# MINUTES

## MONO COUNTY TRI-VALLEY GROUNDWATER MANAGEMENT DISTRICT
## Regular Meeting of
## July 13, 2022 6:30 P.M.
## Benton Community Center – in-person only

Chairperson Mitchell called the meeting to order at 6:36 P.M. on July 13, 2022. Meeting was held in-person.
Roll Call:

Directors Present: Mitchell, Dunn, Allen, Duggan, and Bassett.
Directors Absent: West (excused due to family health issue), Moss (excused due to health issues).
Advisory board present: Dennis Murphy, and Ed Parkinson
Mono County (M.C.) Personnel in attendance: Assistant County Counsel (A.C.C.) Chris Beck, Mono County Counsel Intern (M.C.C.I.) Scott Pease

1. **Tri-Valley Groundwater Management District (TVGMD) Advisory Board (A.B.)**
   **A. Advisory Board Report and Comment.**
   D. Murphy reported that the A.B. has not met since our May 18, 2022 meeting. He also mentioned that Director Bassett and he had taken a new reading on the Benton monitoring well and she would report on that later in the meeting.

2. **Public Comments (on any matter within the jurisdiction of the District).**
   Director Dunn asked if anyone, especially A.C.C. Beck, knew what the digging was for that is happening on Highway 6 just North of the California/Nevada State line. There are several large holes being dug in the ground. The concern is that the digging might get into the water table and cause disruptions. Director Allen believes that a concrete and aggregate plant is being put in.
   A.C.C. Beck replied that he would check on it.

3. **Approval of minutes of the May 18, June 17, and June 120, 2022 meetings. (Attachment A).**
   A motion to approve the May 18, June 17, and June 20, 2022 meeting minutes as written was made by Director Dunn and seconded by Director Allen.
   Vote – all directors in attendance – "yes".

4. **Resolution No. 22-07 authorizing remote teleconference meetings from July 13 to August 13, 2022.**
   Motion to approve the Resolution 22-07 was made by Director Allen and seconded by Director Dunn.
   Vote – all directors in attendance – "yes".
   It was noted that there will need to be a special meeting before August 13, 2022 to consider and potentially approve an updated resolution in order to hold the August 24, 2022 meeting via zoom. Director Mitchell will work with the Board to set a date for that meeting.

5. **Review and possible approval of the District map. (Attachment C)**
   Director Mitchell explained that the TVGMD has never had a map showing the District's area of jurisdiction. One of our Chalfant residents has agreed to work with the TVGMD on that task. He needs to know what we want and what we plan on using the map for (presentations, website information, etc.). The current draft of the map was reviewed and changes requested are:
   A. the Fish Slough Area of Critical Environmental Concern should be shown
   B. creeks/aquifers coming into the TVGMD should be shown
   C. map should be "zoomed in" to show better detail
   D. include means and bounds of the TVGMD
   E. the Inyo/Mono County line should be shown

   It was noted that the M.C. website has a map that shows the TVGMD area in relation to Fish Slough and that the groundwater model study will probably add more information for the map.

   Director Mitchell asked that any additional desired change requests be forwarded to her.

Introduction – Director Mitchell introduced A.C.C. Beck and M.C.C.I. Pease. A.C.C. Beck stated that he is a new M.C. A.C.C. and has experience in water law. He will be working with the TVGMD along with A.C.C. Fox. M.C.C.I. Pease stated that he is a law clerk and will be in M.C. for the summer.

6. **Further discussion on changing the District address.**
   Director Bassett explained that our current mailing address is a Post Office box in Benton, which is not very central to the District and not currently convenient for mail pickup. The thought is to change our mailing address to 123 Valley Rd. in Chalfant, which is the address for the Chalfant Community Center. This would be a more central location and would save the District the yearly cost of maintaining the Post Office box, which is currently $90. Discussion followed concerning the steps that would be needed to change the address and notify necessary entities.
   A motion to move forward with the address change was made by Director Dunn and seconded by Director Allen.
   Vote – all directors in attendance – "yes".
   Directors Mitchell and Bassett will proceed with this task.

