



# MINUTES

## SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA) GROUNDWATER SUSTAINABILITY PLAN (GSP) TECHNICAL WORKSHOP MADERA SUBBASIN

Date: Thursday, April 25, 2019  
Time: 3:30 - 6:00 pm  
Location: Frank Bergon Senior Center  
Multi-Purpose Room  
238 S D Street  
Madera, CA

### In attendance:

Julia Van Horn, Facilitator, California State University, Sacramento  
Andrea Sandoval, Coordination Committee Secretary  
Pete Leffler, Luhdorff & Scalmanini  
Nick Watterson, Luhdorff & Scalmanini  
Stephanie Anagnoson, Madera County  
Greg Young, Madera County  
Keith Helmuth, City of Madera  
Dina Nolan, Madera Irrigation District  
Eric Abrahamson, Madera Water District  
Harry Tao, Gravelly Ford Water District  
For others in attendance, see the sign-in sheet.

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### MEETING OBJECTIVES:

- Discuss example minimum thresholds and measurable objectives

#### 1. WELCOME, MEETING OBJECTIVES, INTRODUCTIONS, GENERAL UPDATES –Stephanie Anagnoson, County of Madera and Julia Van Horn, California State University, Sacramento

Julia Van Horn, Facilitator, reviewed the meeting objectives and agenda. Ms. Van Horn stated the GSAs are the decision-makers and encouraged stakeholders to attend their GSA meetings.

Stephanie Anagnoson, Plan Manager for the Joint GSP, identified the GSA representatives from the Madera Subbasin. She noted the Technical Workshop is for feedback only and the GSAs are the decision-making bodies. Ms. Anagnoson provided an update on the joint GSP chapter release dates. Chapter 1 has been released and Chapter 2 will be released by the end of April. In July, Chapters 3-5 will be released. The joint GSP includes Madera County, City of Madera, Madera Water District, and Madera Irrigation District.

#### 2. GROUNDWATER MODEL CALIBRATION – Pete Leffler and Nick Watterson, Luhdorff & Scalmanini

Pete Leffler, consultant, stated the groundwater model includes projecting out what happens after 2040 when SGMA is fully implemented. Without any projects or demand reduction the projected shortfall of

water stands at 166,000 acre feet per year. The plan for meeting the shortfall includes recharge projects and incremental reduction from the current consumptive use. Mr. Leffler stated during the implementation period, there will be a continued expected lowering of groundwater levels until sustainability is reached. The groundwater model is being used to help estimate what will happen in the future. Groundwater models are tools that help understand potential outcomes and inform decisions. Mr. Leffler stated there are limitation in capabilities of groundwater models.

Pete Leffler stated the Department of Water Resources has provided the C2VSim model that is being used as a starting point for the MCSim model. The base period of 1989 to 2015 is used in the model. The model is being matched to the DE surface system water budget, historic stream flow, and historic groundwater level fluctuations.

### **3. PROJECTED FUTURE HYDROLOGY (2019 – 2090) – Bryan Thoreson, Davids Engineering**

Greg Young, Madera County Technical Expert presented on the projected future hydrology. Mr. Young noted he is filling in for Mr. Thoreson. There are several methodologies and assumptions being used. Historical (1965-2015) hydrology, projected water demand (use 2017 crop areas, projected changes from ag to urban land use), and historic climate (evapotranspiration and precipitation) used in the model. The projected surface water supply is adjusted for San Joaquin River Restoration. Mr. Young stated using the methodologies and assumptions with no action – shortfall of 166,000 acre feet per year in the Madera Subbasin.

Estimate “new” water available for irrigation supply and recharge to make up shortfall, must be water that would have:

- Left the Subbasin without the project, or
- Not entered the Subbasin without the project,
- Not been used by another project (must make sure not double counting water)

### **4. PROJECTS – Bryan Thoreson, Davids Engineering (25 minutes, including Q&A)**

Greg Young stated the projects agenda item was tabled at the March 21, 2019 Coordination Committee Meeting. There are 17 projects that could potential provide a total “new” (purchased and recharge) water supply of 120,000 to 130,000 acre feet. These are the GSA projects included in the modeling.

