

**1 UPPER ARKANSAS WATER  
CONSERVANCY DISTRICT**

**Regular Meeting of the Board of Directors**

**June 9, 2022  
1:00 P.M.**

A regular meeting of the Board of Directors of the Upper Arkansas Water Conservancy District was held Thursday, June 9, 2022, commencing at 1:00pm at the District offices, 339 East Hwy 50, Salida, Colorado, following the Water Activity Enterprise committee meeting, notice having been given by posting of Notice and Agenda on June 8, 2022, at the offices of the Upper Arkansas Water Conservancy District, 339 East Hwy 50, Salida, Colorado.

**DIRECTORS PRESENT (IN PERSON)**

Gregory W. Felt	Mannie Colon	Tony Telck
Tom French	Robert B. (Bill) Donley	Warren Diesslin
Thomas Goodwin	Brett McMurry	
Tim C. Canterbury		

**DIRECTORS PRESENT (BY REMOTE VIDEO AND AUDIO CONFERENCING)**

Tim Payne  
Rich Hilderbrand

**DIRECTORS ABSENT**

Franklin J. (Jay) Moore, (Honorary)  
Mike Shields  
Albert Eggleston

**DISTRICT OFFICIALS/STAFF MEMBERS PRESENT**

Ralph L. (Terry) Scanga, General Manager	Wendy Ryan, Engineer
Ken Baker, Consultant	Gracy Goodwin, Projects Manager
Jord Gertson, Hydrologist	Jennifer A. Scanga, Administrative Assistant

**DISTRICT OFFICIALS/STAFF MEMBERS PRESENT (BY REMOTE VIDEO AND AUDIO CONFERENCING)**

Denise Sanchez, Office Manager  
Richard Brown, Legislative Consultant

**DISTRICT OFFICIALS ABSENT**

None

**STATE OFFICIALS PRESENT**

None

**STATE OFFICIALS PRESENT (BY REMOTE VIDEO AND AUDIO CONFERENCING)**

Will Scott, Water Commissioner District 11

**STATE OFFICIALS ABSENT**

Brian Sutton, Augmentation Coordinator  
Bill Tyner, Division Engineer  
Dan Henrichs, Water Commissioner, District 12

**EX-OFFICIO REPRESENTATIVE PRESENT**

None

**EX-OFFICIO REPRESENTATIVES PRESENT (BY REMOTE VIDEO AND AUDIO CONFERENCING)**

Dwayne McFall, Fremont County Commissioner

## RECORD OF PROCEEDING

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### **EX-OFFICIO REPRESENTATIVES ABSENT**

Tom Flower, Custer County Commissioner  
Brian Berger, Poncha Springs Administrator  
Michael Patterson, Florence City Manager  
John Roorda, Chaffee County Planning Manager  
Shawn Williams, Buena Vista Public Works Director  
Philip Puckett, Buena Vista Town Administrator  
Dave Schneider, Round Mountain Water and Sanitation District Manager

### **GUESTS PRESENT**

United States Geological Survey (USGS) Staff Hydrologists:  
Connor Newman  
Cory Russell  
Suzanne Paschke, Associate Director of Hydraulic Studies

### **GUESTS PRESENT (BY REMOTE VIDEO AND AUDIO CONFERRING)**

Joe Stone, Heart of the Rockies Radio News  
Joel Benson, Town of Buena Vista  
Rob Flynn, USGS Hydrologic Studies Chief

### **PLEDGE OF ALLEGIANCE**

Chairman Canterbury led attendees in the Pledge of Allegiance.

### **INTRODUCTION OF GUESTS**

Guests were asked to introduce themselves.

### **NEWLY APPOINTED DIRECTORS - OATH OF OFFICE**

Notary Public, Jennifer A. Scanga, swore in newly appointed directors, Richard B. (Bill) Donley, Division 4; Gregory W. Felt, Division 2, Mannie Colon, Division 5, Seat A; Brett A. McMurry, Division 3.

### **ELECTION OF OFFICERS**

Election of Officers: Chairman, Vice Chairman, Secretary, Treasurer, & Assistant Secretary  
Manager Scanga informed Board of current officers.

