

Project Title: Upper Gunnison River Basin Drought Contingency Plan

Applicant Name: Upper Gunnison River Water Conservancy District
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April 14, 2022



PHOTO: Dam maintenance on Razer Creek above the confluence with the Tomichi River

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Technical Proposal & Evaluation Criteria

Executive Summary

Date: 13 April 2022
Applicant: Upper Gunnison Watershed Conservancy District (District)
City(s): Gunnison, Town of Lake City, Crested Butte, Mt Crested Butte, and Crested Butte South
County(s): Gunnison, Hinsdale, and Saguache
State: Colorado

The Upper Gunnison River Water Conservancy District (District), located in the headwaters of the Colorado River Basin in Gunnison, Colorado, represents water users in portions of Gunnison, Hinsdale and Saguache counties in the Upper Gunnison basin. The basin has been experiencing persistent drought over the past 20 years with back-to-back extreme droughts in 2002-04, 2011-13, 2015, and 2018-present. The District is proposing to use Bureau of Reclamation (BOR) WaterSMART funds to develop a new, comprehensive Drought Contingency Plan (DCP) that will build long-term resilience to drought in the Upper Gunnison Basin. Phase 1 funds will be used for the establishment of the Task Force and to develop a detailed work plan including a Communication and Outreach Plan. Phase 2 funds will be used for the plan development and will address the six (6) required elements of the Drought Response Framework and Directives, and Standards. The District anticipates that the plan will have to re-evaluated and updated annually given anticipated growth in the Upper Gunnison watershed. It is vital for the District to secure their water resources, prepare for and reduce risk of water shortages, and provide alternatives to build short- and long-term resilience to drought. The District understands that drought planning efforts will help to enhance water supply reliability, improve water conservation, and reduce the negative effects of drought and potential conflict through cooperation, education, preparedness, mitigation actions, and response actions. A critical challenge to the communities within the District is planning and designing for resilience from the impact of droughts with regards to sustainable management of water resources. The District will work with local water users including municipalities, industry, educational institutions, agricultural producers, recreationists, and environmental groups to prepare a Drought Contingency Plan (DCP) that identifies agreed upon mitigation actions and activities that help to facilitate community cooperation and minimize conflict. There are two Reclamation facilities in the project area: Blue Mesa and Taylor Park Reservoirs. The District will leverage this project with other on-going efforts including municipal source water protection planning, identification of forest and wildfire zones of concern and critical infrastructure, watershed and stream management planning, community wildfire protection planning, land use code updates, and community drought conservation messaging. The District anticipates that this project will take two years, with an anticipated award made late Summer 2022 with a contract and Notice to Proceed beginning November 2022 and completed by December 2024.

Project Location

The Upper Gunnison River Basin Drought Contingency Plan project area is in the Upper Gunnison River watershed of the Colorado River Basin in Colorado. Specifically, the project is located within the boundaries of the Upper Gunnison River Water Conservancy District as depicted on the map and covers portions of Gunnison, Hinsdale and Saguache counties. There are two federal Reclamation facilities including Taylor Park and Blue Mesa Reservoirs.

Project Description

This proposal follows objectives under Task A for developing a NEW Drought Contingency Plan (DCP). This proposal has been divided into two phases following the cooperative agreement structure of this project. Phase 1 includes all the steps to be established in the financial assistance agreement the District will enter with BOR once the proposal is selected for award. Phase 2 of this project incorporates the six required elements to develop a DCP as well as overall project management.



Phase 1

Complete Initial Drought Contingency Planning Steps

Establish the financial assistance agreement following the required DCP steps, before the planning activities, to clearly coordinate funds and timeframes with BOR.

- **Task A: Hire a DCP coordinator** consultant.
- **Task B:** Expand and Recruit as needed to **establish the DCP task force** with diverse membership and inclusion of stakeholders within the planning area.
- **Task C:** Hold District-wide **DCP Task Force meetings**, monthly at a minimum—as needed subgroups or technical committees may be formed.
- **Task D:** Develop a **detailed work plan** in consultation with Task Force members and BOR to describe in detail how the six required elements of a complete DCP will be accomplished.
- **Task E:** Develop a **communication and outreach plan** in consultation with Task Force members to execute the detailed work plan explaining how stakeholders and members of the public will be involved.

Phase 2

(1) Drought Monitoring

The District will establish a process for monitoring drought (both near and long-term water availability), and a framework for predicting the probability of future droughts or confirming an existing drought. This includes a process for the collection, analysis, and dissemination of water availability and other drought-related data (e.g., snowfall, precipitation, temperature, and streamflow levels, among other indicators). The DCP will also explain how data will be used to predict or confirm droughts, including identifying metrics and triggers (e.g., reservoir level reached at a specific reservoir and use of specific drought indices) that may be used to define stages of drought, to trigger mitigation or response actions, and to define the different stages or levels of severity of drought.

- **Task A: Review drought monitoring procedures** for local water supplies. This will include public learning sessions with presentations and reports from BOR, USGS Stream gaging, RMBL, NCAR, Colorado Basin River Forecast Center (CBRFC), National Weather Service, NOAA, and the Stockgrowers Association.
- **Task B: Select the indicators, classifications, and triggers** that are most appropriate. (Flows, storage levels, snowpack and soil moisture data, and more will inform this effort.)
- **Task C: Establish a process for monitoring** near-and long-term water availability based on the selected indicators, classifications, and triggers.

(2) Vulnerability Assessment

Identify potential drought related risks to various sectors including human health, economic and environmental fields and will evaluate the risks to critical resources within the planning area and the factors contributing to those risks. This assessment will drive the development of potential mitigation and response actions. The assessment will be based on a range of future conditions, including the effects of climate change. It will describe the reliability and vulnerability of the water supply to seasonal or climatic shortage including the effects of climate change and uncertainties related to changing hydrologic conditions. The purpose of this task is to determine how a drought affects the resources of the District and various other supplies within the Plan Area.

- **Task A:** Identify and **evaluate recent and historic drought** periods and their possible impacts to the communities. Note lack of redundancy in potable water supply systems and the impact of potable water consumption from summer tourism during late summer and fall, when water supply systems are most challenged.
- **Task B:** Perform an **analysis of historical water supply and consumption** (both demand and supply) using available information to evaluate tendencies over time.
- **Task C:** Analyze and evaluate **future climate change scenarios** and drought impacts, including precipitation and temperature patterns, wildfire threat, and how they exacerbate drought conditions within the District.
- **Task D: Develop drought magnitude-frequency estimates to obtain scenarios of expected** drought and its return period at a regional/local scale.

(3) Mitigation Actions

Identify, evaluate, and prioritize drought mitigation 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. The mitigation actions identified in this task are intended influence community planning and zoning efforts underway.

- **Task A: Identify possible mitigation measures** to be implemented in advance to address potential risks and impacts of drought conditions. This may include things like creating redundancy in potable water supply by drilling a ground water well in a community that solely relies on surface water; slip-lining or piping a ditch to improve water delivery; improving agriculture application methods; and/ or installing storage tanks for emergency use.
- **Task B: Evaluate and prioritize mitigation actions by sector** (e.g. agriculture, environmental, outreach and education, tourism, and health) that will mitigate the risks posed by droughts exacerbated by climate change scenarios.
- **Task C: Develop a list of actions and potential projects** that would increase water reliability and help to build long-term resilience to drought. This list will be organized with ease of implementation, potential benefit, cost, etc. For example, Western Colorado University paid over \$10k to use potable water for irrigation and a solution might be to move non-potable water into their irrigation system to avoid diminishing water availability for human consumption.

