



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

Date: Thursday, May 29, 2019  
Time: 2:00 - 4:00 pm  
Location: Madera County Government Center  
Board of Supervisors Chambers  
200 West 4<sup>th</sup> Street  
Madera, CA

In attendance:

Julia Van Horn, Facilitator, California State University, Sacramento  
Andrea Sandoval, Coordination Committee Secretary  
Bryan Thoreson, Davids Engineering  
Pete Leffler, Luhdorff & Scalmanini  
Stephanie Anagnoson, Madera County  
Greg Young, Madera County Technical Expert  
Keith Helmuth, City of Madera Technical Expert  
Dina Nolan, Madera Irrigation District Technical Expert  
Eric Abrahamson, Madera Water District Technical Expert  
For others in attendance, see the sign-in sheet.

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**MEETING OBJECTIVES:**

- Discuss minimum thresholds and measurable objectives

**1. WELCOME, MEETING OBJECTIVES, INTRODUCTIONS, GENERAL UPDATES**

Julia Van Horn, Facilitator, reviewed the meeting objectives and agenda. Ms. Van Horn noted the presentations slides can be found on [www.maderacountywater.com](http://www.maderacountywater.com) and the meeting is being streamed live. The meeting can be accessed from the Madera County website. Ms. Reyna Castellanos announced Spanish translation services were available.

Dina Nolan, Madera Irrigation District (MID) Technical Expert, provided an overview on the agenda and Madera Subbasin GSAs and GSP. Ms. Nolan stated the Madera Subbasin includes 7 GSAs. These GSAs are Madera County GSA, MID GSA, City of Madera GSA, Madera Water District (MWD) GSA, Gravelly Ford Water District (GFWD) GSA, Root Creek Water District (RCWD) GSA, and New Stone Water District (NSWD) GSA. Madera County GSA, MID GSA, City GSA, and MWD GSA are collaborating on a joint GSP. The other three agencies are preparing their own GSP. Ms. Nolan stated the Madera Subbasin includes approximately 348,000 total acres and approximately 216,000 irrigated acres.

Ms. Nolan stated a Coordination Agreement will be required among the 7 agencies. The elements that require coordination are:

1. Sustainability Goal
2. Same Data
  - a. Groundwater elevation data
  - b. Water budget data
  - c. Sustainable yield for the basin
3. Methodologies yield compatible results
  - a. Minimum thresholds
  - b. Measurable objectives
  - c. Interim milestones
4. Monitoring Network
5. Process for submitting plans
6. Coordinate data management systems

Ms. Nolan explained the items being discussed today are the sustainability goal, minimum thresholds, measurable objectives, interim milestones, and monitoring network. Dina Nolan stated the projected shortfall of groundwater in the Madera Subbasin is approximately 165,000 acre feet per year. The individual GSA water budgets are included in Chapter 2 of the GSP that is available online. The GSAs are planning different action to meet the shortfall including recharge projects, incremental reduction from current consumptive use, continued use of stored groundwater (lowering levels) during project implementation period, and use the groundwater model to estimate the future programs.

## **2. SUSTAINABILITY GOAL**

Stephanie Anagnoson, Director of Water & Natural Resources for Madera County discussed the sustainability goal. She noted the three aspects of the sustainability goal are to implement projects and management actions through 2040 to reach sustainability, groundwater system inflows approximately equal outflows over a 50-year time period to ensure not losing water or gaining water from an adjacent Subbasin, and not have any significant and unreasonable undesirable results estimated to occur during the 50-year representative time period. The sustainability goal must include a goal description, discussion of measures, and explanation of how the goal will be achieved in 20 years. For the goal description, a package of projects and management actions to balance groundwater system inflows and outflows with no economic, social, and environmental undesirable results. For the discussion of measures, aggressive recharge projects, project that replace groundwater use with surface water use, and management action that reduce demand. There will be an increase of recharge and decrease in groundwater extraction to explain how the goal will be achieved in 20 years. Ms. Anagnoson reviewed the simplified groundwater condition with projects between 2040-2090 that shows how the Madera Subbasin will reach sustainability.

