DRAFT SUMMARY

MADERA SUBBASIN JOINT GSP

SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)
TECHNICAL WORKSHOP AND COORDINATION COMMITTEE MEETING

Date:	Wednesday, August 7, 2019
Time:	2:00 - 4:00 pm
Location:	Madera County Government Center Board of Supervisors Chambers 200 West 4th Street Madera, CA

IN ATTENDANCE

Subbasin Joint Groundwater Sustainability Plan (GSP) Coordination Committee

- Brett Frazier, Madera County
- Dave Loquaci, Madera Irrigation District
- Derek O. Robinson, City of Madera
- Dina Nolan, Madera Irrigation District
- Eric Abrahamsen, Madera Water District
- Greg Young, Madera County
- Keith Helmuth, City of Madera
- Phil Janzen, Madera Water District

GSP-Related Staff

- Bryan Thoreson, Davids Engineering
- Julia Van Horn, facilitator, Sacramento State University
- Malka Kopell, facilitator, Sacramento State University
- Pete Leffler, Luhdorff & Scalmanini
- Stephanie Anagnoson, Madera County

Workshop Participants

- Alan Reynolds
- Brad Samuelson, WLS
- Brian Ehlers, P&P/Root Creek Water District
- Clay Haynes
- Clayton Cope
- Danielle Duncan, Wonderful
- Darryl Azevedo
- Devin Aviles
- Diane Kirk, Gravelly Ford Water District
- Ed Dunkel, Jr. , Precision Civil Engineering
- Gabriella Lion
- Geoff Vanden Heuvel, Milk Producers Council
- Greg Addington
- Haden Hinkle, Madera County
- Ilse Lopez-Narvaez, Self-Help Enterprises
- Jack Rice, MAWA
- Jane Pitman
- Jason Erickson
- Jason Howard, Gunner Ranch
- Jay Quick
- Jeannie Habben, Madera County
- Jerry Kazynski
- Joey Giordano
- Joey Ramirez
- Julia Berry, Root Creek Water District
- Ken Bonesteel, New Stone Water District
- Kevin Herman
- Lisa Elgorriaga
- Lisette Cendejas, Precision Civil Engineering
- Lynda Schafhauser, Madera Valley WH Co.
- Marc Frelier, MRF Lands

- Mike De La Guerra
- Norm Allinder
- Phil Pierre
- Richie Iest
- Rod Parichan
- Steve Elgorriaga
- Tom Willey, T&D Willey Farms
- Tommy Greci, Madera Irrigation District

MEETING OBJECTIVE:

- Present the draft Madera Subbasin Joint GSP

WELCOME, INTRODUCTIONS, AGENDA REVIEW

Phil Janzen, chair of the Madera Subbasin Joint Groundwater Sustainability Plan (GSP) Coordination Committee and representative of the Madera Water District GSA, welcomed participants. The Coordination Committee members introduced themselves (see attendance list above for full list of members present).

Malka Kopell, facilitator from the Consensus and Collaboration Program at Sacramento State University, reviewed the objective of the meeting, to present the five chapters of the complete draft Madera Subbasin Joint GSP and answer initial questions from the public about the Plan's contents. The agenda was based around the structure of the draft GSP, with an agenda item dedicated to each chapter.

The five chapters were posted on the Madera County Water and Natural Resources website on the afternoon of the meeting and the complete contents of the draft plan, including appendices, were posted by August 9, 2019. The meeting kicked off a 90-day review period for the public to provide comments ahead of adoption of a final plan. Under the Sustainable Groundwater Management Act, the decision-making bodies for a GSP are the Groundwater Sustainability Agencies (GSAs). As such, this was not a meeting of a decision-making body.

The GSP was developed through grant funding from the California Department of Water Resources (DWR). Additional grant funding from DWR is being used to improve the Subbasin's well monitoring network.

CHAPTER 1: INTRODUCTION

Dina Nolan, Madera Irrigation District (MID) GSA, gave an overview of the content of the introduction of the GSP. The content of the first chapter has been presented in previous workshops, beginning in May 2018.

Chapter 1 reviews the requirements of SGMA in the Madera Subbasin and presents the Subbasin's timeline for meeting those requirements. Under SGMA, sustainable groundwater management means the management and use of groundwater in a manner that can be maintained without causing undesirable results. Under SGMA, undesirable results are defined as significant and unreasonable levels of the following sustainability indicators: chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence, and depletion of interconnected surface water.