Keith Helmuth, City of Madera Technical Expert, provided an overview on the City of Madera GSA projects and actions. City of Madera will continue to partner with MID on the joint recharge basin projects added since the implementation of SGMA and identify other potential basins. The City of Madera will also have significant urban demand reduction due to implementation of water meters, volumetric bills, and conservation rebates. In addition, the City plans to have agricultural land conversion – conversion of ag to urban and use of surface water vs. groundwater for remaining ag.

Question from the audience: Where will the surface water come from for the remaining ag in the City? Mr. Helmuth answered likely from MID. Dina Nolan, MID Technical Expert, clarified it is ag land in the City of Madera, but also in MID that has access to MID surface water.

Greg Young, Technical Expert for Madera County, provided an overview on the Madera County GSA projects and actions. Mr. Young stated the Madera County GSA includes 180,000 acres of the Madera Subbasin. The Madera County GSA plans on secure new surface water supplies, install new

diversion/delivery infrastructure, and potential conveyance agreements. The Madera County GSA will have significant demand reduction of up to 50% by 2040.

Dina Nolan provided an overview of the Madera Irrigation District (MID) projects and actions. She noted this information has been provided at the MID GSA meetings. Ms. Nolan stated MID has completed numerous projects between 2015-2019. MID has rehabilitated 6 recharge basins, installed pipeline projects, implemented an On-Farm Recharge Program, deannexed 320 acres to Root Creek Water District, installed system automation, partnered with the City and County for joint recharge basins, and acquired a new 22-acre basin. MID plans on continuing to acquire recharge facilities, develop additional water supplies, continue the On-Farm Recharge Program, and develop new fee structures and incentives.

Question from the audience: What is being done to prevent the contamination of groundwater in recharge projects? Ms. Nolan replied MID has been working in conjunction with Sustainable Conservation, which is a non-profit organization. Sustainable Conservation has done a lot of research on crops that are suitable for recharge. MID was providing water for free and it is up to the landowner to decide whether or not to recharge and where. It is a management decision for the landowner.

Eric Abrahamson, Technical Expert for Madera Water District (MWD), provided an overview of the Madera Water District GSA. Mr. Abrahamson stated MWD will import new surface water, install a pipeline connection to Madera Lake, construct storage reservoirs, and increase Dry Creek deliveries. Mr. Abrahamson noted if needed, MWD will require demand reduction.

Mr. Tao, Technical Expert for Gravelly Ford Water District (GFWD), provided an overview of GFWD GSA projects and actions. Mr. Tao stated GFWD is independently developing their own GSP. Mr. Tao stated GFWD GSA will achieve sustainability by importing new surface water and acquire additional flood water for underground storage. GFWD will construct storage reservoirs, improve surface water conveyance system for recharge and demand reduction, if necessary.

Greg Young, Madera County Technical Expert, stated the Madera County GSA is the GSA that is discussing implementing demand reduction. Most of the other GSAs in the Madera Subbasin have surface water.

Question from the audience: Why does Madera County not have a surface water supply? Mr. Young replied Madera County received the default areas that were not already included in an irrigation or water district.

Ken Bonesteel, Technical Expert for New Stone Water District (NSWD), provided an overview of the NSWD GSA. Mr. Bonesteel stated NSWD GSA decided early on to prepare its own GSP and the draft will be available later this summer. The NSWD GSA will achieve sustainability by maximizing their Bypass channel water rights and acquire additional flood water for underground storage. NSWD GSA plans on working on surface water conveyance system and recharge basins. Mr. Bonesteel stated they will look for surface water supplies from MID and all deliveries will come from MID's conveyance. Mr. Bonesteel stated if needed, demand reduction will occur. Dina Nolan from MID questioned what conveyance system NSWD plans to utilize from MID. Mr. Bonesteel stated all of MID's facilities. Ms. Nolan noted MID's facilities do not reach NSWD and this has not been discussed with MID.

Brian Ehlers, Technical Expert for Root Creek Water District (RCWD), provided an overview of the RCWD GSA projects and actions. Mr. Ehlers stated RCWD GSA will develop their own GSP. RCWD will continue to import surface water and recharge. RCWD has surface water supplies from MID and

Wonderful. The RCWD GSA will continue to have land use changes from ag to urban.

