

Upper Gunnison Drought Contingency Plan: Task Force

Minutes

September 8th, 2023

Task Force Attendees:

David Fischer (Taylor Local Users Group)
Jesse Kruthaupt (Trout Unlimited)
Susan Washko (Western Colorado University)
Steve Anders (USGS)
Hannah Cranor-Kersting (Gunnison County Stockgrowers)
Brandon Diamond (Colorado Parks and Wildlife)
Mike Rogers (City of Gunnison)
David Gardner (City of Gunnison)
Dustin Brown (Commercial Boating via Zoom)
Julie Nania (High Country Conservation Advocates via Zoom)
Ashley Bembenek (Coal Creek Watershed Coalition via Zoom)
Erin Wilson (Wilson Water Group via Zoom)
Lee Traynham (Bureau of Reclamation via Zoom)
Ed Warner (Bureau of Reclamation via Zoom)
Carolyn de Groot (Town of Crested Butte via Zoom)
Rebie Hazard (Saguache County via Zoom)
John Coy (Hinsdale County via Zoom)
Jon Kaminsky (Bureau Land Management via Zoom)

Other Attendees:

Carrie Padgett (Harris Water Engineering)
Stacy Beaugh (Strategic by Nature)
Sonja Chavez (UGRWCD)
Cheryl Cwelich (UGRWCD)
Alana Nichols (UGRWCD)

I. Introductions, Agenda Review and Working Agreements:

Following introductions Stacy Beaugh conducted a thorough review of the meeting agenda for the group. The primary objective of this meeting was to attain a comprehensive understanding of the DCP process, including the role of the Task Force, process steps, timelines, and deliverables. Moreover, during the meeting, the group had the opportunity to contribute their insights and recommendations

regarding the stakeholder engagement efforts associated with the DCP. The purpose of creating the Task Force will be to position the Upper Gunnison Basin to respond to drought challenges with minimal stakeholder conflict.

II. Drought Contingency Plan (DCP) Overview:

Carrie Padgett provided an overview of the DCP process. She mentioned that all DCP were structured to address three key questions:

1. How would we recognize drought in its early stages?
2. What were the potential impacts of drought on our group?
3. How could we protect ourselves from future drought events?

Throughout the planning process and the collective effort to develop the DCP, the focus will be on addressing these key questions. She mentioned that it was encouraged for the Task Force to engage in open dialogue and to adopt a proactive approach to ensure the establishment of long-term water resilience within the group. Additionally, it was emphasized that these questions would serve as a reference point for future discussions and planning efforts. Carrie mentioned that it was important to avoid the “hydro-illogical cycle,” which ignored drought during favorable conditions and lacked a strategic long-term resilience plan when drought conditions occurred.

Carrie provided an explanation of the DCP. The DCP represents a proactive strategy for non-federal partners to prepare for and respond to drought conditions. Funding for the DCP is allocated through the Bureau of Reclamation's (BOR) Drought Response program, and collaborative efforts will involve Ed Warner and Lee Traynham. It was clarified that our process adheres to the framework outlined by the BOR. The initial phase involves establishing a Task Force and outlining objectives, which was the focus of this meeting. It was noted that as part of the WaterSMART grant requirements, the DCP must also consider the impacts of climate change on water supplies to support long-term resilience. Furthermore, the plan should facilitate drought planning and resiliency projects to create opportunities for future funding, referred to as mitigation and response action plans. A collaborative planning approach is used to foster long-term resilience to drought, with the stakeholder process addressing various aspects, including agricultural, municipal, industrial, recreational, and environmental concerns, while also gathering support for mitigation and response actions.

The DCP consists of six essential elements within the process:

1. **Drought Monitoring:** Establish a process for monitoring drought, and a framework for predicting the probability of future droughts or confirming an existing drought.
2. **Vulnerability Assessment:** Identify potential drought related risks to critical resources within the planning and environmental fields and will evaluate the risks to critical resources within the planning area and factors contributing to those risks.
3. **Mitigation Actions:** Identify, evaluate and prioritize drought actions and activities that will build long-term resilience to drought, mitigate the risks posed by drought, decrease sector vulnerabilities, and reduce the need for response actions.
4. **Response Actions:** Identify, evaluate, and prioritize response actions and activities in coordination with Task Force members, that can be quickly triggered during specific stages of drought and implemented to address and decrease the severity of impacts of an emerging or ongoing drought.

- 5. Operational and Administrative Framework:** Develop a framework to identify who is responsible for undertaking the actions necessary to implement each element of the DCP, including communication with the public about DCP developments and updates.
- 6. Plan Development and Plan Update Process:** The approach taken to develop the DCP will be documented including how stakeholders were engaged and how input was considered, along with schedule for monitoring, evaluating and updating DCP.