7. **Discussion and report on the Inyo-Mono Integrated Regional Water Management (IRWM) program for possible funding to develop a hydrologic groundwater model of the Tri-Valley.**
   M.C.C.I. Pease reported that M.C. and the TVGMD have proposed a grant for the Tri-Valley groundwater model study, including an isotope study. IRWM has ranked their submitted proposals and the TV proposal was ranked #2, which means that the project will be fully funded. The total amount for the project is $229,000. See attached Funding Proposal (handout Item 1).
   The model will use existing data as well as new data. M.C.C.I. Pease is working with IRWM to finalize the grant paperwork for submission to the Department of Water Resources (DWR); submission deadline is mid-August.
   There is a consultant that is familiar with the Owens Valley and Tri-Valley areas that will probably be interested in the project. M.C. needs to prepare a Request for Bid (RFB). This is the same consultant that worked with the Owens Valley Groundwater Association (OVGA) to prepare the Groundwater Sustainability Plan (GSP) that was submitted to DWR.
   DWR's decision on the grant is expected to be announced in about November 2022.

8. **Brief Report of Director Activities and 2022 Election Report.**
   Director Mitchell reported that:
   A. there are two TVGMD Board domestic well positions and one TVGMD Board agricultural well position that will be available to be filled in the November election.
   B. also, the current agricultural well vacancy on the Board will be available to be filled in the November election.
   C. the filing period starts on July 18 and ends, she believes, the first week of August 2022.

   Director Bassett reported that:
   A. the July OVGA meeting originally scheduled for July 14 was moved to August 11, 2022.
   B. A.B. Murphy and she measured the Benton monitoring well on 7/12/22. The water level is down to 131.30 feet, from the 130.9 feet measured on 4/12/2022.
   C. in relation to the possibility of measuring private party wells, the Board might need to consider purchasing longer meters. She has confirmed with DWR that the meters we have are what is recommended, at lease until, if and when, we are able to use transducers to measure water levels. The Board currently has one 150-foot meter and two 200-foot meters. A current price sheet shows that a 500-foot meter will cost $1092 plus tax and any related shipping; approximately $1200.
   D. the TVGMD general ledger account balance is $11,587.42, as of June 15, 2022.

   Director Mitchell reported that she received a confirmation of receipt from DWR on the letter she sent to Tim Ross concerning the OVGA Groundwater Sustainability Agency (GSA) boundary change that will allow TVGMD to again be the GSA for their jurisdiction. There has been no progress made by DWR on this issue. She is assuming that OVGA sent the boundary change letter as voted on in their April meeting, but is unsure. Supervisor Duggan will check with OVGA on this issue. Director Mitchell will also follow-up with OVGA.

   Director Allen asked about liability for actions taken on by the Board, especially when monitoring private wells. A.C.C. Beck mentioned that the M.C. Risk Liability Officer should be able to provide insurance.

   M.C.C.I. Pease mentioned that M.C. has applied to be the GSA for other groundwater basins in Mono County, not including the TVGMD area.

9. **Further discussion of financing options for the District.**
   Director Mitchell stated that the legislation to make the TVGMD did not include financing for the District. For several years, M.C. funded TVGMD with $5,000 per year; this funding was stopped in about the late 1990's when the M.C. budget became tighter. We need money to do projects.

   Supervisor Duggan mentioned that Administrative costs, like liability insurance, especially those needed for the groundwater model project, should be communicated to A.C.C. Beck and/or M.C.C.I. Pease. And she can bring the need to the M.C. Board of Supervisors (BOS).
   A.C.C. Beck can help determine if the need is something that M.C.BOS should cover.
   Director Bassett mentioned that this item also was intended to indicate a presentation from M.C.C. regarding the legislated options for special districts to raise funds for their projects. For various reasons, the presentation has not yet been given. A.C.C. Beck said he would follow up on that presentation and possibly present it during the August 24, 2022 meeting.