Greg Young stated a combination of projects and demand reduction will eliminate the overdraft. GSAs much implement projects between 2020 and 2040. Mr. Young stated projects and demand reduction may be scaled up or down as needed during the implementation period.

Christina Beckstead questioned how often the groundwater model will be modified based on water supply or issues related to water supply such as the Delta. Mr. Young replied the model will be updated. Mr. Leffler stated there are 5-year updates required to the GSP and the model could be updated at that point.

**5. GROUNDWATER MODEL RESULTS – Pete Leffler and Nick Watterson, Luhdorff & Scalmanini (25 min, including brief Q&A)**

Mr. Leffler provided an overview of the groundwater model results. The initial model results without climate change to allow comparison to the historical/current climate. There will be subsequent model results with climate change included per the DWR guidance document. Mr. Leffler stated looking at the future with and without projects. On the edges of the model, there are assumption being made. For the projected boundary conditions assuming adjacent Subbasins are implementing projects. Mr. Leffler noted the preliminary results are still under review. Mr. Leffler reviewed several graphs with the preliminary model results with and without projects.

**6. MINIMUM THRESHOLDS AND MEASURABLE OBJECTIVES – Pete Leffler and Nick Watterson, Luhdorff & Scalmanini (40 min, including brief Q&A)**

Mr. Leffler provided an overview on minimum thresholds and measurable objectives. SGMA requires sustainable groundwater management for the entire Subbasin by 2040. Sustainable groundwater management means the management and use of groundwater in a manner that can be maintained without causing undesirable results.

Undesirable results means one or more of the following effects caused by groundwater conditions occurring throughout the Subbasin:

1. Chronic lowering of groundwater levels
2. Significant and unreasonable reduction of groundwater storage
3. Significant and unreasonable seawater intrusion (Not an issue in Madera Subbasin)
4. Significant and unreasonable degraded water quality
5. Significant and unreasonable land subsidence
6. Depletions of interconnected surface water

Pete Leffler stated Minimum Thresholds (MT) and Measurable Objectives (MO) are numeric values and specific quantifiable results. MT are used to define undesirable results and MO reflect basin's desired groundwater conditions. Projects and management actions designed to meet MO. MT/MO need to be established for each relevant sustainability indicator. MT/MO reflect a certain monitoring location and aquifer and can vary regionally. There are required components to the MT. Mr. Leffler reviewed examples of potential MT and MO with and without projects. The without projects model runs assume no increased inflow from surrounding in the future. The with projects model runs assume adjacent Subbasins implement projects.

Question from the audience: Where will interim milestones be set? Mr. Leffler stated the interim

milestones are set every 5 years.

Question from the audience: Is there concern since most of the graphs show the interim periods below the minimum thresholds? The Subbasin would be in violations and he doesn't understand setting a minimum threshold below. Mr. Leffler stated the MO/MT have not been set and these graphs show examples only. Dina Nolan stated these are examples and the feedback from the public is what the GSAs are looking for.

Mr. Leffler stated there are many MT/MO questions that will need to be answered. Are these example MT too low? What undesirable results may occur if groundwater levels decline? How many wells need to exceed MT for what length of time to define undesirable results?

Mr. Leffler stated there are MT considerations for land subsidence. He noted future modeling will need to include the subsidence layer since it is not available at this time from DWR.

Mr. Leffler stated the next steps for the MT/MO are to select the specific wells to use as sustainability indicator wells, select MTs/MOs at each sustainability indicator well, address each relevant sustainability indicator, and need to define undesirable results. How many MTs can be exceeded for how long before the undesirable result is triggered? The undesirable results need to be defined and the criteria for the MTs/MOs for all sustainability indicator.

#### **7. QUESTIONS AND DISCUSSION – All (20 min)**

There was a comment from the audience regarding undesirable results on stakeholders, such as wells going dry and arsenic in the groundwater.

Ms. Horn reminded stakeholders to provide information to the GSAs as the decision-makers. These Technical Workshop meetings are specifically to provide information.

There was a comment from the audience regarding the different geologies in the different Subbasins in the Central Valley.

#### **8. ADJOURN**

The meeting was adjourned at 5:21 pm and GSAs representatives stayed to answer questions from attendees.