

## County of Madera GSA Groundwater Allocation Market: Pilot Participation and Logistics

This document describes the process and requirements for participating in the County of Madera Groundwater Sustainability Agencies for the Madera, Chowchilla, and Delta-Mendota Subbasins (hereinafter referred to singularly as the “County GSA”) Groundwater Allocation Market (market) pilot program. More detail on pilot market structure and rules is provided in a separate handout, available at: [LINK](#).

### Background and objectives

The County GSA is currently evaluating the potential for a market that would allow agricultural growers within the County GSA to buy and sell groundwater allocations, subject to GSA participation, and market rules and limitations. The overall goal of the market is to decrease negative economic impacts associated with water use reductions that will be necessary to achieve groundwater sustainability in the County GSA portions of Madera, Chowchilla, and Delta-Mendota subbasins, as required under California’s Sustainable Groundwater Management Act (SGMA).

To test the effectiveness of the market and to ensure that it is meeting its intended objectives, the County GSA plans to initiate a year-long pilot market program in January of 2021. The pilot program will be a virtual exercise, meaning that no physical trades will take place. A primary reason for this format is that it allows the County GSA to simulate more than one-year of trading so that it can better understand potential market impacts over time and under different conditions (e.g., extended drought, wet years). It also allows the County GSA to test the effect of different market rules and to obtain feedback from participants on multiple trading simulations.

### Pilot process and logistics

The following outlines the general process, steps, and requirements for participating in the pilot program.

#### **Overall process**

Each month of the pilot program will be representative of one year/irrigation season in which participants simulate trading based on information provided by the County GSA. Participants will be asked to make decisions on market participation each month, as well as to provide basic information and feedback on market structure, rules, and processes. Participants will provide information to the County GSA via email and/or through online surveys/forms.

The County GSA and consultant will serve as the market administrators for the pilot program. It will match buyers and sellers and will publish the results of each monthly simulation.

The County GSA is allowing all growers within the County GSA to participate in the pilot program. However, groundwater allocations are a prerequisite for a functioning groundwater market. Currently, the County GSA is the only GSA within the County that has proposed allocations as a method for meeting SY under SGMA. In the future, other GSAs may opt to participate in the market; however, interested GSAs would need to establish tradeable allocations. If a grower or farmer located outside of the County GSA

wishes to participate in the pilot, they will be assigned a SY allocation for the purposes of trading simulations.

### **Step 1: Register for the pilot market**

To sign up to participate in the pilot program, visit: [LINK](#). Participants must sign up prior to December 31, 2020. Participant communication will be conducted via email; each participant must submit their contact information when signing up to participate.

Once participant sign up is completed, participants will receive instructions on how to register for the market. To register for the market, participants will need to provide:

- Parcel number(s) associated with their farm unit
- Total acres and irrigated acres by crop type associated with parcel or farm unit
- Email address and other contact information

### **Step 2: Kick off webinar and intermediate webinars**

The County GSA will hold a kickoff meeting on January 13<sup>th</sup> to further describe the pilot process and answer questions. Additional webinars will be scheduled over the course of the pilot to answer questions and receive feedback.

### **Step 3: Participate in monthly market simulations**

The County GSA will assign participants characteristics that they will assume for their role as a participant in the pilot market (i.e., farm unit zone, groundwater allocation, irrigated acres by crop type). To the extent possible, this information will match the actual characteristics of participants. However, if sufficient diversity of participants is not achieved, some participants will be asked to make decisions associated with assigned characteristics.

For the pilot, the County GSA will provide each participant the following information each month:

- Basic information on parcel/farm unit area, irrigated acreage by crop type
- Year and month for which the simulation is occurring
- Total annual rainfall (by month) for simulated year.
- Consumptive use demand by crop type
- Sustainable yield (SY) allocation (including any carryover amount available)
- Amount of transitional water available to them in each simulated year and the cost of transitional water
- Minimum economic information necessary for participants to make decisions with respect to market for each simulated year (e.g., average net returns by crop type per acre).
- Average sales price from previous simulated year or month
- Information on available incentives (as applicable)

Based on this information, participants will be asked to respond each month with their market decision and other key information, as follows:

- Decision on whether to buy or sell SY groundwater allocations or to not participate in the market in the simulated “year/month.” If a participant would like to buy allocations, they must

indicate how much they are willing to pay (\$/AF) and how much they would like to purchase (AF, this can be a range). Conversely, sellers will need to submit how much they would like to sell their allocations for (\$/AF) and how much they have available to sell (AF, this can be a range).

- Irrigated acres by crop type (including any changes that have occurred due to changes in water availability/market conditions)
- Feedback on market rules, process and factors that influenced their decision to participate/not participate in market in given year. The County GSA will pose specific questions to elicit participant feedback.

Participants will be asked to provide this information via an online form or email.

The market administrator will apply the matching algorithm (described in a separate handout) to match buyers and sellers (anonymously) and publish aggregate information on trades each month. The County GSA will let each participant know whether the status of their trades was approved.

The County GSA anticipates providing information to participants on the 1<sup>st</sup> of each month, with responses due on the 15<sup>th</sup> of each month. This will allow time to publish results from each trading simulation and to develop information and adjust processes, as necessary, for the following month.

#### Pilot outcomes

The County GSA will use the information collected through the pilot to better understand potential impacts and to develop appropriate rules and/or changes to the proposed market structure. Upon completion of the pilot, the County GSA will develop a set of principles and guidelines (P&G) for an actual market. The P&G will clearly lay out market rules and administrative processes. The County GSA expects that once a market is established, it will continue to change as it is adaptively managed over time. This is key to overall program success and to meeting sustainable yield objective within the County GSA.