10. **Discussion and possible action on proceeding with well monitoring.**
A.B. Puhvel had submitted a monitoring plan proposal that has not yet been decided on. There was discussion about the TVGMD doing monitoring of private wells and about the possibility of a contractor doing the monitoring. The contractor quote for monitoring for one year was $6500. When the plan was presented, an update of the Key Well Access Agreement was needed. See agenda item #11.
Further discussion concerned the method(s) of financing a contractor monitored program. Some attendees felt that M.C. should at least partially fund on-going monitoring. Supervisor Duggan said that M.C. was not going to fund that monitoring and that we needed to work with A.C.C. Beck on methods of funding and the Administrative costs. And communicate with them about how we were previously funded.
There was also discussion on the potential uses of additional data gathered by the monitoring. Any data gathered could be used by the consultant preparing the groundwater model. However, more frequent data, such as could be achieved using transducers, is needed. A.C.C. Fox had been tasked with working with OVGA to determine the status of having DWR supply transducers and who would pay to install them. A.C.C. Beck will follow up on that.
A.C.C. Fox was also going to get the data that OVGA had collected on TV wells. When Director Mitchell followed up on getting the data, she was told by OVGA Executive Manager Aaron Steinwand that it was on a link that he sent her. She has not been able to find the data, the link isn't working. She will send the link to A.C.C. Beck.
A.C.C. Beck mentioned that, in addition to the updated access agreement, the TVGMD would need insurance to cover any issues that arise. He will work with the M.C. Risk Liability Officer to obtain a quote for that coverage.

11. **Discussion regarding consent and release of liability from property owners regarding key well monitoring program (draft is Attachment D).**
A.C.C. Beck stated that the old access agreement (handout #2) has been updated and the draft for review and approval is attachment D. He feels that this agreement, along with the liability insurance, will sufficiently cover the District.
A motion was made by Director Bassett to approve the draft access agreement.
Director Dunn seconded the motion.
Vote – all directors in attendance – "yes".

12. **Public comment (on any matter).**
None.

13. **Adjournment to Wednesday, August 24, 2022, 6:30 p.m., in Chalfant (pending COVID-19 status).**
Motion to adjourn the meeting was made by Director Dunn and seconded by Director Allen.
Vote – all directors in attendance – "yes". Meeting was adjourned at 8:25 P.M.

Next regular meeting will be held on the fourth Wednesday of August 2022:

**August 24, 2022**
**At 6:30 P.M. at the Chalfant Community Center**

**Geri Bassett, Secretary, TVGMD**

# FUNDING PROPOSAL - GROUNDWATER MODEL OF TRI-VALLEY/FISH-SLOUGH AREA
## Optional Additive Request: Isotope Study

## Purpose and Need

Hydrologic investigations related to the local implementation of the California's Sustainable Groundwater Management Act identified a lack of groundwater modeling and associated information for the Mono County portion of the Owens Valley Groundwater Basin. Groundwater levels in both the Tri-Valley and Fish Slough areas have been declining over the past 30 years and it is important to understand how the system functions.

This grant proposal seeks funding to develop a numerical, MODFLOW groundwater model covering the Tri-Valley and Fish Slough areas for the purpose of better understanding and quantifying the amount and the flow of groundwater in this area. The groundwater model would be calibrated to existing historical data and also serve as a predictive tool to analyze future groundwater conditions and potential management. This project is intended to provide confidence in the state-of-science of the Tri-Valley/Fish Slough groundwater system and to provide a framework for analyzing future groundwater management options.

Mono County is requesting financial assistance from the Inyo-Mono Integrated Regional Management Group (IMIRMG) in an amount of $199,000 for a hydrogeologic consultant to develop this groundwater model.