The Madera Subbasin GSPs must be adopted by their GSAs by January 31, 2020. The Subbasin must achieve sustainability in groundwater usage by 2040. The period from 2020 through 2040 is the "implementation period," during which time the Subbasin is likely to not yet have a balance of groundwater extraction and recharge and may experience undesirable results. After 2040, the Subbasin must be sustainable, with no undesirable results experienced.

CHAPTER 2: PLAN AREA AND BASIN SETTING

Greg Young, Madera County GSA, reviewed the content of the second chapter of the GSA, which was presented at workshops beginning in August 2018. The chapter provides an overview of the Madera Subbasin's seven GSAs and four GSPs. The City of Madera, Madera County, MID, and Madera Water District GSAs are working together on the Joint GSP, and Gravelly Ford Water District, New Stone Water District, and Root Creek Water District are each creating individual GSPs. All seven GSAs are party to a coordination agreement that ensures full coverage of the Subbasin. The Joint GSP covers 326,000 of the Subbasin's 348,000 total acres.

Chapter 2 also includes the hydrogeologic conceptual model (HCM), groundwater conditions, consumptive use, water sources, and the broad plan for balancing use and recharge in the Subbasin. The HCM mimics the functioning of the groundwater Subbasin and has been calibrated against existing data to ensure that it is a reliable model that can be used to assess the effects of future projects and management actions. Chapter 2 presents information on groundwater conditions, including water levels, subsidence, water quality, and groundwater-surface water interaction in the Subbasin.

Evapotranspiration of Applied Water (ETAW) measures the portion of water that leaves the basin, mostly through crop irrigation in Madera Subbasin (urban use is minor). Consumptive use of water in the Madera Subbasin changed significantly between 1989 and 2015, the most recent year for which data is used, due mainly to shifts in agricultural crops. In 2015, average ETAW was 2.13 acre-feet (AF) per acre per year. Surface water brought into the Madera Subbasin to offset the consumptive use comes mainly from contracts and rights held by MID. The shortfall between groundwater extraction and recharge in the Subbasin is estimated to be 165,900 AF annually, with projected extraction of 545,200 AF and recharge of 379,300 AF. In order to meet the shortfall, the Madera Subbasin Joint GSP proposes implementing projects to increase recharge, reduction of consumptive use, and continued use of stored groundwater during the implementation period. This plan accounts for continued lowering of groundwater levels during the implementation period, while the projects and management actions are being implemented. The groundwater model will continue to be used to estimate future conditions.

CHAPTER 3: SUSTAINABLE MANAGEMENT CRITERIA

Mr. Young reviewed Chapter 3, which covers the sustainability goal, monitoring networks, and minimum thresholds, measurable objectives, and five-year interim milestones for all indicators. Content from this chapter was presented during the May 2019 Public Workshop.

The sustainability goal includes three aspects:

- Implement projects and management actions through 2040 to reach sustainability
- Groundwater system inflows approximately equal outflows over a 50-year (2040-2090) representative hydrology time period
- No undesirable results estimated to occur during 50-year representative time period

While SGMA gave local agencies the opportunity to sustainably manage groundwater in their subbasins, the occurrence of undesirable results during the 50-year sustainability period can trigger DWR to take over management of a subbasin.

Planned recharge projects will lead to a net increase in groundwater storage of about 60,000 AF and management actions will lead to a net decrease in extraction of around 106,000 AF yearly, balancing extraction and recharge in the Subbasin. About 90,000 AF of the reduction in extraction will come from the Madera County GSA, implemented over the twenty year implementation period.

A monitoring network of wells was used to develop the model upon which the GSP was based, including some California Statewide Groundwater Elevation Monitoring (CASGEM) wells. This network of wells will also be used for ongoing monitoring of groundwater conditions, which will be reported to DWR every five years.

Minimum thresholds were set for each of the six sustainability indicators, defining the undesirable results for each indicator. An undesirable result is considered to have occurred if the minimum threshold for a given indicator is exceeded for two years in a row in 30% of the wells in the monitoring network. In setting the minimum thresholds, the primary factors considered were the existing beneficial uses of groundwater, the human right to water, and the importance of agriculture to the economy of the Subbasin, as well as a recognition of the interconnectedness of these factors.