Carrie provided an overview of her envisioned workflow for the DCP as follows:

- A. Task Force, Work Plan and Outreach Initiation.**
- B. Background, Study Area, and Historical Data.**
- C. Water Supplies and Demands.**
- D. Drought Monitoring.**
- E. Vulnerability Assessment.**
- F. Mitigation Actions.**
- G. Response Actions.**
- H. Update Process.**
- I. Create Final DCP.**

Following this overview, Carrie engaged the Task Force by inquiring about their areas of interest and expertise within the DCP plan. This was aimed at aligning individual strengths and experiences with the various components of the plan.

Sonja Chavez mentioned a part of the Task Force's role is to serve as a bridge between the discussions in these meetings and the broader community. Their mission includes not only gathering additional feedback but also determining the most effective means of communicating these ideas to the public.

III. Task Force Role:

Stacy Beaugh provided a more detailed explanation of the Task Force's purpose. The Task Force will support the UGRWCD in overseeing and designing the DCP process, working closely with the DCP consultants. Additionally, the Task Force plays a crucial role in ensuring that the planning area's needs are thoroughly considered and addressed in the event of a drought scenario. Each Task Force member will serve as a liaison to the communities and stakeholder groups they represent, facilitating effective cross-collaboration with the DCP. Moreover, they actively contribute to outreach efforts aimed at engaging a broader community of stakeholders, including encouraging public comments moving forward.

Sonja Chavez emphasized the diversity of missions and goals within each organization represented in the Task Force. She noted the importance of achieving a collective agreement on the DCP plan while maintaining a clear understanding of what can and cannot be feasibly accomplished. The aim is to synchronize messaging across the board, fostering unified support from the broader community. Sonja mentioned that although there's substantial discussion about drought, translating these discussions into actionable measures, such as codes and the authority to implement water restrictions, has not been seen in the Upper Gunnison Basin. The Task Force's goal is to act as a conduit, facilitating effective communication with their organizations and implementing agreeable strategies. This includes passing this information to their stakeholder groups and communities, creating a cohesive effort towards DCP objectives.

Stacy Beaugh provided more information into the decision-making structure for the DCP. She clarified that the UGRWCD is the final decision-maker for DCP strategies. The Task Force will serve as a guiding entity, charting the course and determining priorities for their respective organizations and stakeholders. Stacy also emphasized the Task Force's integral role in stakeholder and community outreach efforts, stressing the importance of consistent attendance by Task Force members. The objective is to strive for consensus among the attending Task Force members. If a Task Force member is unable to attend a meeting, a variety of notes and resources will be provided to facilitate catching up on the discussion. The meetings will also be hybrid to give members the option of attending via Zoom. If being a part of the Task Force is too demanding of a commitment, it is advised to recommend someone else with similar interests and expertise to take the place.

IV.

Ashley Bembenek commented she would appreciate written materials ahead of the meetings to review as we get into more serious stages. She also thought sharing presentations and notes after the meeting would be very helpful.

Brandon Diamond commented he would appreciate streamlined communication. When there are too many emails it can be difficult to keep track of.

V. Basic Characteristics in the Context of Water Resource Challenges:

Erin Wilson presented the Upper Gunnison Basin Hydrology. She emphasized the DCP's importance to the Upper Gunnison Basin due to the presence of seven extremely variable watersheds in the area. The annual streamflow varies significantly depending on the snowpack and summer monsoon rains. The graph Erin presented showed that the wet year 2019 annual streamflow was three times higher than dry year 2018 annual streamflow. The next graph showed a 10-year running average streamflow categorized in dry, average and wet periods. The 10-year running average streamflow hit an all time low in 2007 due to five consecutive years of dry hydrology. Since 2000, the Gunnison River has experienced more dry years than any other 23-year period since measurements began in 1908. Erin apologized that her presentation only includes the four tributaries that practice agriculture, and she will add the other tributaries to the presentation for members to view on their own time. The four tributaries included in the presentation are Ohio Creek, Taylor River, East River and Tomichi Creek. The third graph displayed data from the 2016 representative average hydrologic year, representing natural flows for these four tributaries. The percentages of natural flows were as follows: 10% for Ohio Creek, 28% for Taylor River, 31% for East River, and 31% for Tomichi Creek. Erin also provided clarification regarding the term "Natural Flow," explaining that it signifies the hydrologic yield, with any depletion caused by human activities removed from the gage flow measurements.