In addition, the County received input from the Tri-Valley Groundwater Management District and the Sierra Club Range of Light Group that an isotope study should be included in the project, for the purpose of identifying the sources and path of groundwater. This item is therefore included as an optional additive request.

## Background

In 2014, California passed the Sustainable Groundwater Management Act (SGMA) to monitor and regulate state-wide groundwater resources at the basin scale. The Owens Valley Groundwater Basin encompasses most the area between the Sierra Nevada and White/Inyo mountains from the California-Nevada border along Highway 6 in Mono County south to the Olancha area in Inyo County. In 2017, several local agencies, including Mono and Inyo counties and the Tri-Valley Groundwater Management District, signed a Joint Powers Agreement to form the Owens Valley Groundwater Authority (OVGA), a SGMA Groundwater Sustainability Agency (GSA). The OVGA was tasked with implementing SGMA in the Owens groundwater basin. As part of the SGMA process, the OVGA developed a Groundwater Sustainability Plan (GSP) for the basin which was completed and submitted to the Department of Water Resources in January 2022. An outside consultant, Daniel B. Stephens and Associates, assisted with GSP development.

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(1)

The purpose of the GSP was several fold: to characterize the basin and its hydrology; to identify groundwater sources, uses, and quality; to document historical and current groundwater conditions and levels; to develop sustainability goals; to collect and centralize existing data; to identify knowledge and data gaps; and to propose potential actions and management goals to increase basin understanding and either maintain or achieve sustainable groundwater uses within a 20-year planning horizon. The GSP's technical assessment of the basin included development of a Hydrologic Conceptual Model (HCM) which synthesized the current hydrologic understanding of the basin and also identified areas where more data is needed- in the Tri-Valley (Benton, Hammil, Chalfant) and Fish Slough springs area.

Groundwater levels in the Tri-Valley area have been declining approximately 0.5 to 2 ft/year for the past 20-30 years, and spring discharge into Fish Slough, an Area of Critical Environmental Concern, has also steadily decreased over that time period. Available geologic and hydraulic evidence suggests there is hydrologic connection between the Tri-Valley and Fish Slough areas such that water levels in Tri-Valley may affect spring discharge in Fish Slough. The management concerns driving the need for a groundwater model include ensuring sustainability and viability of both local agricultural operations, which is the major economic sector in the Tri-Valley, and habitat and conditions in Fish Slough, where populations of the endangered Owens pupfish and threatened Fish Slough milk vetch are located. Additional data as provided by a groundwater model will help to further understanding of causality and support informed groundwater use and management.

The GSP identified two high-priority data gaps in the Tri-Valley/Fish Slough area: one, lack of spatial coverage of groundwater level monitoring; and two, lack of a numerical groundwater flow model to convert the more qualitative Hydrologic Conceptual Model into a quantitative tool for assessing and predicting groundwater flow and levels over time. The OVGA, Mono County, and Tri-Valley Groundwater Management District (TVGMD) have undertaken initial steps to address the lack of groundwater monitoring by pursuing outside funding for additional monitoring wells and by developing a network of existing domestic wells. However, the significant cost of developing a numerical groundwater model is a major impediment.

If accepted, Inyo-Mono IRWMP grant founding would be used to leverage and improve the existing Hydrologic Conceptual Model to develop a regional numerical groundwater model to simulate groundwater flow and spring discharge within the Tri-Valley/Fish Slough Area. Expected benefits from the model include: 1) compile all relevant hydrogeologic information into a single repository, 2) increase regional geologic understanding by developing a three-dimensional geologic model, 3) quantify the amount of recharge and flow paths, and 4) provide a quantitative tool for evaluating and predicting future groundwater management options.

Presently, neither Mono County nor TVGWMD possess sufficient funding to complete the groundwater model development. The Tri-Valley area includes a Disadvantaged Community and, therefore, grant funding is actively being sought. Requested funds total $199,000 with an anticipated waiver of matching fund requirements based on the location of the project in a disadvantaged community. Mono County would contribute up to $22,000 to the project for project management/grant administration and to

cover the IRWM's 1% administrative fee. This is a data compilation and groundwater modeling project. There would be no additional permitting or regulatory structures for this project.