(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.

- **Task A: Detect, classify and prioritize a list of response actions and potential projects** to be taken under the different stages of drought throughout the District.
- **Task B: Establish a staged approach** that considers the best way to equitably and fairly allocate drought water resources to the various types of water needs. This includes estimating water savings, impact to users, lead time to activate response actions, implementation costs, and procedural requirements.
- **Task C: Develop well-established communication avenues** that can be employed across the District through outreach campaigns during 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 communicating with the public about DCP developments and updates.

- **Task A: Create the District's DCP protocol for public communications, interagency coordination, and cost sharing.**
- **Task B: Define roles, responsibilities, and procedures** for DCP development to initiate mitigation and response actions as well as to conduct drought monitoring.

(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 a schedule for monitoring, evaluating and updating the DCP.

- **Task A: Define the frequency and/ or trigger(s) for an update** to the DCP. If a trigger is not pulled, the District and the Task Force will review the DCP every 5 years. Interim reviews could take place on for example watering restrictions and reports of abuse. If reports of abuse are over a certain threshold, a resulting change in local policy could be to revert to fines.
- **Task B: Define the organizational framework and processes** that will be followed to accomplish updates.

Project Agreement Management

Provide regular updates of the project status and compile progress reports for submittal to Reclamation, and coordinate the District CDP Task Force, stakeholders and outreach meetings, and develop public outreach materials.

Evaluation Criteria

A. Need for a Drought Contingency Plan

The Gunnison River Basin contributes approximately 16% of the annual natural streamflow within the entire Upper Colorado River Basin. A 2013 study indicated that streamflow within the Gunnison Basin would decrease by 15% through 2099. Today, climate scientists indicate that warming temperatures will drive streamflow decreases of 20% by midcentury and 35% by the end of the century.¹

Municipalities and owners of land in unincorporated portions of the counties within the District boundary rely upon domestic supplies from either groundwater wells or surface water but only have access to one or the other which creates vulnerability during times of drought or from potential contamination events like spills or wildfire. For example, the City of Gunnison relies upon a series of drinking water wells that fluctuate seasonally depending upon groundwater alluvial recharge from surface water application to surrounding irrigated agricultural lands and diversions into ditch systems. This creates concerns when the ditch systems are off and irrigation ceases, especially in the shoulder seasons. As a second example, the Town of Crested Butte relies on surface water supplies in Coal Creek for municipal uses which become limited during the tourist season, especially in drought years (hotels and restaurants are packed which increases water supply demand and stresses the system). In addition, should surface water supplies become contaminated from wildfire, there are no identified alternative water sources nor redundancy with their systems.

The Upper Gunnison watershed is also dealing with water quality concerns including Clean Water Act 303(d) listed segments for exceedances in water quality standards. Water quality issues include arsenic, iron, cadmium, selenium, zinc, lead, copper, e. coli, temperature, and total phosphorus. Many of these issues are related to historical mining operations. Compliance

¹ Bradley Udall, Jonathan Overpeck, 2017 The twenty-first century Colorado River hot drought and implications for the future

issues will increase as there is less water for dilution. Many of these stream reaches are also tributary to Blue Mesa and Taylor Park Reservoirs. The potential impact of emergency Drought Response Operational Agreement (DROA) releases on water chemistry in Blue Mesa Reservoir may lead to more frequent issues with Harmful Algal Blooms (HABs) or downstream water quality.

Drought also impacts local wildlife including increasing stream temperatures that can make the local fishery more susceptible to disease and mortality. Rapidly changing climate conditions and large swings in year-to-year hydrology impact survival of species like the federally threatened Gunnison sage grouse. The Gunnison Basin is the largest area for brood rearing habitat at 85%, and occupied habitat at 65%. Around 2007 numbers were approximately 4,500 but since then have plummeted with only about 2,500 left in existence. Biologists believe that huge swings in hydrology between 2018, 2019, and 2020 have had a significant negative impact on population numbers.

The agronomic economy fluctuates with a recent boom in the recreational economy, and drought affects the socioeconomic instability of the entire Upper Gunnison basin. For instance, ranching is an important part of the culture, economy and recreational beauty of the Upper Gunnison River basin. Local ranchers and their livestock are impacted by aridification as historic grazing lands dry up and springs and stock wells no longer produce water. In addition, grazing lands are becoming overtaken by invasive cheatgrass which outcompetes other forage grasses. Weathering frequent drought often means reducing the acreage of land that can effectively be irrigated or reducing herd size which affects genetics that took decades to establish.

The local boating community has for the past 20 years seen shortened seasons by 4-6 weeks due to lack of sufficient water to float and flatwater recreationists have ended their seasons early due to Drought Response Operational Agreement (DROA) emergency releases from Blue Mesa Reservoir. This has resulted in local economic losses to hotels, restaurants, marina and downtown merchants. Finally, the Upper Gunnison Valley has seen unprecedented new development during COVID which is good for the economy but presents big concerns for the community on availability and reliability of water supplies in an already stressed system.

Many residents of the Upper Gunnison basin look back to the years of 2002-2003 as the worst drought on record. These years brought to light the vulnerabilities within our basin. During these years some domestic wells with non-functioning augmentation plans were found to be inadequate by the Colorado Division of Water Resources (CDWR) for a number of reasons. Well owners were contacted to notify them that DWR would be administering those private wells. In response, the District purchased Meridian Lake Reservoir in 2005 and now sells augmentation certificates for out of priority depletions. In 2002-03, the Uncompahgre Valley Water Users Association also placed an administrative call on the Upper Gunnison District to satisfy their senior demands downstream. In response, the District purchased 4,500 AF of Aspinall Unit Water to send downstream to them. Following the dry years of 2012 and 2013, Blue Mesa Reservoir was 41% full and Taylor Park Reservoir was 54% full. At the end of 2021, Blue Mesa Reservoir was 25% full (the lowest in history since filling and not accounting for an intentional release in the 80's due to huge snowpack) and Taylor Park Reservoir was 56% full.

As a second example, on Oct. 13 of 2020, all of the areas within the District's boundary were in D3 extreme drought or worse, with the top 1 meter of soils classified as *very dry* (Drought Monitor).