They are as follows:

Chairman – Tim Canterbury

Vice Chairman – Gregory W. Felt

Secretary – Tom French

Treasurer – Thomas Goodwin

Assistant Secretary-Treasurer – Terry Scanga

Re-Appointment of Enterprise Committee – All directors, Consultant Baker, & GM Scanga

Director Colon made a motion to leave officers as is and the motion was seconded by Director Donley.  
This motion was unanimously approved by the board

***THE BOARD OF DIRECTOR MEETING RECESSED AT 1:06PM***

***MEETING RECONVENED AT 1:21pm***

### **MINUTES OF THE MEETING OF May 12, 2022**

The minutes of the meeting of May 12, 2022, were approved upon motion by Director French with second by Director Felt.

### **FINANCIAL REPORTS**

Upon motion by Director Goodwin with second by Chairman Telck, the Board approved the monthly financial reports dated May 31, 2022.

## RECORD OF PROCEEDING

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### **PROGRAM PRESENTATIONS**

Hydrologist Connor P. Newman and Hydrologist Cory Russell from USGS gave a presentation on the Wet Mountain Valley Water Balance Study. The presentation highlighted groundwater hydrology, groundwater/surface-water interactions, water quality, and a groundwater flow model of Wet Mountain Valley Alluvial aquifer in Custer and Fremont Counties.

Hydrologist Newman explained that the motivation for the project background is due to population growth in the Upper Arkansas River Valley and the expected increase by 2030. He said that to meet the water needs for the growing population, additional water resources must be utilized. Mr. Newman expressed that this is an issue because the Arkansas Basin is fully appropriated.

Mr. Newman said that the UAWCD has identified a goal to secure additional water storage through existing water rights and he explained that the potential for additional sub-surface storage of surface water was addressed in the study. He explained how surface water can be stored before peak run-off from snow melt as additional ground water recharge and then can be used in several different ways. Mr. Newman further explained that the USGS entered into this cooperative agreement with the UAWCD to evaluate the potential for this enhanced storage of surface water in the alluvial aquifer of the Wet Mountain Valley.

Hydrologist Newman recognized that the USGS and the District have a long-standing history of working together with water balance studies for many years. He noted an example of a report by Ken Watts in 2005.

Mr. Newman stated that the design of the study is multi-faceted since there was not a lot of previous information about the groundwater hydrology of the valley and the first aspect of the study was to understand the groundwater hydrology to include mapping directions of groundwater flow from the areas where groundwater is highest until the areas where it is the lowest. He said this helps to identify areas of recharge and discharge from the groundwater system. Mr. Newman explained that recharge is where surface water, precipitation or irrigation excess flow becomes part of the groundwater aquifer and discharge is where groundwater in the aquifer flows into a surface water body or as evapotranspiration where there are deep root systems.

Hydrologist Newman further explained that the interactions between groundwater and surface water were evaluated through space and time and one of the ways of discharge is by flowing into a stream. He said this is called a gaining stream and areas were mapped out to observe gaining and losing conditions in streams. He stated that those gaining and losing areas are quantified to tell how they interaction with the overall water budget.

Mr. Newman said that samples were collected for water quality and groundwater age to provide an independent source of information on the recharge sources and rates of groundwater recharge. He added that the water quality data helps give a more realistic interpretation. Mr. Newman said a groundwater flow model was used to simulate the aquifer to understand the possible hydraulic properties of the aquifer – how quickly water can be transmitted from one place to another- and to simulate the groundwater and surface area interactions under current existing conditions and under hypothetical scenarios. Such as additional stream flow diverted into a detention basin where it can be recharged into the groundwater system during snow melt run-off.

Hydrologist Newman summarized the study results. He stated that the study results regarding groundwater hydrology revealed that flow paths are generally from southeast to northeast and the gradients are steepest near the Sangre de Cristos. Mr. Newman said that a statistical analysis was completed showing the trend of change through time of groundwater level elevations. He reported that the trend analysis (Mann-Kendall) indicated 7 wells that have statistically significant decreasing water-level elevation trends and about a quarter of the wells in the valley have downward trending water levels. Mr. Newman said that surface water sites were grouped geographically to determine regions of gain or loss.

Director Colon asked about the depths of the wells. Mr. Newman answered that they differ in depth

## RECORD OF PROCEEDING

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and the deepest ones are in the center of the valley at approximately 240 feet deep. He added that there are wells that go as deep as 700 feet but most of the wells are less than 150 feet deep.