Greater understanding of the regional hydrogeologic flow system is vital to determine causality of groundwater levels and the relationship between Tri-Valley water levels and Fish Slough conditions. A numerical groundwater flow model can provide this understanding by integrating the multiple sources of data, information, and knowledge available for the area into a single system with quantitative verification. The model could also be used by the TVGMD, as the Groundwater Sustainability Agency, to help determine specific management criteria such as sustainable yield, measureable objectives, and minimum thresholds for the Tri-Valley/Fish Slough portion of the Owens Valley Groundwater Basin.

If the optional additive request for funding of an isotope study were included, then the County would request an additional $30,000 (to a total of $229,000) and would increase the amount of its contribution accordingly.

## Scope of Work

The Scope of Work listed below was developed based on the scope of a similar regional-scale groundwater modeling project using recent, industry-standard rate estimates. The components of creating, calibrating, and running initial predictive scenarios from a numerical MODFLOW groundwater flow model are outlined below.

*Task 1 – Initial Project Orientation and Review*

The first task for the modeling team will be to orient themselves to the Tri-Valley/Fish Slough area, including review of past hydrogeologic reports, modeling efforts, and water balance estimates. Modeling staff will also become familiar with the primary hydrologic, socio-economic, and environmental concerns and also the governmental and regulatory environment.

*Task 2 – Meetings and Field Visit*

An initial kick-off meeting and associated field visit at the beginning of the project will be held to efficiently introduce the modeling team to the project area. It is anticipated that the initial field visit and meeting will introduce the modeling team to key hydrogeologic areas of the Tri-Valley/Fish Slough area and key agency personnel. A second meeting would occur at the end of the project to publically present the results and findings from the modeling effort and the associated final report.

*Task 3 – Review of Existing Hydrogeologic Conceptual Model and Formulation*

As part of GSP development, the understanding of the hydrogeology of the Tri-Valley/Fish Slough area will be improved. For example, several of the water balance components for the Tri-Valley management area were further constrained by developing two landsurface models to estimate groundwater recharge. In Task 3, the groundwater modeling team will review the existing hydrogeologic studies and build upon recent advances in knowledge. TVGMD will endeavor to actively engage other local agencies

to make this orientation process as efficient as possible, building on the information and data availability gathered during the OVGA GSP process. Sub-tasks will include:

A) Review existing landsurface models (USGS Basin Characterization Model and DBS&A Distributed Parameter Watershed Model)
B) Review historic groundwater models ( e.g. Mono County/US Filter model)
C) Review and refine the existing Hydrogeologic Conceptual Model
D) Gather/prepare existing hydrologic monitoring data (climate, groundwater, flow, etc.)
E) Assess any additional knowledge or data gained since GSP creation

*Task 4 – Development and Calibration of a numerical MODFLOW Groundwater Model*

This will be the primary work task. After the review and assessments made in Task 3, the modeling team will convert the HCM into a numerical MODFLOW groundwater model. Once created, the model will be calibrated to existing data and a sensitivity analysis will be conducted. Aspects of numerical simulation such as the mass-balance components, boundary conditions, and aquifer layers and properties will be compared to HCM and areas of discrepancy will receive additional evaluation. Sub-tasks will include:

A) Define the primary purpose of the groundwater model
B) Convert HCM into a multi-layered, numerical MODFLOW groundwater model
C) Calibrate the groundwater model to historical groundwater level and surface flow data
D) Conduct Sensitivity Analysis to identify key modeling parameters that have potential to significantly influence model predictions
E) Compare model to HCM, note and address discrepancies, discuss/address model uncertainty

*Task 5 – Run Three Predictive Simulations using Groundwater Model*

Once the numerical groundwater flow model has been created and calibrated to historical data, in Task 5 the modeling team will work with the TVGMD to develop and then analyze three predictive simulations. These predictive scenarios would be used to inform current and future groundwater management options. An example of a key predictive scenario would be to predict groundwater levels and discharge amounts for the ensuing 20 year period in the Tri-Valley and Fish Slough area based on the existing hydrologic regime (current recharge and pumping amounts). Based on the results from this primary predictive scenario, two additional scenarios would be developed which balance long-term sustainability goals and associated environmental protections with socio-economic impacts and related negative environmental outcomes.