Existing planning efforts that relate to this project proposal include:

- Phase 1 Fire Hazard Mapping underway, May 2022
- Phase 1 Watershed Health Assessments underway, December 2022
- Geofluvial Assessments, underway, August 2022
- City of Gunnison Water Master Plan Report, complete 2021
- Source Water Protection Planning, City of Gunnison, anticipated June 2022
- Source Water Protection Planning, Mt. Crested Butte and Town of Crested Butte, 2022-2023
- Upper Gunnison Basin Watershed & Stream Management Planning, December 2023
- City of Gunnison Climate Change Planning Initiative underway, 2022

The watershed fire hazard assessment is being developed with significant input and collaboration with local governments, land management agencies, NGO's and wildfire and rangeland management specialists. Other watershed health assessments complimenting this effort including identifying the loss of wetlands which capture and slowly release water back to the river systems. Geo-fluvial assessments are identifying areas at risk of post fire debris flows and sediment source and depositional zones with mitigation actions including reestablishment of braided floodplains and vegetation management (thinning or removal of beetle kill) which can help mitigate fire. The District's Wet Meadow and Riparian Stream Restoration program can help reduce sedimentation from post-fire debris flows, improve water quality, and help retain moisture on the landscape. Source water protection plans will also identify areas of vulnerability within the municipal drinking water supply systems including potential for source water contamination and wildfire risk and associated infrastructure needs (infiltration needs and supply redundancy). In addition, historical mines will be examined to assess risk associated with potential water quality contamination if these mine sites burn. Watershed and stream management plans being developed with the input of the local community are identifying values and risk to values. The DCP can help identify areas of potential conflict and opportunities for actions to mitigate impacts to water resources in the Upper Gunnison basin.

The City of Gunnison is home to 6,600 residents, fluctuating yearly with University students. In 2021, the City of Gunnison reached out to Western Colorado University to limit their use of potable water to irrigate grounds and practice fields due to system supply stress. As droughts become more persistent in the future, the City needs to be able to enforce watering rules to conserve potable water.

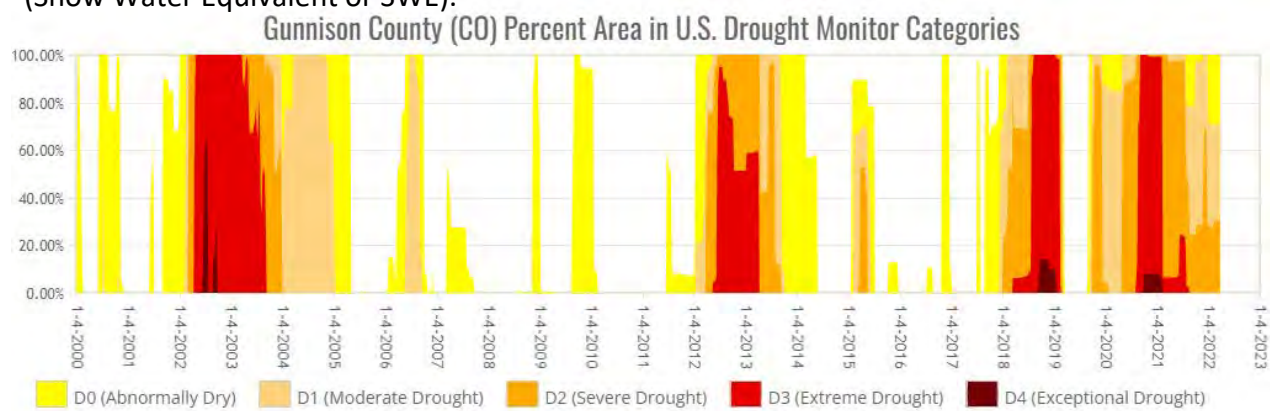
The Gunnison Valley has become a popular tourist destination. With Crested Butte Mountain Resort for skiing in the winters, and a multitude of hiking, fishing, biking and hunting on over one million acres of public land. Rapid development is also occurring as investors/second homeowners are flocking to the area in record numbers. As these numbers increase, our water supply is equally decreasing. Water conservation is becoming ever more important as our local economy grows. We need to be able to provide sufficient safe drinking water to our citizens and growing tourist population and conservation is the only solution.

Other Upper Colorado River basin concerns include risks associated with poor hydrology, diminishing water supplies and Colorado River Compact Compliance.

We anticipate that Upper Gunnison Basin residents and visitors will need to become accustomed to increasing rate structures for indoor and outdoor residential and commercial water use, restrictions on size of lawns, requirements for native drought tolerant species, community lawn watering restrictions, possible transition to drought tolerant grass hay seed mixtures that can withstand deficit irrigation and a hotter climate (studies underway), need for smaller off-channel re-regulation facilities, permitting program for floating local rivers in order to manage number of users on the river at a given time and reduce impacts to the fishery.

According to the Colorado State Forest Service, “Significant further warming is expected in Colorado, by another 2.5°F to 6.5°F by 2050 based on projections from Global Climate Models (GCMs) developed by NOAA, NASA, the National Center for Atmospheric Research and other research groups. Earlier springs and hotter summers are projected throughout the state, with more frequent and severe heat waves. The hottest summers from Colorado’s past may be indicative of the average summers of the future. Temperatures experienced today only at lower elevations are projected to creep upward into the mountains. Continued warming is expected to reduce Colorado’s spring snowpack levels and cause earlier snowmelt and runoff, and potentially lower runoff overall, impacting water availability for municipalities, agricultural producers and native trees and vegetation. Most climate projections also indicate that droughts and wildfires will increase in frequency and severity in Colorado by 2050, mainly as a consequence of continued warming.”²

Over the last twenty years, the Upper Gunnison basin has experienced frequent and prolonged, multi-year droughts. The U.S. Drought Monitor publishes historical drought conditions across the U.S. When pulling data for Gunnison County for example, we can see that the area experienced severe to exceptional drought conditions in 2002-2004, 2011-2013, 2015, and 2018-2022 current. These conditions have stressed the vegetation within our forests increasing susceptibility to disease and bark beetle infestation, causing extremely dry soils conditions in the first meter across the entire Upper Gunnison watershed, reduced stream flow runoff volume, caused earlier and more rapid seasonal snowmelt, and increased fire risk. In addition, five out of the last seven years, have seen below average Gunnison River Basin Snowpack (Snow Water Equivalent or SWE).



² Colorado's Forests in a Changing Climate - Colorado State Forest Service (colostate.edu)

B. Inclusion of Stakeholders

Since 2017, the District has undertaken a comprehensive watershed and stream management planning process. Through that effort we have established a diverse network of stakeholder and stakeholder work groups and methods for obtaining input from our local community, city and county governments and state and federal agencies.

Many of the stakeholders on the below list have formed focused working groups, described below. These existing networks will enable organic cross collaboration with the DCP effort:

Growing Gunnison Water Smart Municipal Work Group was an outcome of a climate action effort focused on training watershed groups in communications, public engagement, planning, and policy implementation tools to realize watershed health and community resiliency goals. Local representatives include Gunnison County, Towns of Gunnison, Crested Butte, Mount Crested Butte, the District and High Country Conservation Advocates. Quarterly meetings.

Upper Gunnison Shared Stewardship Council meets monthly and is made up of representatives from the District, State Forest Service, USFS Grand Mesa Uncompahgre Gunnison District (GMUG), Hinsdale County, Gunnison County, Montrose County and West Regional Wildfire Council to name a few.

UGRWCD Forest & Watershed Health Technical Subgroup meets monthly and is made up of representatives from the District, USFS-GMUG, CPW, BLM, and several technical consultants focused on basin-wide assessments (geofluvial, wetland, vegetation, wildfire behavior, etc).

Slate River Working Group is convened by the Crested Butte Land Trust to identify and address river-specific management opportunities present on the Upper Slate River by engaging stakeholders from the Crested Butte Land Trust, the Town of Crested Butte, local ranch operators and landowners, BLM, CPW, Coal Creek Watershed Coalition, High Country Conservation Advocates (HCCA), the District, Gunnison County, Skyland Metro District, Irwin Guides, CB SUP. Focus is reducing river conflict.