Director Colon asked that as the water flows toward the northeast, does it change in elevation? Mr. Newman said that the surface of the water table goes down toward the northeast, so the highest water table elevation is closest to the Sangre de Cristos and the water table is lowest closer to Westcliffe and DeWeese Reservoir.

Director Colon asked if the depths of the wells are checked? Mr. Newman answered that all the wells where water levels were checked, the depths are verified using the well drilling report.

Mr. Newman pointed out that the decreasing water levels are explained by more than just the number of wells in the area.

Hydrologist Newman said that within the course of 3 years the amount of discharge was measured in approximately 20 streams. He stated they were grouped geographically to determine regions of gain or loss. He further stated that the study results for groundwater/surface level interaction showed that many locations have temporally variable gain-loss, with some important exceptions. Mr. Newman displayed a graph indicating consistent gains in the center region.

Mr. Newman indicated that Middle Texas Creek is gaining and upper Grape Creek is losing water into the aquifer based on location and during snow melt period when there is so much water coming out not all of the water can fit in the stream channel and some is lost into the aquifer underneath the stream channel.

Director Felt asked if agricultural stream flow was accounted for? Mr. Newman answered for high flow of 2018 there is value for excluding and including diversions. He said that other USGS staff have done exploration on diversions and return flows and compiled diversion data for this area. A map was displayed at the end of the presentation. Mr. Newman explained that the analysis indicated that there were sometimes competing numbers for the same place at the same time. He stated that there are potential discrepancies with how the surface water diversions and return flows are calculated He added that they are included in the analysis as the largest source of uncertainty.

Mr. Newman displayed study results for water quality and stated that groundwater and surface water showed good quality comparable to drinking water standards. He stated that the water quality mimics groundwater/surface water interactions. Water samples were collected testing for uranium concentrations and test results showed low levels of uranium far below drinking water standards.

Hydrologist Newman explained that groundwater is a mixture of recent recharge (less than 65 years old) and pre-modern (more than 65 years old) groundwater. He said it is found closest to large faults in the basin, indicating possible influence of geologic structures on groundwater upwelling and mixing. Mr. Newman added that groundwater ages help to corroborate maps of flow direction and results of groundwater-flow model. He further added that the report details the age of every well and the oldest groundwater tested was around 7000 years old.

Director Felt asked if the older water (more than 65 years old) is recharged if it is removed? Mr. Newman explained in a system as large as the alluvial aquifer in the Wet Mountain Valley, old water will be replenished given the large amount of storage space and because it is a less confined area.

Director Colon asked if there is room to store more water? Hydrologist Newman stated that there is substantial amount of open storage space in the aquifer.

Director Goodwin asked about additional storage areas and what is considered a good location? Mr. Newman answered that to maximize the amount of groundwater/surface water table the best location for available storage is near the base of the Sangre de Cristos where the aquifer is thickest.

Cory Russell, Hydrologist of USGS gave a report on the model of the study. He explained that a

## RECORD OF PROCEEDING

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numerical model was constructed to simulate the alluvial aquifer. The model boundaries included wells, streams, recharge from precipitation, and evapotranspiration. He added that the model was calibrated for the time period of 2000-2019.

Mr. Russell stated that aquifer tests were used to quantify the hydraulic properties of the alluvial aquifer and hydraulic conductivity is spatially variable with the center of the aquifer being more conductive.

Hydrologist Russell further explained that the model was well calibrated to observe hydraulic heads and streamflow gain/loss. He stated that additional recharge applied near Grape Creek flowed both back to the stream and into the adjacent alluvial aquifer. Mr. Russell said that the increased return flow to Grape Creek made small changes to the existing baseflow in the creek.

Director Felt asked if the model showed it was too conductive or if water could be stored for several years and then rely on an easily determined return flow to be worked into the District's augmentation requirements or other water needs? Mr. Russell stated that the model showed that when the water is spread out over an area it dissipates into the adjacent areas and into the stream.

Manager Scanga explained that the District would want the water to go into the stream and not infiltrate adjacent areas and grow vegetation because you lose water when that happens. He said ideally it would stay underneath the root zone until it reached the stream. Hydrologist Russell commented that they did account for evapotranspiration in the study, but the model indicates that most of the water would return to the stream and the study didn't go into that much depth.