*Task 6 – Model Documentation and Reporting*

The modeling team will document all aspects of model development. All model, data and other files will be provided to Mono County and TVGMD. A detailed report will be provided which includes procedures, analyses, findings and recommendations that resulted from Tasks 1-5. Hard copy and PDF versions of the final report will be provided to Mono County and TVGMD as well as the other relevant electronic

files (e.g. MODFLOW, GIS, Excel, etc.). As noted in Task 2, the final report would be presented in a public venue at time of project completion.

*Isotope Study*

If funded, an isotope study would be prepared contemporaneously with the hydrologic model, either by the same modeling team or by a separate consultant.

## Schedule

It is anticipated that once the grant funding is approved and made available, TVGMD will select a groundwater modeling team and complete Tasks 1-6 within a 16-month period. It is likely that this timeline could be accelerated if grant requirements dictate a shorter implementation/completion time frame. A general breakdown of timing is as follows:

Months 1-2 Mono County receives grant funding and any associated approvals to proceed, TVGMD selects groundwater modeling consultant

Months 3-4 Modeling consultants completes Task 1 and initial Task 2 meeting and field visit

Months 5-12 Modeling team conducts and completes Tasks 3-6

Months 13-14 TVGMD and modeling team reviews final report and conducts final Task 2 public meeting

Months 14-16 Finalize any remaining contracting, billing, data transfer and grant funding requirements

## Preliminary Cost Estimate

A preliminary cost estimate developed from the Scope of Work and in comparison to a similar groundwater modeling project in the Eastern Sierra is summarized below.

| | |
|---|---|
| *Task 1 – Initial Project Orientation and Review* | 7,500 |
| *Task 2 – Meetings and Field Visit* | 20,000 |
| *Task 3 – Review of Existing Hydrogeologic Conceptual Model and Formulation* | 40,000 |
| *Task 4 – Development and Calibration of a numerical MODFLOW Groundwater Model* | 65,000 |
| *Task 5 – Run Predictive simulations (3) using Groundwater Model* | 18,000 |
| *Task 6 – Model documentation and Reporting* | 22,500 |
| Subtotal | 173,000 |
| **Total (with 15% contingency added)** | **199,000** |

Optional Additional Request:

| | Estimated Cost |
|---|---|
| Isotope Study | $30,000 |

PROPERTY OWNER APPROVAL
OF PARTICIPATION IN
TRI-VALLEY GROUNDWATER MANAGEMENT DISTRICT
KEY WELL MONITORING PROGRAM

Pursuant to provisions of its enabling legislation, the Tri-Valley Groundwater Management District is undertaking a key well monitoring program in order to determine the extent of the groundwater basins in the Tri-Valley area, and to determine whether those groundwater basins are over-drafted. The results of the program will enable the District to take actions which will assure that the groundwater basins will be protected.

In order to carry out the program, agents of the District must have well data and access to wells located on private property for the purpose of making measurements.

The undersigned owns private property on which a well is located. This constitutes permission to authorized agents of the District to enter the property of the undersigned for the purpose of making well measurements. At the option of the undersigned, existing well data may also be provided to the agents of the district.

Information obtained by the District will be made available to the property owner.

Date: _____ _____
Name of Property Owner
(Please print)

Phone: _____ _____
Mailing Address

Physical Location of Property: _____

Signature of Property Owner: _____

Item 11 (2)