Gunnison Sage Grouse Working Group was founded in 1995 has representatives from Audubon, BLM, local citizens and landowners, Gunnison County, Gunnison County Stockgrowers, Western Colorado University, NRCS, CPW, USFWS, USFS, USPS, and the District.

Gunnison Valley Beaver Believers uses beaver dam analogs to restore wetlands on forested lands in the Taylor Park watershed. The table (next) lists the District's ever-growing network of existing and desired stakeholders that we will engage for this DCP process. Current interest for each stakeholder is indicated:

- **(\$)** indicates a monetary contribution to the project and **(\$*)** have provided a letter.
- **(IK)** offers in-kind contributions of time and/ or travel and **IK*** have provided a letter.
- **(TF)** will serve on the DCP Task Force (TF) and **(TF*)** have provided a letter.
- **(S)** indicated some level of support for this project **(S*)** and have written a letter.

The DCP will continually evaluate this list for recruitment and diversity inclusion.

KNOWN COMMITTED & SUPPORTING STAKEHOLDERS

| ENTITY | SECTOR | \$ | IK | TF | S |
|---|----------------------|----|----|----|---|
| U.S. Bureau of Reclamation (BOR) | Federal | * | | | |
| U.S. Forest Service (USFS) | Federal | | | | |
| US Fish and Wildlife Service (USFWS) | Federal | | | | |
| U.S. Bureau of Land Management (BLM) | Federal | | | | |
| U.S. National Park Service (NPS) | Federal | * | | | |
| U.S. Natural Resource Conservation Service (NRCS) | Federal | * | | | |
| U.S. Geologic Survey (USGS) | Federal | * | | | |
| U.S. Department of Energy (DOE) | Federal | | | | |
| U.S. Environmental Protection Agency (EPA) | Federal | | | | |
| Colorado Parks & Wildlife (CPW) | State Agency | | | | |
| Colorado Department Public Health & Environment (CDPHE) | State Agency | | | | |
| Colorado Division of Reclamation Mining & Safety | State Agency | | | | |
| Colorado Division of Natural Resources | State Agency | | | | |
| Colorado Water Conservation Board | State Agency | ? | | | |
| Upper Gunnison River Water Conservancy District | State Water District | * | | | |
| Lake Fork Valley Conservancy District | State Water District | | | | |
| Gunnison Conservation District | State Soil District | | | | |
| Gunnison County | County Govt. | | | | |
| Hinsdale County | County Govt. | | | | |
| Saguache County | County Govt. | | | | |
| Ute Mountain Ute Pinecrest Ranch | Tribal Property | | | | |
| City of Gunnison | Municipality | | * | | |
| Town of Crested Butte | Municipality | | * | | |
| Town of Mt Crested Butte | Municipality | | | | |
| Town of Crested Butte South | Municipality | | | | |
| Town of Lake City | Municipality | | | | |
| Town of Parlin | Municipality | | | | |

| ENTITY | SECTOR | \$ | IK | TF | S |
|--|----------------------------|----|----|----|---|
| Taylor Local Users Group | Recreational, Agricultural | | | | |
| Gunnison County Stockgrowers | Agricultural | | | | |
| Wilson Water Group | Research, Environmental | | | | |
| JW Associates | Research, Environmental | | | | |
| Watershed Science and Design | Research, Environmental | | | | |
| Round River Designs | Research, Environmental | | | | |
| Western Region Wildfire Council | Research, Environmental | | | | |
| Alpine Environmental Consulting | Research, Environmental | | | | |
| High Country Conservation Advocates | Environmental | | | | |
| Coal Creek Watershed Coalition | Environmental | | * | | |
| Gunnison Valley Beaver Believers | Environmental | | | | |
| Rocky Mountain Biological Laboratory | Research, Environmental | | | | |
| Lawrence Berkley National Laboratories | Research, Environmental | | * | | |
| Western Colorado University | Higher Education | * | | | |
| Trout Unlimited | Environmental | | * | | |
| Colorado Trout Unlimited | Environmental | | | | |
| Rocky Mountain Water Environment Association | Environmental | | | | |
| The Sonoran Institute | Environmental | | | | |
| American Whitewater | Recreational | | * | | |
| Gunnison-Crested Butte Regional Airport | Industrial | | | | |
| Gunnison Valley Health Hospital | Industry | | | | |
| Crested Butte Mountain Resort | Industry | | | | |
| | | | | | |

C. Project Implementation

2-Year Approach

The District's proposed approach for developing the DCP within is provided in the Project Description section above, and more detail will be found in the budget. The general timeframe includes the District submitting the draft of the DCP to Reclamation and the public for review at least 6 months from the end of the 2-year project period and incorporating review comments from the public and Reclamation and submitting the final DCP to Reclamation for review and acceptance at least 1 month from the end of the 2-year project period.

The table below illustrates the proposed timeline to complete each of the tasks described in the Project Description section, along with milestones/ deliverables, responsible party(s), and cost. A formal schedule will be developed after the grant award process and the Detailed Workplan is complete.

Over 24 months, Task Force members will be asked to attend monthly planning meetings, averaging 2.5 hours in length. On average, this is a 60-hour commitment per member for the two-year period. The last 4-6 months will be spent getting significant public input on the DCP plan and preparing for publication of the final report and project implementation.

Existing Data

A sample of the known data that will be utilized includes data from the Upper Gunnison Basin Cloudseeding program, Snotel and Snolite stations, field snow course measurements, Aerial Snow Observatory (ASO) flights, long-term stream flow gages, wet meadow and stream restoration program monitoring, and information from producers who are on the ground. Climate data will be obtained from Rocky Mountain Biological Laboratory, NCAR's WRF hydro model development for the Taylor Watershed, CBRFC reports, historical and new aerial imagery and Drought Monitoring Index (DMI). Within the project period weather forecasting accuracy will be greatly improved with planned installation of a new Gap Weather Radar station near Blue Mesa reservoir fall of 2022 and which will cover the entire Upper Gunnison District. The USGS has also selected the Upper Gunnison River basin for their intensive 10-year Next Generation Water Observation System data collection effort.

Previous Work

Public Awareness: In 2021, the District started a community drought awareness campaign with the slogan "Be an Upper Gunnison Water Hero—Conserve". Yard signs were placed in residential yards and stickers, water bottles, and canvas grocery bags were distributed at public events. In addition, regular PSAs were placed in the newspaper and on the radio from May to September. Our community rallied behind conservation and yard signs remained even throughout the winter. This District program can bring in additional partnerships and funding to have a cooperative valley wide program. We can build upon this program and add new ideas that come from the Task Force.

Policy and Regulations: The Town of Crested Butte and Crested Butte South have implemented watering restrictions. Some of the municipalities are working on Land Use Code (LUC) regulations around indoor and outdoor water use efficiency and others need support due to staffing resource issue. The City of Gunnison recently completed a Water Master Plan Update. The County is also working toward on LUC changes for development in the wildland urban

interface. The District also leads a Taylor Local Users Group to obtain input on recommended flow releases from Taylor Park Reservoir for the benefit of agriculture, recreation, and environment (fishery). There are also a number of In Stream Flow (ISF) rights that have to be managed utilizing our augmentation water sources.