Hydrologist Newman stated that conclusions of study revealed groundwater-level elevations change through the time in the alluvial aquifer, with most wells displaying declining water table elevations. He said these changes could be caused by groundwater pumping, climatic fluctuations, or other unknown causes. He further stated that continued groundwater-level monitoring is needed to update trend analysis and explore causes and possible mitigation.

He said that groundwater and surface water interact substantially along the mountain front and in the center of the valley, with surface water being both a source of groundwater recharge and discharge.

Mr. Newman explained that irrigation diversions caused uncertainty and should be more fully characterized. He added that climatic influences were difficult to account for in the short dataset, more routine measurements could be considered.

Director Felt asked if there were any questions left unanswered from the study? Mr. Newman stated that the primary question that came out of the study was how much water is coming in and going out of the Bed Rock along the sides of the valley. He explained that when you carry out a study covering such a large area, a line must be drawn somewhere. Mr. Newman said that in this study, they zoomed into the alluvium with the main goal to understand alluvial storage.

Director Donley asked if the Westcliffe fault intersects the valley or ever reach the valley floor and if it diverts water out of the valley. Hydrologist Newman stated that it is just outside the valley and forms the margin of the valley in some places. He answered that all the groundwater level mapping indicated flow paths generally being to the northwest so some outflow could potentially be seen at the northern end near Texas Creek. He added that the Westcliffe Fault would not be a groundwater discharge area.

### **EX-OFFICIO REPORTS**

There were no ex-officio reports

### **PROJECT MANAGEMENT REPORT- Gracy Goodwin**

PM Goodwin gave a brief update on the Round Mountain Federal grant. She clarified for Director Donley that the grant is for construction of the reservoir.

### **CONSULTANT REPORT – Richard Brown**

## RECORD OF PROCEEDING

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A current Legislative Update from Legislative Consultant Brown was provided to Board members for review prior to meeting. Included in the report were updated status of Bills of interest, newly enacted laws, and the status of the Water Resources Review Committee (WRRC). Consultant Baker reported briefly on the Executive Session Memorandum written by Steve Leonhardt regarding the Renewable Water Resources, LLC (RWR). The letter was available to Board members.

### COMMITTEE REPORTS

None

### RESUME REVIEW COMMITTEE

Nothing of significance in the April Resume.  
The May Resume was not available at time of meeting.

### MANAGER'S REPORT – Terry Scanga

Manager Scanga informed Board members that the Colorado Water Congress (CWC) Summer Convention is scheduled for August 23-25 at Steamboat Springs.

Manager Scanga reported on the Round Mountain Reservoir Federal Grant. He explained that it is a grant in progress regarding water storage, sustainability, efficiency, flexibility, improvement, and water marketing. He said there are 3 funding ranges: .5 million, 2 million and 3 million. Mr. Scanga stated that the District is working on the up to 2-million-dollar range looking for approximately 1.5 million for the Round Mountain project. He further stated that it is a Water Smart Grant and he added that the District was awarded a Water Smart Grant of \$650,000 in the past for reservoir gaging systems coupled with a Water Supply Reserve account grant. Manager Scanga also noted that he had retained Patricia Bungert to assist Gracy Goodwin on preparing this Federal Grant since these applications are very involved and requires someone with this particular experience. Ms. Bungert is very capable, and he reminded the Board that she was the grant writer for the Water Smart Grant we received in 2007 for the telemetry station installations. He informed the Board that the cost to retain Ms. Bungert was \$10,000 but would be shared with Round Mountain. He continued that even if we are not awarded this grant the work would still be available to be used for application of a State Water Plan Grant. In addition, Ms. Goodwin would gain valuable experience working with Ms. Bungert and this could be applied to future Bureau of Reclamation grant application work. Manager Scanga recommended approval to an IGA with Round Mountain that would authorizing the District to seek grant funding for the reservoir construction on our mutual entities' behalf, and a resolution to authorize the District to seek a Water Smart grant.

Upon motion by Director Donley, seconded by Director Goodwin the Board voted to approve the Intergovernmental Agreement (IGA) regarding funding for Round Mountain Reservoir No. 2, an agreement with Round Mountain Water and Sanitation authorizing the District to seek grant funding for the construction to the reservoir.

