

# MEETING SUMMARY

## **SMP Work Group Meeting**

December 16, 2024

12:30 PM – 3:00 PM

Location: Conference Room A, Bureau of Reclamation's Western Colorado Area Office and remote meeting via Microsoft Teams

**Attendees:** Jenny Ward (Reclamation), Mark Wernke (Reclamation), Frederick Busch (Reclamation), Cory Williams (USGS), Trisha Solberg (USGS), Joel Homan (USGS), Natalie Day (USGS), Charles Wahl (USGS), Connor Newman (USGS), Creed Clayton (FWS), Clinton Evans (NRCS), Kara Scheel (CWCB), Matt Stearns (CWCB), Emily Zmak (CWCB), Jeff Rodriguez (CWCB), Kenan Diker (CDPHE), Luke Mecklenburg (COAG), Raquel Flinker (CRWCD), Dave Kanzer (CRWCD), Allen Distel (BPWCD), Paul Kehmeier (DCD), Robert Hancock (UVWUA)

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## **Introductions and Discussion of Agenda**

The agenda was accepted, and introductions were completed.

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## **Species Conservation Trust Fund Update**

The USGS put together and submitted proposals to CWCB in an attempt to obtain SCTF funding for four activities. Activity one included funding the continuation of monitoring the 30 well network. Activities 2 & 3 included looking at fish tissue data and the merits of including Mercury and monitoring in the Grand Valley in the 15- and 18-mile reach. Activity 4 included the development of a surrogate species model to prevent unnecessary stress to threatened and endangered fish species and to increase data collection opportunities. Out of these, only Activity 1 is moving forward for consideration by CWCB.

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## **Cuts to Program in FY 2025**

Mark Wernke discussed that Reclamation noticed a few of Reclamation's CRSP MOA-funded projects going into the red (i.e. the budget has been spent). Some of this funding had been going towards the USGS water quality monitoring efforts at the Cottonwood Creek at County Road J75 Near Mouth, Alum Gulch Near Hotchkiss, and the Loutsenhizer Arroyo at Hwy 50 Near Olathe sites. For now, Reclamation is no longer going to provide CRSP MOA funding for the gages at these sites. There is the potential funding for these sites could be brought back in FY26, however that will be dependent on a conversation with the Uncompahgre Valley Water Users Association (UVWUA) to make sure there is a benefit to them and it appropriate to fund with CRSP MOA funding.

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Raquel Flinker mentioned she had a discussion with Steve Pope on some potential creative ideas on how to ensure there is still robust water quality monitoring in the Lower Gunnison, potentially shifting some sites around in terms of funding. This possibility will be discussed with a smaller group and the results of this discussion will be reported back to the Workgroup.

Dave Kanzer indicated that the characterization of having the gages benefit the UVWUA may be misleading or incomplete unless it is also discussed how all water users benefit from the efforts (i.e. working towards meeting the requirements of the PBO). Dave indicated he does not believe it is all about UVWUA benefit, as the PBO benefits all water users in the Gunnison basin. Mark countered that the key difference is it is coming out of UVWUA's pot of money. Dave indicated that this may not be the case, however the situation may have changed. Originally, the SMP monitoring budget was its own line item. It would help discussions in the future to see an updated accounting of where the funding has been coming and going.

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### **NGWOS Work Looking at Streamflow Flux in Loutsenhizer**

The USGS presented work they have completed which looks at streamflow flux in the Loutsenhizer to highlight other water quality monitoring efforts being funded through NGWOS. The Loutsenhizer is one of six study watersheds under the umbrella of the greater NGWOS process. The USGS is using the groundwater monitoring network for this effort, and indicated it is one of the best groundwater monitoring networks in the State of CO that the USGS monitors.

The monitoring provides nice records of how certain attributes are changing in the groundwater over time. There are three sites – LA 1, LA 2, and LA 3. NGWOS doesn't work at LA 1, but they use the data. At LA 2 and LA 3, they collect hourly water temperature and specific conductivity (SC) measurements. Hydrographs were displayed that showed the change in the attributes over time, pointing out the interesting observation that the two groundwater wells (both of which are located within irrigated lands) have completely opposite groundwater behavior at the same time.

One of the approaches being used in the study to understand where groundwater enters the stream is an analysis of paired air water temperature metrics. For an example of this analysis, consider there is a temperature sensor in the stream and one in a tree next to the stream. When the water temperature very closely follows the air temperature (i.e. there is a pattern in the same phase and around same amplitude), this is called an air coupled signal. When there is a phase lag between the water temperature signal and the air temperature signal, this indicates a shallow source of groundwater coming into the stream. Contrast that with an amplitude that is substantially reduced, that indicates groundwater is travelling longer in the subsurface and therefore is a deeper groundwater source.

Looking at results for the three sites in Loutsenhizer, as you move downstream, there is a decreasing phase lag. This indicates the arroyo incorporates deeper groundwater along the flow path as it moves from its headwaters down to Uncompahgre River. Stream SC shows an inverse relationship with discharge. This relates to the return flow of irrigation water into the stream after it has dissolved some of the salts from the Mancos shale; this is a very well-established concept.

However, this is why the USGS is collecting this data across multiple sites – the timing is not always the same. At LA-3 (upstream most site), the pulse of high SC water occurs during the irrigation period, which is out of sync with the lower most site.

The USGS needs stakeholder buy in and discussions on their path forward. The USGS has watershed scale understanding of groundwater SC and temperature and surface water SC and temperature. Their next step is to understand and quantify the groundwater going into stream. Selenium flux into streams is likely dominated by these groundwater inputs (which vary). Some of the input are visible, some could be found using dye. The overall purpose is to find zones where groundwater is entering the stream so they can install a vertical temperature profiler. They could then use the profile of the vertical temperature through time to quantify groundwater flow into the stream. This could tell us how much groundwater inflow fluctuates through time.

This information was presented for awareness and for a desire/opportunity to work with other funded efforts.

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### **Deep Dive Presentation and Well Monitoring Network**

The USGS presented a PowerPoint presentation on Groundwater Levels in the Lower Gunnison Well Network, conducted a “deep dive” presentation on the SMP Workgroup’s questions regarding selenium and mercury, and presented a preliminary SMP Annual Summary Data Release for Water Year 2023. The Lower Gunnison Well Network and the “deep dive” presentations are available upon request. Once the SMP Annual Summary Data Release for Water Year 2023 is finalized, it will be provided to the U.S. Fish and Wildlife Service.

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### **Schedule for next SMP Meeting**

The next Workgroup meeting will occur after the Science Team meeting.

### **ACTION ITEMS**

- The Science Team will have a meeting to look at CRSP MOA funding, see what it’s for, and discuss the scientific merit for different sites in the monitoring network.