Mitigation projects: Examples of past or proposed mitigation projects include:

- *District Riparian & Wet Meadow Restoration:* Use of low-tech/low-cost natural structures to repair incised and degraded stream channels and restore wet meadows that improve water quality and habitat, serve as natural fire breaks across the landscape, and reduce the effects of drought.
- *Increase Storage:* Optimize agricultural delivery systems to include for example small off-channel re-regulation facilities to help match supply with demand or look for opportunities to create efficiency with the system (piping two parallel ditch systems).
- *River/ Stream Restoration & Assessment:* Repair degraded channels and streambanks by restoring riparian vegetation which help to restore natural channel widths deepening the water and shading the stream to reduce temperatures for aquatic dependent species.
- *Irrigation efficiencies (diversion, delivery, and application):* Help community repair degraded or non-functioning irrigation delivery system infrastructure, conduct on-farm field studies of drought tolerant grass hay species suited to high elevation, deploy new irrigation scheduling technology, experiment with deficit irrigation practices that may work differently in various soil and grass types throughout the basin, etc.
- *Conservation:* Work with municipalities to update their LUCs to incorporate indoor and outdoor water conservation practices/requirements. Help community access turf removal funding passed through recent legislation. Provide free drought tolerant flower seed mixtures or reduced cost on drought tolerant seedlings.
- *Staffing:* Provide funding support to hire a water conservation technician position through NRCS or local Colorado State University Cooperative Extension.

Response actions: Examples of past or potential mitigation response actions:

- *Residential:* (1) Delay opening City of Gunnison irrigation ditch system to conserve water and delay residential lawn watering (implemented in 2013 and saved ~1,000 AF); (2) Implement lawn watering timing and frequency restrictions or indoor water use reductions that can be monitored through metering; and/ or (3) Implement different rate structures or fines for those who overuse water.
- *Agricultural:* Ask agricultural community to reduce diversions by 10% or work more closely on cooperative sharing.
- *Recreational:* Prepare boaters for shortened season or provide water on weekends while also asking agricultural water users to reduce water use on weekends or important holiday weekends when possible.
- *Outreach and Education:* Implement or ramp up conservation outreach, make water conservation a clear part of our community ethics and values, and ensure that visitors are aware through highly visible public outreach campaign.

- *Environmental:* Conserve water in Taylor Park Reservoir or Lake San Cristobal to help provide late summer (August) supplemental water if we anticipate problems with temperature exceedance or shortages.
- Incorporate conservation messaging into city water and electric bills.

New policies/ Administrative Actions Required

The District will work with the local community to ensure that the DCP is implemented. For example, the District could hire additional staff with funding support from local municipalities or help support a position through, for example, our local Colorado State University Cooperative Extension Office or NRCS field office. There will likely be administrative actions that have to take place within the authorities of the cities or counties to adopt and implement the DCP (e.g., LUC regulations in support of water conservation). The community will need to establish cooperative agreements for interagency coordination on a protocol for identifying stages of drought and actions that happen within each as well as cost sharing on a drought outreach campaign or conservation technician position.

Technical Staff / Contracted Consultant

Upper Gunnison River Water Conservancy District staff:

- District General Manager, Sonja Chavez: Experience in managing and facility water conservation projects, BS in Environmental Biology and MS in Limnology. Over 25 years of water resource management experience.
- District General Counsel, John McClow: Water attorney and legal support with more than 40 years of experience.
- District Water Resource Specialist, Beverly Richards: MS in Water Resource Management with over 20 years of experience.
- District Accountant, Jill Steele: B.S. in Accounting with over 27 years of experience.
- District Administrative Assistant and Communications Support Specialist: BS in Communication with over 20 years of experience.
- Watershed Program Coordinator, Cheryl Cwelich: BS in Environmental Management and Outdoor Recreation with over 10 years of experience.

Contracted Consultant(s) (TBD):

- Drought Contingency Plan Coordinator: Requires sound knowledge of water conservation practices, some familiarity of basin, ability to facilitate large groups, and strong communication, writing, organization and technical skills.
- Communication & Outreach Coordinator: A second consultant or individual will likely be required to develop a water conservation campaign that results in true behavior change.

D. Nexus to Reclamation & Department Priorities

There are two BOR facilities in the planning area, Taylor Park and Blue Mesa Reservoirs.

Direct Benefit: A DCP will benefit operational management of these facilities as Taylor is critical to the federal Uncompahgre Project Area and hydroelectric generation. Blue Mesa is important for the Aspinall Unit Re-Operation Record of Decision for endangered river fish flows and potential future DROA releases.

These reservoir water supplies benefit not only Colorado and our local Upper Gunnison rural economy but also downstream water users in lower basin states (Arizona, Nevada and California).

Water Service/Repayment/O&M Contracts: Under the Taylor Park 1975 Exchange Agreement (April 16, 1990 modified and amended) the Upper Gunnison District and Colorado River District make annual payments to the Uncompahgre Valley Water Users Association to help offset the cost of operating Taylor Park Reservoir and Reclamation pays for operation and maintenance of the Curecanti Unit Reservoirs. The Upper Gunnison District also has an annual lease of augmentation unit agreement with Reclamation for 500 AF of Aspinall Unit water for out of priority depletions.

Tribal Connection: The District is not a Tribe however the Ute Mountain Ute Tribe owns a ranch located in the Powderhorn sub-basin “Ute Mountain Ute Pinecrest Ranch” within the planning area/District boundary. The District is providing technical assistance through our Wet Meadows Program to help restore degraded stream reaches on their land.

Climate Change Vulnerability & Disadvantaged Communities: Certain communities in Colorado have historically been excluded from environmental decision-making processes, typical enjoy fewer environmental benefits, and are disproportionately impacted by climate change and varying public policy. These include communities of various ethnic, racial and income groups. It will be important for the Task Force to address how proposed drought response actions and changes in policy affect the Upper Gunnison basin communities’ response to water scarcity. For example, cutbacks in water allocation or fallowing can lead to local underemployment, drought drives up the price that people pay for food, people in rural areas who depend upon wells can be impacted by declining groundwater levels or rate hikes for domestic water, or rural agricultural areas can be at greater risk to fire especially when forced to fallow fields due to lack of water. The District will ensure that an assessment of the impacts of drought on vulnerable populations within the Upper Gunnison Basin community are a component of our DCP. This will occur by recruiting Western Colorado University faculty with expertise in this area to participate in the DCP Task Force.

| Percentage of Population with Incomes lower than the Poverty Line | | COLORADO |
|---|-----------|-----------|
| Gunnison County | 12.4% | 9.8% |
| Hinsdale County | 10.2% | |
| Saguache County | 10.2% | |
| Access to Healthcare Score (Potential / Realized) | | COLORADO |
| Gunnison County | 6.6 / 6.7 | 8.2 / 6.9 |
| Hinsdale County | 6.1 / 6.6 | |
| Saguache County | 4.1 / 5.5 | |

Low Income: All three counties have more people below the poverty line than the state average.³

Access to Healthcare: All three counties have less access to healthcare than the state average.⁴

³ Colorado Department of Local Affairs, <https://gis.dola.colorado.gov/apps/ProfileDashboard2/>