## **3. MONITORING NETWORK**

Stephanie Anagnoson discussed the monitoring network requirements from the Department of

Water Resources. There are a CASGEM wells, voluntary wells, and other wells in the monitoring network. Ms. Anagnoson stated there currently are approximately 30 wells and the wells were evaluated by Luhdorff & Scalmanini based on different criteria. The priority are wells in CASGEM, the wells must have water data available, and construction data available. A grant was also received to install monitoring wells in disadvantaged community areas. The grant includes \$1 million for the Madera Subbasin and \$1 million for the Chowchilla Subbasin. There are gap areas where monitoring wells are needed especially in the Madera Ranchos. Ms. Anagnoson encouraged landowners with wells that meet the criteria to speak to Pete Leffler after the meeting.

#### **4. MINIMUM THRESHOLDS FOR ALL SUSTAINABILITY INDICATORS**

Ms. Anagnoson reviewed the minimum thresholds. There are 6 sustainability indicators: lowering of groundwater levels, reduction of storage, seawater intrusion, degraded quality, land subsidence, and surface water depletion. Stephanie Anagnoson reviewed how the minimum thresholds for groundwater levels will be set. She stated there are existing beneficial uses including drinking water, irrigation, and environment that need to be considered. Also, California legislation AB 685 the human right to water and the importance of agriculture to the County economy need to be considered. Ms. Anagnoson stated all the GSAs recognize the interconnection of these factors. Ms. Anagnoson stated the GSAs will need time to transition and complete projects and actions, which will result in lower groundwater levels during implementation. This is the period from 2020-2040. There currently are discussions regarding mitigations for impacts of drinking water wells.

The groundwater model was used for the groundwater level minimum thresholds. The consultants prepared hydrographs of expected future conditions at various wells with planned projects and management actions and average hydrology from 2020-2040. This removed the extreme impacts from really wet or dry years. The 1965 – 2015 as a representation for 2041 through 2090. Adjustments for each representative monitoring well was done with the creation of an artificial 10-year drought. The lowest point during implementation and sustainability was checked and evaluated for potential impacts to drinking wells to develop mitigation.

Ms. Anagnoson reviewed the hydrographs with the plot measured and modeled results.

Step 1: Plot measured and modeled results

Step 2: Show implementation period of 2020-2040 and sustainability period 2040-2090

Step 3: Extend 2060's drought

Step 4: Draw initial minimum threshold (MT) level at base of extended drought

Step 5: Check if below lowest point during implementation and sustainable periods, adjust downward if necessary

Step 6: Assess local drinking water well information from the Department of Water Resources for potential impacts, plan for mitigation where MT is lower

Ms. Anagnoson reported the GSAs and consultants are currently discussing a mitigation program for impacted drinking wells. It could be a program that owners would need to sign up with details being developed during the first year of implementation. Possible mitigation actions include replacement / lowering of existing well or connecting to a community water system. Possible

types of support include low interest loans and grants. Ms. Anagnoson stated there may be grant funds available.

Pete Leffler, consultant from Luhdorff & Scalmanini, discussed the other sustainability indicators. The proposed MT will not have long-term reduction in groundwater storage volume after 2040. The reduction in groundwater storage volume will be quantified based on measured groundwater levels in monitoring network wells. For land subsidence, the initial MT will be set and it may become necessary to modify the MT after reviewing subsidence surveys during the implementation period. For groundwater quality, the maximum contaminant level (MCL) and the applicable drinking water standards will serve as MTs for key constituents. MCLs are standards set by U.S. EPA and the State for drinking water quality. The setting of groundwater level MTs above the depth of reduced sediments helps reduce likelihood of arsenic exceedances. There is a tendency for those sediments to produce arsenic.

Mr. Leffler stated there are already issues in the Madera Subbasin with nitrates and TDS, which are being addressed by the Regional Water Quality Control Board (RWQCB) programs. The focus of the GSP is to develop plans for monitoring water quality impacts related to individual projects as part of the project design process and coordinate with the Central Valley RWQCB Salt and Nitrate Control Program and Irrigation Lands Program.

Mr. Leffer stated surface water depletion is a function of surface water levels/flow and groundwater levels. Mr. Leffler stated groundwater levels are far below Subbasin streams except portions of the San Joaquin River. The MTs will not be set for surface water depletion. Evaluation of groundwater dependent ecosystem for certain vegetation. Groundwater levels within 30 feet of ground surface are a consideration for initial screening of potential groundwater dependent ecosystems.

## **5. MEASURABLE OBJECTIVES AND 5-YEAR INTERIM MILESTONES FOR ALL SUSTAINABILITY INDICATORS**

Pete Leffler stated the measurable objective for groundwater level are the average modeled monthly groundwater levels from 2040-2090. For groundwater storage, use the groundwater level measure objectives to calculate storage volume and for subsidence use the groundwater level measurable objectives. Mr. Leffler reviewed the hydrograph with the measurable objective. Interim milestones need to be looked at on 5 year increments during the implementation period.

