. A working session to review the text will be scheduled for late August.

August TAC Meeting

The August TAC meeting takes place on Monday, August 9th, from 5:30 – 8:30 p.m., at Sierra Christian Church in Beckwourth. The agenda items will focus on the Sierra Valley Water Budget and economic considerations for GSP implementation (such as administrative and monitoring costs).

Login info is:

Weblink: <https://us02web.zoom.us/j/86803720815>

Phone only: (669) 900-9128 or (253) 215-8782

Meeting ID: 868 0372 0815

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Participants

TAC MEMBERS

X = attendance

	Organization, Name		Organization, Name
	Agricultural Commissioner, Plumas County Willo Viera		Sierra County Environmental Health Elizabeth Morgan
X	City of Loyalton Joy Markum and Jerry Gerow (alternate)		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	Sierraville Public Utility District Tom Archer and Paul Rose (alternate)
X	Hinds Engineering Greg Hinds		UC Cooperative Extension Tracy Schohr
X	Integrated Environmental Restoration Svcs. Michael Hogan		Upper Feather River IRWM Uma Hinman
X	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.)	X	CA Department of Fish and Wildlife Bridgett Gibbons
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TECHNICAL TEAM & PLANNING COMMITTEE

- | | | | |
|---|-------------------------------------|---|------------------------------------|
| X | Laura Foglia, LWA Project Manager | X | Satchi Itagaki, Kennedy Jenks |
| X | Kristi Jamason, Planning Committee | X | Marina Magana, Kennedy Jenks |
| X | Dwight Smith, McGinley & Associates | X | Judie Talbot, Outreach Facilitator |
| X | Hillary Pierce, LWA | | |

COMMUNITY MEMBERS

- X Craig McHenry
- X Dan Wormington
- X Pat Wormington