⁴ Colorado Health Institute Access to Care: The Interactive Dashboard, <https://www.coloradohealthinstitute.org/research/2017-access-care-index>

Project Budget

Funding Plan and Letters of Commitment

| | Entity | In Kind | Cash | Total |
|----|--|------------------|-----------------|------------------|
| 1 | Lake Fork Valley Conservancy | \$4,000 | \$1,000 | \$5,000 |
| 2 | Coal Creek Watershed Coalition | \$5,000 | | \$5,000 |
| 3 | City of Gunnison | \$33,000 | - | \$33,000 |
| 4 | Gunnison County Stockgrowers | \$2,500 | | \$2,500 |
| 5 | Lawrence Berkley National Laboratories | \$10,000 | - | \$10,000 |
| 6 | Town of Crested Butte | \$5,000 | - | \$5,000 |
| 7 | Trout Unlimited | \$5,000 | - | \$5,000 |
| 8 | American Whitewater | \$5,000 | - | \$5,000 |
| 9 | UGRWCD | \$38,500 | \$43,640 | \$82,140 |
| 10 | Westen Colorado University | \$2,500 | \$2,500 | \$5,000 |
| 11 | National Park Service | \$1,000 | \$7,500 | \$8,500 |
| | TOTAL: | \$111,500 | \$54,640 | \$166,140 |

Budget Proposal

TABLE 1: Summary of Federal and Non-Federal Funding sources

| FUNDING SOURCES | AMOUNT |
|--------------------------------------|------------------|
| Non-Federal Funding Sources | |
| Lake Fork Valley Conservancy | \$5,000 |
| Coal Creek Watershed Coalition | \$5,000 |
| City of Gunnison | \$33,000 |
| Gunnison County Stockgrowers | \$2,500 |
| Town of Crested Butte | \$5,000 |
| Trout Unlimited | \$5,000 |
| American Whitewater | \$5,000 |
| UGRWCD | \$ 82,140 |
| Western Colorado University | \$5,000 |
| Non Federal Subtotal | \$147,640 |
| REQUESTED RECLAMATION FUNDING | \$140,480 |

TABLE 2: Total Project Cost Table

| SOURCE | AMOUNT |
|--|------------------|
| Cost to be reimbursed with the requested federal funding | \$140,480 |
| Cost to be paid by the applicant | \$82,140 |
| Value of third-party contribution | \$65,500 |
| TOTAL PROJECT COST | \$288,120 |

TABLE 3: Simple Budget—Phase 1 Only

| BUDGET ITEM DESCRIPTION | \$/ UNIT | QUANTITY | QUANTITY TYPE | TOTAL COST |
|--|----------|----------|---------------|-----------------|
| Salaries and Wages | | | | |
| <i>Covered by District in Phase 1</i> | | | | |
| Fringe Benefits | | | | |
| <i>Covered by District in Phase 1</i> | | | | |
| Equipment | | | | |
| <i>Covered by District in Phase 1</i> | | | | |
| Travel | | | | |
| <i>Covered by District in Phase 1</i> | | | | |
| Supplies and Materials | | | | |
| Misc. Photocopies, Markers, Paper | \$480 | 1 | LS | \$480 |
| Contractual/ Construction | | | | |
| Drought Contingency Plan Coordinator | \$19,080 | 1 | LS | \$19,080 |
| Consultant Travel | | | LS | \$2,520 |
| Third-Party In-Kind Contributions | | | | |
| In-Kind Services Task Force | \$60 | 100 | HRS | \$6,000 |
| In-Kind Services Applicant (District) | \$60 | 72 | HRS | \$4,320 |
| Other | | | | |
| N/A | | | | |
| TOTAL DIRECT COSTS | | | | \$32,400 |
| Indirect Costs | | | | |
| <i>Covered by District in Phase 1</i> | | | | |
| TOTAL ESTIMATED PROJECT COSTS | | | | \$32,400 |

Budget Narrative

Salaries and Wages

All salaries and wages will be contributed as in-kind and matching cost share for this project. These are coming from the General Manager who's base hourly rate (not including fringe) is \$60/hour.

Project Manager:

Sonja Chavez, General Manager, Upper Gunnison Water Conservancy District

Key District Personnel: B.Richards, Water Resources; J. McClow, Attorney; C.Cwelich, Watershed Program Coordinator; S.Uerling, Admin/Communications; and J.Still, Accountant.

Read more about project technical staff in the Evaluation, Project Implementation Section above.

Fringe Benefits

This project will have no fringe benefits accounted for in the budget because all salaries and wages will be contributed as in-kind and matching cost share for this project.

Travel

This grant request include a travel budget for both phases for the contractors and in the SF424A form travel is included as part of the consultant contractual cost, therefore in table 3 as well. Phase 1 travel totals \$2,520 and Phase 2 totals \$10,080. This utilizes the rates: Hotel @ \$175/night; Meal per diem @ \$65/day; and Mileage <e.g. GJ 240 mi RT x 30 trips @ \$0.75/mi>).

Other stakeholders will contribute travel at their own expense (not incorporated as in-kind). There are no District personnel travel expenses.

Equipment

There is no equipment needed for this project. If equipment needs are identified through this planning process additional funding will be secured.

Materials and Supplies

Materials and supplies are estimated to cost \$480 (photocopying, paper, markers, etc). These have been included as consultant contractual costs in the budget.

Contractual

The District will hire a Drought Planning Coordinator (DPC) and a Communications and Outreach Coordinator (COC) through a competitive RFP process within the first 3 months after grant contract execution with Reclamation. The tasks these consultants will complete, with their related budget costs, are included in the Evaluation, Project Implementation section above. The rates for these services were based on the District extensive previous experience working with local water resource professional consultants as part of their watershed planning process over the last 5 years.

Third-Party In-Kind Contributions

The District will oversee management of this project and will be hiring the contracted consultants, playing an active role in the Task Force and participating in all aspects of the DCP process. The General Manager (Sonja Chavez) will be supported by her team which includes a water resource specialist, watershed program coordinator, attorney, administrative assistant/communications support specialist, and accountant. District in-kind (\$38.5k) and cash match (\$43.6k) total \$82,140 or 28.5% of the total project cost (not including other non-BOR federal contributions).

The District has been building relationships and building trust for many years now, as evidenced in the Evaluation, Inclusion of Stakeholders section above. That table identifies those entities that are providing their time and expertise as in-kind contributions. Some will make the extra commitment to serve on the task force, while others will participate in public meetings and other learning sessions. Third party in-kind service (\$62k) and cash contributions (\$3,500) total \$65,600 or 22.7% of the total project cost (not including other non-BOR federal contributions).

Other Expenses

There are no other expenses needed for this project. If other needs are identified through this planning process additional funding will be secured.

Indirect Costs

The District has never received a Federal negotiated indirect cost rate and therefore the budget includes a *de minimis* rate of 10 percent of modified total direct costs.