## **6. NEXT STEPS, ADDITIONAL QUESTIONS AND DISCUSSION**

Ms. Anagnoson stated the next steps are to discuss proposed methodologies for setting the minimum thresholds and minimum objectives and interim milestones at upcoming GSA Board meetings. Incorporate the minimum thresholds, measurable objectives, and interim milestones into the GSP will then be done. The complete draft GSP and release for public review in August 1.

Dave Loquaci questioned why different hydrographs used in the presentation. Mr. Leffler stated each hydrograph will look different because each one represents a different monitoring well and geographic area. Mr. Loquaci stated one hydrograph showed a drop of 40 feet and another showed 100 feet. Dina Nolan clarified all of the 30 monitoring wells will have an individual hydrograph

in the GSP. There will not be an average because each monitoring well will have a separate analysis.

Carl Janzen stated if two different graphs are being used show how they related to each other so non-engineers can figure it out. An audience member stated he was at the Chowchilla Subbasin meeting this morning and if look at the onward 50-years graph it shows the levels going up. The audience member stated the levels should be straight across to minimize the impacts to the community. Mr. Leffler stated there will be recovery once there is sustainability. There are more fluctuations because of the recharge projects during the sustainability period.

Christina Beckstead questioned if there has been a discussion or definition of what an exceedance is for the Madera Subbasin. Ms. Anagnoson stated legal counsel's advice is to not piece meal the approval of the GSP. The Board of Supervisors are being briefed, but not actions are being taken until the GSP goes for approval because it would skip the public review period. Mr. Leffler stated the final decision still needs to be made, but for an individual well to have exceedance would need two consecutive fall measurement below.

An audience member stated for each monitoring well and area around it, there will be positive and negative results through time. He stated in the MID GSA the water levels are under control, but not in the Madera County GSA. Dina Nolan stated even in the MID GSA landowners are seeing their wells drop due to external forces and the trends will look similar. Mr. Leffler stated the monitoring network will expand over time and this is a starting point.

Mr. Thoreson stated the model has projects that were provided by each GSA and includes the GSAs completing the joint GSP. The amount of recharge and consumptive use of the project are included in the model. The results of the hydrographs are the results with the projects. The problem areas will be covered by the local GSA.

Ms. Amanda Monaco, Water Policy Coordinator for Leadership Council, stated her organization works with individuals in the LaVina, Fairmead, and City of Madera areas. She questioned how the sustainable yield be determined without defining the undesirable results and if there will be opportunity for public feedback.

Mr. Thoreson stated discussions are occurring regarding a mitigation program to assist people with wells that have lowered. The wells would need to register the well and the program would help replace or help connect to a community water system. Mr. Thoreson stated the cost of a mitigation program is less than the cost to keep the groundwater level high. To keep the level high 30,000 acres would need to come out of production in 2020 and that would be devastating to Madera County. A mitigation program would be less costly than taking acres out of production.

Mr. Leffler stated if a landowner signed up their well and demonstrate it was working before then mitigation would occur. At this point, there is no formal program, but serious discussions have been occurred. Ms. Monaco stated she would love to be a part of the discussions regarding the well mitigation program.

Kevin Herman suggested the Madera Coordination Committee and the Advisory Committee to streamline the data, measurements, and use the same nomenclature.

Bill Diedrich stated many wells in the Subbasin are not metered. The extracted groundwater is an estimate only and asked where the information came from. Mr. Thoreson stated the estimates are

based on estimates using the evapotranspiration, ET applied water with 80% efficiency.

Ms. Monaco questioned when the impacts are known on wells will there be another chance for public comment. Mr. Thoreson stated there will be a table in the GSP showing the hydrographs for each monitoring well. Ms. Monaco questioned if it will include how many wells will go dry. Mr. Thoreson stated that information will not be included because the data is not complete and he doesn't see how it would help the GSP. Ms. Monaco stated it would help to determine what is significant and reasonable. Mr. Thoreson questioned how it is significant and unreasonable if the impacts are being mitigated. Ms. Monaco stated there could be people without water for months while a program is being implemented. She stated there are significant costs to a family when they do not have water.

## **7. ADJOURN**

The meeting was adjourned at 3:00 p.m.