Director French made a motion, with a second by Director Donley to approve the Resolution authorizing application for U.S. Bureau of Reclamation Water Smart Drought Resiliency Projects for fiscal year 2023 (Resolution No. 2022-1).

### ENGINEER'S REPORT – Wendy Ryan, Colorado River Engineering (CRE)

Engineer Ryan informed the Board of work in progress on the Cottonwood Irrigating Ditch Change Case.

### LEGAL REPORT – Law of the Rockies, Kendall Burgemeister

Opposition updates and transactional matters are included in the Law of the Rockies legal report made available to all Board members prior to the meeting.

Director Payne asked about the Royal Gorge Ranch Agreement. Atty Burgemeister explained that it is pending the acceptance of an agreement between the UAWCD and Canon City for water hauling.

### CHAIRMAN AND DIRECTOR REPORTS

None

RECORD OF PROCEEDING

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**NOTICES & MEETINGS**

None

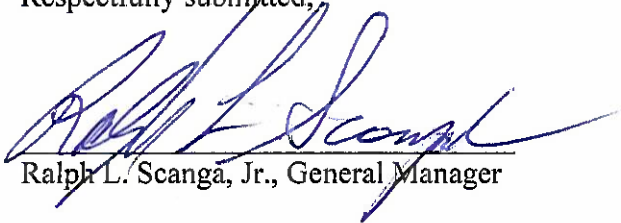
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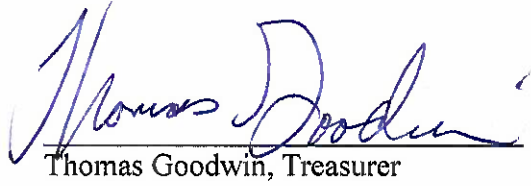
There being no further business to come before the Board or Enterprise and upon motion by Director Donley seconded by Director Colon and approval of the Board, the meeting adjourned at 3:05pm.

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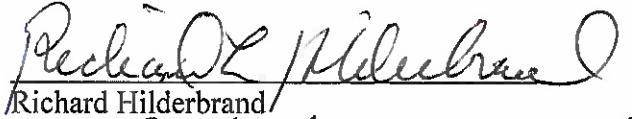
RECORD OF PROCEEDING

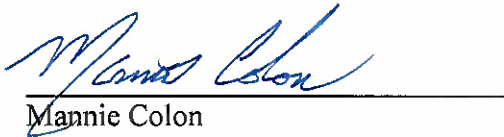
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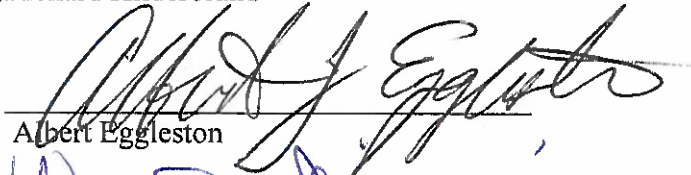
  
Ralph L. Scanga, Jr., General Manager

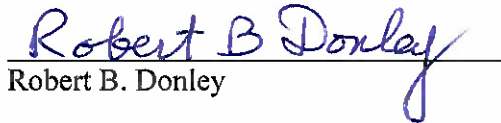
  
Thomas Goodwin, Treasurer

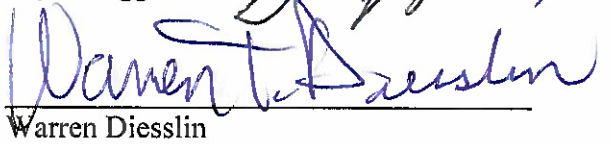
  
Timothy C. Canterbury

  
Richard Hilderbrand

  
Mannie Colon

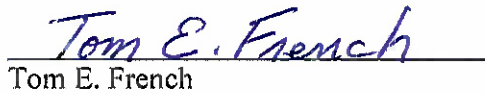
  
Albert Eggleston

  
Robert B. Donley

  
Warren Diesslin

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Gregory W. Felt

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Tim Payne

  
Tom E. French

  
Tony Telck

  
Brett A. McMurry

*approved remotely - no signature*  
Mike Shields