⁵ Responsible Party (D = District; C = Consultants; T = Task Force)

| TASK/ SUBTASK | COST | HRS | RATE | COST | HRS | RATE |
|---|-----------------|------------|--------------|-----------------|------------|------|
| PHASE 1: Complete Initial Drought Contingency Planning Steps | | | | | | |
| A. Hire Consultants | | | | \$3,600 | 60 | \$60 |
| B. Establish Task Force | \$1,080 | 6 | \$180 | \$480 | 8 | \$60 |
| C. Facilitate Task Force Meetings | \$6,480 | 36 | \$180 | \$720 | 12 | \$60 |
| D. Develop Work Plan | \$7,200 | 40 | \$180 | \$3,600 | 60 | \$60 |
| E. Develop Comm. & Outreach Plan | \$4,320 | 24 | \$180 | \$2,400 | 40 | \$60 |
| | \$19,080 | 106 | | \$10,800 | 154 | |
| PHASE 2: Complete Initial Drought Contingency Planning Steps | | | | | | |
| (1) Drought Monitoring | | | | | | |
| A. Current Monitoring Procedures | \$7,200 | 40 | \$180 | \$4,800 | 80 | \$60 |
| B. Indicators, classes, and triggers | \$7,200 | 40 | \$180 | \$4,800 | 80 | \$60 |
| C. Establish monitoring process | \$5,760 | 32 | \$180 | \$6,000 | 100 | \$60 |
| | \$20,160 | 112 | | \$15,600 | 260 | |
| (2) Vulnerability Assessment | | | | | | |
| | | | \$180 | | | |
| A. Recent and historic drought | \$7,200 | 40 | \$180 | \$4,920 | 82 | \$60 |
| B. Historical water supply | \$7,200 | 40 | \$180 | \$5,400 | 90 | \$60 |
| C. Future climate change scenarios | \$6,120 | 34 | \$180 | \$5,100 | 85 | \$60 |
| D. Drought estimates for scenarios | \$5,760 | 32 | \$180 | \$4,800 | 80 | \$60 |
| | \$26,280 | 146 | | \$20,220 | 337 | |
| (3) Mitigation Actions | | | | | | |
| A. Identify mitigation measures | \$14,400 | 80 | \$180 | \$4,800 | 80 | \$60 |
| B. Evaluate & prioritize by sector | \$10,800 | 60 | \$180 | \$4,800 | 80 | \$60 |
| C. Mitigation actions and projects | \$10,800 | 60 | \$180 | \$4,800 | 80 | \$60 |
| | \$36,000 | 200 | | \$14,400 | 240 | |
| (4) Response Actions | | | | | | |
| A. Identify response actions | \$10,800 | 60 | \$180 | \$4,800 | 80 | \$60 |
| B. Establish a staged approach | \$7,200 | 40 | \$180 | \$4,800 | 80 | \$60 |
| C. Communication campaigns | \$18,000 | 100 | \$180 | \$6,000 | 100 | \$60 |
| | \$36,000 | 200 | | \$15,600 | 260 | |

| TASK/ SUBTASK | COST | HRS | RATE | COST | HRS | RATE |
|---|--------------------|-----------------------------|-------|------------------|------------|------|
| (5) Operational and Administrative Framework | | | | | | |
| A. District-wide protocol developed | \$7,200 | 40 | \$180 | \$4,800 | 80 | \$60 |
| B. Roles, responsibilities, procedures | \$7,200 | 40 | \$180 | \$5,100 | 85 | \$60 |
| | \$14,400 | 80 | | \$9,900 | 165 | |
| (6) Plan Development and Plan Update Process | | | | | | |
| A. District-wide protocol developed | \$2,880 | 16 | \$180 | \$6,000 | 100 | \$60 |
| B. Roles, responsibilities, procedures | \$4,320 | 24 | \$180 | \$6,000 | 100 | \$60 |
| | \$7,200 | 40 | | \$15,000 | 250 | |
| Travel | | | | | | |
| Hotel (30 nights x \$175/night) | \$5,250.00 | | | | | |
| Meal per diem (\$65/day x 30 days) | \$1,950.00 | | | | | |
| Mileage (e.g. GJ 240 mi RT x 30 trips @ \$0.75/mi) | \$5,400.00 | | | | | |
| | \$12,600.00 | | | | | |
| Project Agreement Management | | | | | | |
| 10% <i>de minimus</i> Indirect: Fiscal Management, Project Management, Legal/Contract Development, etc. | \$14,048 | | | | | |
| Consultant + Indirect + Travel | \$185,768 | IN KIND HOURS TOTAL: | | \$101,520 | | |
| TOTAL PROJECT COST | \$288,120 | | | | | |

Letters of Financial Commitment

1. Lake Fork Valley Conservancy
2. Coal Creek Watershed Coalition
3. City of Gunnison
4. Gunnison County Stockgrowers
5. Lawrence Berkley National Laboratories
6. Town of Crested Butte
7. Trout Unlimited
8. American Whitewater
9. UGRWCD
10. Western Colorado University
11. National Park Service



Upper Gunnison River Water Conservancy District

April 13, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Bureau of Reclamation,

On behalf the Upper Gunnison River Water Conservancy District (UGRWCD), applicant for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin, this letter is intended to express our in-kind time, travel, and monetary contributions.

The proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users can take to minimize risk and enhance local cooperation.

The UGRWCD is committed to leading, managing and participating in this DCP effort on behalf of all Upper Gunnison Basin Water Users in order to address existing and future drought concerns in our basin. The UGRWCD will provide \$43,640 cash and \$38,500 in-kind staff services to assist with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available.

Sincerely,

A handwritten signature in blue ink that reads 'Sonja Chavez'.

Sonja Chavez, General Manager

210 West Spencer Avenue, Suite B • Gunnison, Colorado 81230
Telephone (970) 641-6065 • www.ugrwcd.org



OFFICE | Executive Vice President

PHONE | 970.943.3017

EMAIL | bbaca@western.edu

April 13, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Ms. Chavez,

On behalf of Western Colorado University, I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

Western Colorado University, as a water user, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. The University will provide \$2,500 cash and \$2,500 in-kind staff services to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. Western Colorado University is fully committed to participating in and implementing the future Drought Contingency Plan.

Sincerely,

A handwritten signature in black ink that reads 'Brad Baca'.

Brad Baca
Executive Vice President / Chief Operating Officer



April 12, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Ms. Chavez,

On behalf of the American Whitewater, I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

American Whitewater (AW), a river conservation and recreation advocacy organization with local staff positioned in the Upper Gunnison Basin, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. AW worked with UGRWCD to develop the Watershed Management Plan for the Taylor and Upper Gunnison Rivers, which included developing an interactive Boatable Days Web Tool. The Web Tool allows for prediction and analysis of flows that support river recreation and American Whitewater intends to contribute our expertise using this tool and expertise on local river recreation opportunities to the Task Force. AW will provide \$5,000 of in-kind staff services to assist UGRWCD with Drought Contingency Plan development and as a member of the DCP Task Force. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available for the duration of the proposed 18-month timeline. American Whitewater is fully committed to participating in the DCP Task Force and developing the future Drought Contingency Plan with UGRWCD and other Task Force participants.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Kunz'.

Kestrel Kunz
619 Maroon Ave, Crested Butte, CO 81224
Associate Stewardship Director
Southern Rockies Program, American Whitewater



April 12, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: Upper Gunnison River Basin Drought Contingency Plan

Dear Ms. Chavez,

On behalf of the Coal Creek Watershed Coalition, I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

The proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water use sectors, water providers, and local, state, and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

The Coal Creek Watershed Coalition (CCWC), a non-profit organization based in Crested Butte and dedicated to improving local water quality, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. CCWC will provide \$5,000 in in-kind staff services to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. CCWC is fully committed to participating in and implementing the future Drought Contingency Plan.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Shea Earley', is written over a light blue circular stamp.

