

SUMMARY

PUBLIC RECHARGE STUDY TECHNICAL WORKSHOP

MADERA COUNTY GSAs

Date: February 4, 2021

Time: 10am-12 noon

Location: via Zoom webinar

1. WELCOME AND INTRODUCTIONS

Stephanie Anagnoson, County of Madera, welcomed participants to the Recharge Technical Workshop, noting that it was one of several workshops related to demand management and supply augmentation projects to support the County's Groundwater Sustainability Plan (GSP) implementation; others include recharge, measurement, allocation, and water market.

Malka Kopell, Sacramento State Consensus and Collaboration Program, reviewed the workshop agenda and use of the remote participation platform.

In addition to live discussion during the workshop, participants were invited to provide feedback through a survey. The survey link was shared initially during the introductions and again during each discussion period.

2. MADERA COUNTY GROUNDWATER SUSTAINABILITY PLAN (GSP) REVIEW

(Note: the that presentation slides are available on the Madera County Water website at <https://www.maderacountywater.com/recharge/>)

Bryan Thoreson, Davids Engineering, briefly reviewed the role of recharge projects in the County's GSP implementation and presented an overview of the Recharge Study project. He discussed the role that recharge projects play in the County's GSPs, which require both consumptive use reduction and increased supply. The Recharge program is one of the ways that the Madera County GSA is working to increase supply.

3. RECHARGE STUDY OVERVIEW

Mr. Thoreson continued with an overview of the Recharge program study. The study objective is to:

- Develop a strategic recharge plan and implementation program to achieve groundwater recharge through in-lieu practices, Flood-MAR, and spreading basins with the following specific objectives:
 - Develop projects that address “low hanging fruit” first.
 - Develop and implement projects that optimize on-farm recharge versus recharge basins.
 - Identify and pursue funding opportunities for implementation of projects.
 - Identify or establish partnerships with public agencies and non-profits to advance

recharge

Mr. Thoreson described the study project details, including the project scope and timeline. He also presented examples of possible projects, including two projects in the Chowchilla and Madera Subbasins that have been submitted for possible State grant funding.

4. **OPTIONS FOR RECHARGE AND PARTICIPANT FEEDBACK**

Duncan MacEwan and Stephen Hatchett from ERA Economics presented some options to consider regarding funding recharge projects, including privately developed/self-funded, publicly funded through grants or landowner charge, or a combination. They also presented options to consider regarding how to share costs and benefits (viewable on same set of presentation slides mentioned above).

Participants were invited to ask questions and share feedback on these or other considerations. They were also invited to share written feedback via the survey.

Q&A below:

- Can you explain more about the Water Right Application land?”
 - The water rights application is led by Triangle T, and when they submitted, they also need to submit where water will be applied. It is in the process of being reviewed. They have temporary permits and are looking to make them permanent.
- Do you have a strategy for deploying a regional water control system (SCADA) that would enable a comprehensive accounting of water delivered to the recharge basins and extracted from the ground?
 - We plan to have measurement at each turnout with a comprehensive accounting of water delivered to the recharge basins. SCADA is an option, but a decision has not been made yet.
- As I understand, as of this time the 215 water can only be used for recharge in a very small area. How long before the process for allowing the 215 water to be used for recharge throughout Madera? Will there be credits allowed for such recharge? Is 215 water considered "new water?" Can rain and flood water that pass by us be considered “new water?”
 - Hoping in the next year or so to complete the process for the 215 water to be used anywhere in the Madera County GSA. “New” water is additional water that is more than has been brought in historically. Some 215 water has been brought in, but not by the Madera County GSA, so 215 water used for recharge by the Madera County GSA would be new water. Rain and flood water that passes is new water if it would have flowed out of the subbasin had it not been diverted.
- Considering your grant applications, have the affected irrigation districts signed on? Do they have the capacity to deal this "new" recharge water? MID recently purchased two parcels for over \$2 million for recharge and are working with Madera City for recharge development that will require the use of their pipes and canals. Also, when was the last time 215 water was available.? I have been told none has been available for the past 10 years.”