Erin Wilson continued the presentation, discussing the characteristics and hydrologic challenges of each tributary as presented in the graphs:

For the East River, it was noted that depletions were relatively small compared to natural flow, ranging from 5% in wet years to 17% in dryer years. Most "consumptive" use was for irrigation, along with some municipal use in the Crested Butte area. East River and its tributaries are widely used for recreation. Furthermore, peak runoff generally occurred in mid-June, but in dryer years, it could peak in early May. Larger tributaries to the East River included Slate River and Coal Creek. The hydrologic challenges for the East River were identified as quicker runoff as temperatures increased, which would reduce the period of optimum recreational flows. Additionally, inconsistent winter snowpack might

impact skiing opportunities and associated economic benefits. There could also be increased competition between agricultural water users/landowners and recreational enthusiasts.

Regarding the Taylor River, it was mentioned that annual natural flows were significantly altered by Taylor Park Reservoir operations, as water was stored during runoff and then released during low-flow periods for recreational flow purposes and downstream users. Stream flows were lower than natural flows in May–July due to water storage and higher than natural flows in Oct–April as releases were made. Storage was carried over in wet years and available in subsequent dry years. Annual flows were greater than natural flows in dry years, especially following an average or wet year when Taylor Park Reservoir carried over storage. The presentation highlighted that 2018 was a very dry hydrologic year following the wet 2017 hydrologic year, with water stored in 2017 being released in 2018. The hydrologic challenges for the Taylor River included uncertainty about whether the reservoir could meet its intended purposes during more than five consecutive dry years, despite robust and flexible reservoir release and bypass agreements that supported both stream and reservoir recreation, even during the recent 22-year drought period.

In the case of Ohio Creek, it was characterized as a "working" river, with a significant portion of runoff diverted for irrigation. Depletion during dry years accounted for more than 50% of natural flow. It was noted that there is essentially no storage in the watershed, and most ditches experience shortages in the late irrigation season, regardless of the hydrologic year type. The hydrologic challenges for Ohio Creek included the impact of quicker runoff due to increasing temperatures, further limiting water available during the irrigation season and resulting in larger crop shortages and economic impacts to the agricultural industry. There was also the potential for increased competition between agricultural water users/landowners and anglers.

As for Tomichi Creek, its characteristics were presented, indicating that diversions were greater than natural flow due to the re-diversion of irrigation return flows downstream. The gravelly soils in the area required significant diversions, especially early in the irrigation season, to fill the soil zone and allow for efficient irrigation. Tomichi Creek had minimal storage for irrigation, but the re-timing of natural flows allowed more water to be available for diversions, providing similar benefits to storage. The advantages of return flows, observed during the runoff through the late irrigation season, were more pronounced during dry years but were important even in wet years. This efficient irrigation method was also practiced on Ohio Creek due to similar gravelly soil profiles. The hydrologic challenges on Tomichi Creek were identified as quicker and reduced runoff due to increasing temperatures, which further limited water available during the irrigation season and resulted in larger crop shortages and economic impacts on the agricultural industry. It was noted that changes in historical irrigation practices could reduce return flows and impact the water available to downstream ditches.

Erin provided a comprehensive overview of the hydrologic trends that show the necessity of developing a Drought Contingency Plan for the District. Her presentation included data trends illustrating Gunnison's average irrigation season temperatures from 1894 to 2022 in comparison to average non-irrigation season temperatures over the same period. She emphasized the year-to-year variability in temperature and the direct correlation between higher irrigation season temperatures and increased crop irrigation demand. Notably, Erin highlighted that the average irrigation season temperature from 2000 to 2022 was 0.6 degrees Fahrenheit warmer than the average from 1894 to 1999, while the average non-irrigation season temperature from 2000 to 2022 was 0.2 degrees Fahrenheit warmer than the historical average. Although both irrigation season and winter temperatures displayed a slight warming trend, they have not experienced as significant an increase as other regions in the western United States. Erin also

presented two comparative graphs, illustrating Gunnison's total irrigation season precipitation from 1948 to 2020 (May-September) and total non-irrigation season precipitation from 1948 to 2020 (October-April). She emphasized that irrigation season precipitation is reliant on Monsoonal flow patterns, which exhibit considerable year-to-year variability, surpassing that of temperature. In terms of precipitation trends, Erin highlighted that while 2022 experienced higher precipitation levels in certain months, the overall precipitation for the full irrigation season remained below the historical average. Both irrigation season and winter precipitation have been on a declining trajectory since the early 2000s. Of significant note, Erin underscored that the diminishing precipitation is having a more pronounced impact on reduced runoff in the Upper Gunnison basin compared to the effects of increased temperature. These data-driven insights were presented to provide a clear understanding of the driving factors behind the imperative need for the District to formulate a Drought Contingency Plan.