The implementation period from 2020-2040 will be a transitional time during which projects and management actions are set in motion and groundwater levels are likely to decrease. Mitigation efforts are being considered by the Advisory Committee for County GSAs to address impacts of lowered groundwater levels during the implementation period, for example providing low-interest loans or grants to deepen or drill wells, installing community wells, or connecting households to existing water systems.

The hydrographs used to set the minimum thresholds project past climatic conditions to estimate future groundwater levels. The groundwater level minimum thresholds are set at the lowest level that groundwater would reach if there were a ten-year drought from 2060-2070.

The proposed minimum threshold for groundwater storage is no long-term reduction in storage volume during the sustainability period, and groundwater level is used as a proxy to determine storage. Maximum Contaminant Level drinking water standards, set by the State and federal governments, are used as the minimum thresholds for water quality. Key constituents considered include nitrate, arsenic, and total dissolved solids. Minimum thresholds will not be set for surface water depletion, because groundwater levels are already below stream levels throughout the majority of the Subbasin. There are three areas in the Subbasin that will continue to be screened as potential groundwater-dependent ecosystems. Subsidence has not be a substantial issue in the Madera Subbasin, so no minimum thresholds have been set but it will continue to be monitored.

The measurable objectives and five-year interim milestones are set at expected groundwater levels based on the model. As projects and management actions are carried out throughout the implementation period, groundwater levels may be lower than projected at the five-year interim milestone increments. The groundwater level measurable objective for the sustainability period is the average of the modeled monthly groundwater levels from 2040-2090. The groundwater level measurable objectives are used for groundwater storage and subsidence measurable objectives, and the measurable objective for water quality is set at current constituent concentrations. Surface water depletion and seawater intrusion do not have applicable measurable objectives set.

CHAPTER 4: PROJECTS AND MANAGEMENT ACTIONS

Eric Abrahamsen, Madera Water District GSA, reviewed the projects and management actions proposed in the GSP; these were presented in workshops in October 2018 and May 2019. The projected deficit between extraction and recharge if no action is taken is approximately 166,000 AF across the basin. Water supply projects include augmenting supplies through surface water purchases and limited flood flows, building on-farm and dedicated recharge projects, and cooperative joint projects between GSAs. The recharge projects will result in approximately 60,000 AF of increased recharge.

Demand management actions will be concentrated in the Madera County GSA, because it does not have sources for imported surface water. The GSA is taking a suite approach with a variety of actions including creating conservation easements, establishing groundwater allocations, creating a market for allocations, and charging extraction fees. The specific suite of actions may change over time. During the transition period, there will temporarily be continued use of stored groundwater, with potential mitigation if domestic wells go dry due to continued decline in groundwater levels. These actions will result in an approximate demand reduction of 160,000 AF.

CHAPTER 5: IMPLEMENTATION PLAN

Keith Helmuth, City of Madera GSA, reviewed Chapter 5 of the GSP, which covers the implementation plan. Annual costs for operation and maintenance of projects and management actions are estimated to increase from around $4 million in 2020 to $18 million in 2040. These figures do not include capital costs or lost production costs of the projects and management actions. Some of the projects included in the GSP have already begun to be implemented, and the majority of the rest will be implemented between 2020-2025, with ongoing demand management in Madera County GSA as of 2020.

Annual reporting to DWR is required under SGMA, including basic and technical information such as groundwater elevation data from the monitoring wells, total groundwater extractions for the year, surface water used, and progress toward full implementation of the GSP. There is currently a request for proposals out for a data management system to manage the multiple kinds and sources of data.

NEXT STEPS

Stephanie Anagnoson, Madera County GSA, reviewed next steps. The five chapters of the draft GSP were posted on the Madera County Water and Natural Resources website on the afternoon of the meeting and the complete contents of the draft plan, including appendices, were posted by August 9, 2019. The meeting kicked off a 90-day review period for the public to provide comments ahead of adoption of a final plan. The GSP will be revised, the GSAs will adopt a coordination agreement and the final GSP by December 2019, and it will be submitted to DWR in January 2020. There will be an additional 60-day public comment period after the GSP is submitted before DWR approves the plan.