- We have had many conversations with the irrigation districts regarding coordination on grant applications. These conversations will continue. The last time Section 215 water was available was in 2017.
- Will there be a formula to consider rain water as new water available for us?
 - The short answer is no.
- Since grants are for public benefit and do not allow credit for private participation, is there anything we can do to change that?
 - Agreed that benefits funded via grants would be public, which is consistent with the cost allocation approach presented during the meeting. Steve noted that state laws will probably not change what can be paid for with grant funding. We were looking for feedback on different components of recharge project costs, and general buy-in on the concept of allocating benefits in proportion to costs.
 - We noted that there may be federal programs that landowners can participate and apply for on their own. This would count as landowner (private) costs for determining the allocation of benefits.
- In a private recharge project, would all water volumes introduced be allocated to the landowner only?
 - Benefits would accrue to the party paying the cost
- So, essentially an average 6-10% leave-behind means that typically 90% of water application stabilizes as isolated groundwater near the recharge area?
 - No, that is not how we are describing it.
- Kern Water Bank (KWB) also requires a 10% leave-behind, which includes both evaporation and 4% for lateral migration.
- I question the leave-behind costs. Someone who is putting out cold, hard cash and then passing along about 10% to freeloaders? Doesn't seem quite right. Should there not be some kind of reimbursement or additional benefit?
 - We noted that this is helpful feedback as we are considering options for the recharge program framework. The leave behind (10%) is described in the presentation as providing "...general benefits to the Madera County GSA." We noted that there are other ways to consider leave behind: namely, accounting for lateral migration and cost considerations (e.g., the GSA is evaluating, approving and tracking recharge from the project, so some benefits of a recharge project could be leave behind for the benefit of the entire GSA).
- Water purchase cost and equipment replacement costs seem to be missing from the economics. In the Kern Water Bank, the migration water needs to be purchased by those getting the benefit. The 6% is evaporation and not really getting recharged.
 - The cost components shown in the presentation were aggregate categories to illustrate the cost allocation concept. Water purchase and system repairs/replacement would absolutely be included in recharge project life cycle costs. And recharge benefits would be allocated in proportion to costs (considering all costs). The question regarding leave behind is addressed above. Namely, we need to account for physical losses and consider costs incurred by the private party and the GSA.
 - General feedback from the meeting participants was to set leave behind as low as

possible. It is clearly viewed as a tax.

- I joined late, so sorry if this has already been asked, but is the GSA looking at arranging contracts for flood water, and project sponsors would apply to the GSA for portions of the floodwater? Or would project sponsors be responsible for securing flood waters from other sources, such as MID?
 - We did cover the sources of water in early introduction slides presented by Bryan. The main purpose of this part of the presentation was to lay out a conceptual framework for allocating benefits from recharge in proportion to lifecycle costs.
 - Bryan clarified that the main water sources are from flood water in the Chowchilla/Eastside bypass and from section 215 water. The thinking is that the Madera County GSA would obtain these water rights. A private project might also secure their own water right.
- Just this morning I had a conversation with MID regarding flood water availability from them; response was that that was likely going to be up to the county GSA.
- Restoration of historic flood plains would restore some wildlife habitat and also recharge groundwater. Does the GSA have plans for flood plain restoration?
 - This might be more of a Sustainable Agricultural Land Conservation (SALC) program consideration. Consistency across programs is important.
- Using dry wells (recharge wells) in recharge basins would almost completely eliminate evaporation.
- Considering costs, are the costs of "wheeling" or delivering water via the irrigation districts being considered?
 - Yes, included. Those cost are in both grant applications and would be considered in overall benefit allocation
- Those slides helped me understand leave-behind percentage. Thank you.
- Considering that without the landowner participation/cooperation the project becomes almost impossible to execute, it seems like a more generous share to the landowner would incentivize more enthusiasm from landowners to participate. Without land and water rights there is no project.
- Something to consider on leave-behind percentages, those were for banking projects where the water was going to be pumped out and delivered outside the basin. If the water is part of basin sustainable yield and you are deducting actual evap, no real need for leave-behind.
- In the example, how many acres over how much time would be required to sink those 7,000 AF?
 - We can't tell you off the tops of our heads. We reviewed total land needed.
 - It depends on the days you can have the water there. Calculations can and will be done for every project.
- Is recycled wastewater being used for recharge in addition to stormwater? Are large municipal wastewater treatment plants being upgraded to improve water quality for

recharge?”

- Recycled water is not new water to the basin at the moment.
- The implied cost is about \$2K per AFY. IS that a reasonable expectation?
 - Duncan explained that these are just example numbers. Not exact numbers. Steve pointed out that the \$2,000 per AF number is from dividing the capital cost of the project by the annual yield. This is incorrect. You need to annualize the per AF values first, and then divide by the annual yield (AF). So, numbers are both made up and the calculation suggested by the question was incorrect.

5. NEXT STEPS/CLOSING

Ms. Anagnoson thanked everyone for participating in the meeting and closed the meeting.