Julie Nania raised the question of whether the DCP process would address water quality concerns, as drought conditions are known to be associated with water quality issues.

Carrie Padgett answered by emphasizing the importance of addressing water quality as a significant concern. While she didn't present a specific solution at this time, she highlighted the need for the group to collectively explore and address this issue in the DCP analysis.

VI. Draft Detailed Work Plan:

Carrie Padgett provided a detailed scope of work (aka Draft Work Plan). The Draft Work Plan describes in detail the tasks necessary to develop a plan, including a detailed budget and project schedule with assigned responsibilities. The draft must be submitted to BOR and approved prior to any substantive work that begins on the DCP process. The four required sections are Introduction, Planning approach, Documentation and Reporting, and Communication and Outreach Plan. Carrie drafted a detailed work plan to be reviewed by the Task Force. She presented questions for the Task Force to help them through their review of the work plan.

Carrie also presented Table 1, which outlines the detailed work plan schedule for the Task Force to review and adhere to during the DCP process. In her remarks, she drew attention to a critical milestone: following Task 7, there is a mandatory 30-day comment period stipulated by the grant requirements. Depending on the feedback received during this period, additional comment periods may be necessary to ensure that all comments and concerns are thoroughly addressed.

Table 1:

TASK	2023							2024							2025				
	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Task 1. Complete Initial Drought Contingency Planning Steps and Conduct Outreach				◆															
Task 2. Drought Monitoring																			
Task 3. Vulnerability Assessment																			
Task 4. Mitigation Actions																			
Task 5. Response Actions																			
Task 6. Operation and Administrative Framework																			
Task 7. Plan Development and Plan Update Process																			
Task 8. Project Agreement Management																			

Stacy Beaugh also emphasized that the drought monitoring task is primarily focused on identifying potential future data collection needs rather than the execution of actual data collection projects.

VII. Stakeholder Engagement Plan:

Stacy Beaugh delivered insights into the stakeholder engagement plan for the DCP process. She emphasized the significance of receiving input from the Task Force regarding the communication and outreach strategy. The proposed ideas for engagement included:

1. Identifying stakeholders
2. Maintaining a dedicated website/e-newsletter
3. Conducting interviews
4. Hosting open Task Force meetings
5. Directly engaging with existing stakeholder working groups
6. Organizing stakeholder-wide meetings
7. Establishing a public comment period

She was interested in hearing additional ideas from the group to help shape the stakeholder assessment. Furthermore, she presented a list of potential stakeholders and encouraged Task Force members to provide input on any stakeholders that might be missing from the list. The Task Force members contributed additional stakeholders to the existing list. These proposed additions include Colorado State University (CSU) Extension, Ute Mountain Ute Tribe (UMUT) – Pinecrest Ranch, Regina Lopez-Whiteskunk, CO River Outfitters Association, Sustainable Tourism and Outdoor Recreation, Crested Butte Chamber of Commerce, Gunnison Chamber of Commerce, Crested Butte Land Trust, Community Wildfire Protection Plan, Wildfire Ready Watersheds – UGRWCD, and stakeholders engaged in mining and water quality projects. The Task Force put forward valuable suggestions during the meeting for consideration in future meetings and throughout the DCP process:

1. Interest was expressed in gaining a deeper understanding of stream temperature exceedances, including insights into the ISF lease and Peterson's pilot. The opportunity to collect data from entities such as UGRWCD, BLM, and TU was discussed, highlighting the potential for more detailed trend analysis and the development of a comprehensive framework.
2. There was also an expressed interest in evaluating groundwater resources, with Erin having explored preliminary efforts in quantifying groundwater use. Reference was made to the USGS

return flow study and the availability of data from the City of Gunnison's monitoring efforts, encompassing pumping from the alluvial aquifer and domestic wells, which on a small scale, could be shared.

3. Task Force members noted the importance of considering opportunities to engage students in relevant aspects of the DCP process.
4. Stakeholder engagement is oriented toward outreach, presentations, and engagement with various entities, including city councils (during work sessions), stock growers, etc. The potential avenues for engagement encompassed newspaper articles, sharing links and QR codes, as well as radio and podcast interviews.
5. It was clarified that engagement in the plan or its implementation is not regulatory.

These insightful contributions from the Task Force members will be considered as the DCP process progresses.

Stacy explained that the primary objectives on the agenda for the next meeting will include discussing and seeking approval for the detailed work plan. Additionally, the meeting will focus on informing and strategizing stakeholder engagement efforts.

The meeting was adjourned by Stacy Beaugh at 10:48 a.m.