Participants were encouraged to provide comments about the draft GSP at the public meetings of their GSA Board and using the official comment form, which can be found on the Madera County Water and Natural Resources website and can be submitted digitally or hard copy. The Coordination Committee will hold a workshop to gather feedback about the plan on October 22, 2019, from 6:00-8:00 p.m. in the Madera County Board of Supervisors Chambers. The next monthly meetings of the four GSAs involved in the Joint

GSP are scheduled for the first two weeks of September.

Ongoing GSP activities during this time include installing additional groundwater monitoring wells to expand the existing network of representative wells, closing the request for proposals for the data management system, working on the coordination agreement for the whole Subbasin, and development of the first annual report, due April 1, 2020.

The floor was opened to public comment. Participants provided the following comments and questions:

- Who are the decision-making bodies for the GSP and how can feedback be submitted to them?
  - The GSAs are the decision-making bodies and feedback can be given at their board meetings, in addition to via the hard copy or digital comment form.
- It is good that an ad-hoc committee has been formed regarding mitigation of the effects of lowered groundwater levels, but demand reduction should be enforced such that mitigation is not necessary.
- Will demand reduction involve removing currently productive land from agricultural production? If so, will this be done through land buy-back, water use limitations, or something else?
  - For the Madera County GSA, a significant reduction in the amount of water consumed will be required by 2040 to achieve sustainability. This may mean changes in the crops produced, a reduction in productive agricultural land through fallowing agreements, land rentals, or other methods. The specifics of how this will be implemented have not yet been determined; they will be discussed at the public meeting Madera County GSA Advisory Committee meeting on September 5, 2019, at 2:00 p.m.
- Will there be limits on future development of agricultural land?
  - The total amount of groundwater used in the Madera County GSA area will need to be significantly reduced by 2040. There may be limitations in the form of a per-acre water allocation or extraction fees that would lead to a reduction in productive land. The specifics of how this will be implemented have not yet been determined; they will be discussed at the public meeting Madera County GSA Advisory Committee meeting on September 5, 2019, at 2:00 p.m.
- Will water allocations be assigned on a per-well, per-grower, or other basis?
  - This will depend on where a particular grower or well is located, as the specifics of the management approach will differ by each GSA, depending on the assets they have access to.
- What are the components that add up to $14 million in operation and maintenance costs for GSP implementation by 2040? How will these costs be funded?
  - The costs were grouped into a single total for this presentation, but each GSA will be responsible for the costs of their own projects and management actions. The costs will be greatest for Madera County GSA, as they have not made significant investments in water infrastructure for many decades. The GSP can be consulted for details about the costs; Chapter 4 covers costs related to projects and management actions, including expected yields, and Chapter 5 reviews implementation costs such as the annual reports and 5-year updates mandated by SGMA. The GSAs will continue to pursue State and federal grant sources to cover some of the costs and fees, such as extraction or parcel fees, will also need to be used to cover some of the costs.
- When will the economic impact study be published?
  - One of the appendices of the GSP is an economic analysis for the whole Subbasin; it was published on August 9, 2019.

- Are there sufficient wells included in the monitoring network to account for the entire Subbasin?
    - There are 37 wells in the existing network, with an additional approximately 21 nested monitoring wells being installed. The wells were selected to be representative of the Subbasin and DWR density guidance was followed. Criteria such as known depths, construction details, history of observed data, and spatial and vertical distribution are utilized in selecting wells to include in the network. Undesirable results in the Subbasin are defined by 30% of the wells in the network having readings that show exceedances of minimum thresholds to prevent isolated issues from having too much influence on results.
- Are some of the wells in the monitoring network functional irrigation wells?
    - Yes, in addition to public supply wells, CASGEM wells, and others. While we have selected a set of representative wells to be included in the monitoring network, we will continue to monitor what is happening in wells throughout the Subbasin.
- Could outcomes at wells outside the monitoring network trigger changes in groundwater management?
    - The wells in the monitoring network specifically are used to monitor undesirable results.
- How will the four GSPs in the Subbasin align? Do they eventually become a single plan?
    - The GSPs will not be folded into a single plan, but they must be coordinated. Full drafts are not yet available of all four GSPs in the Subbasin.
- The State should consider importing water from other areas around the country, and even Canada, where there is an oversupply of water.

Mr. Janzen adjourned the meeting at 3:15 p.m.