Shea Earley
President, on behalf of the Board of Directors
of the Coal Creek Watershed Coalition



City of Gunnison

April 12, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Ms. Chavez,

On behalf of the City of Gunnison, I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

The City of Gunnison, as a water and wastewater service provider, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. The City will provide \$33,000 of in-kind staff services to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. The City of Gunnison is fully committed to participating in and implementing the future Drought Contingency Plan.

Very Respectfully,

Russ Forrest, AICP
City Manager
Gunnison, Colorado



Established 1894

GUNNISON COUNTY STOCKGROWERS ASSOCIATION, INC.

P.O. Box 1711 • Gunnison, Colorado 81230

April 11, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*


Dear Ms. Chavez,

On behalf of the Gunnison County Stockgrowers Association (GCSA), I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

The Gunnison County Stockgrowers Association, representing agricultural users, are committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. We will provide \$2,500 in-kind services and a cash contribution, which will be determined at our next board meeting to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. The GCSA is fully committed to participating in and implementing the future Drought Contingency Plan.

Very Respectfully,



Jason Peterson, President
Gunnison County Stockgrowers Association



Lawrence Berkeley National Laboratory

Earth & Environmental Sciences Area



April 12, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: Upper Gunnison River Basin Drought Contingency Plan

Dear Ms. Chavez,

On behalf of the Lawrence Berkeley National Laboratory (Berkeley Lab) and in my capacity as Chief Field Scientist of a US Department of Energy funded hydrogeological research program in the Upper Gunnison basin, I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

Berkeley Lab, as a research institution focused on climate impacts to water supply and quality, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. Berkeley Lab is providing \$250,000 to support Airborne Snow Observatory, Inc. overflights of the East and Taylor River basins in 2022 to determine snowpack thickness, snow water equivalent, and portions of the landscape where snowpack is preferentially retained late in the melt season. Such data will be made publicly available with the UGRWCD a primary planned end-user. In addition, Berkeley Lab will be committing not less than \$10,000 in in-kind staff services tied to salary support to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. Berkeley Lab is fully committed to participating in and implementing the future Drought Contingency Plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth H. Williams".

Kenneth H. Williams, PhD
Program Lead, Environmental Remediation and Water Resources
Deputy Lead and Chief Field Scientist, Watershed Function SFA
Climate and Ecosystem Science Division

Lawrence Berkeley National Laboratory

One Cyclotron Road / MS: 74R316C / Berkeley, California 94720 / phone 510-701-1089 / fax 510-486-5686 / email khwilliams@lbl.gov



April 12, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Ms. Chavez,

On behalf of the Lake Fork Valley Conservancy (LFVC), I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

The LFVC, in their role as stewards of our public waters, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. We will provide \$1,000 cash and \$4,000 in-kind staff services to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. The LFVC is fully committed to participating in and implementing the future Drought Contingency Plan, working with our local partners.

Respectfully,

Camille Richard
Executive Director

PO Box 123 • Lake City, Colorado 81235 • (970) 944-5382 • www.lfvc.org



United States Department of the Interior
NATIONAL PARK SERVICE
Black Canyon of the Gunnison National Park
Curecanti National Recreation Area
102 Elk Creek
Gunnison, CO 81230



IN REPLY REFER TO:

April 12, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: Financial Support and Letter of Commitment: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Ms. Chavez,

On behalf of the Curecanti National Recreation Area (NRA), I am pleased to offer our support to the application that you, and the Upper Gunnison River Water Conservancy District (UGRWCD), are submitting to the WaterSMART Drought Response Program for the creation of a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

The proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program Framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all water user sectors, water providers, and local, State and Federal agencies. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation. We manage recreation in the Aspinall Unit (which includes Blue Mesa Reservoir) and believe that the DCP would be an excellent planning tool to maintain our ability to provide opportunities for the public to enjoy the park resources.

Curecanti NRA is excited to collaborate with UGRWCD to address existing and future drought concerns in the Gunnison Valley. Should your proposal get funded, we commit to providing \$7,500 in cash towards this initiative in 2022. We anticipate being able to sustain this financial commitment in future years. This cash commitment will be directed towards USGS monitoring in the Upper Gunnison Basin. We also commit to providing \$1,000 of in-kind services to assist with DCP development and implementation. There are no time constraints to our participation. Future cash contributions are contingent to availability of funds. Curecanti NRA will participate in creating and implementing the future Drought Contingency Plan as soon as grant is awarded.

Very Respectfully,

Giselle Mora-Bourgeois, Ph.D.
Acting Superintendent
Curecanti National Recreation Area

Town of Crested Butte

P.O. Box 39 Crested Butte, Colorado 81224

-A National Historic District-

April 12, 2022

Phone: (970) 349-5338
FAX: (970) 349-6626
www.townofcrestedbutte.com

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Ms. Chavez,

On behalf of the Town of Crested Butte (Town), I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

The Town, as a water and wastewater service provider, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. The Town will provide \$5000 in-kind staff services to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. The Town is fully committed to participating in and implementing the future Drought Contingency Plan.

Very Respectfully,



Shea D Earley
Public Works Director



April 11, 2022

Upper Gunnison River Water Conservancy District
210 West Spencer Avenue, Suite B
Gunnison, Colorado 81230

RE: *Upper Gunnison River Basin Drought Contingency Plan*

Dear Ms. Chavez,

On behalf of Trout Unlimited, I would like to thank you and the Upper Gunnison River Water Conservancy District (UGRWCD) for applying for the WaterSMART Drought Response Program to create a Drought Contingency Plan (R22AS00178) for the Upper Gunnison River Basin.

As discussed, the proposed project will involve UGRWCD working with all Upper Gunnison Basin water users to develop a Drought Contingency Plan (DCP) that meets the requirements of the Bureau of Reclamation's Drought Response Program framework. The planning process will create an Upper Gunnison Basin DCP Task Force composed of diverse community stakeholders representing all community water users and water user sectors, water providers, and local, state and federal agencies as applicable. The DCP will define the drought monitoring process and perform a vulnerability assessment to evaluate risks to multiple stakeholders in the Gunnison Valley. The DCP will also identify mitigation and response actions that water users and providers can take to minimize risk and enhance local cooperation.

Trout Unlimited, as a national conservation organization with staff based in the Gunnison basin, is committed to working with UGRWCD to address existing and future drought concerns in the Gunnison Valley. Trout Unlimited will provide \$5,000 in-kind staff services to assist UGRWCD with Drought Contingency Plan development. There are no time constraints with regard to our participation or contingencies related to our involvement. As soon as UGRWCD is awarded the WaterSMART grant, staff services will become available. Trout Unlimited is fully committed to participating in and implementing the future Drought Contingency Plan.

Very Respectfully,

Jesse Kruthaupt
Trout Unlimited
Upper Gunnison Project Manager
Jesse.kruthaupt@tu.org

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
604 Elsa Court, Gunnison, CO 81230
(970)209-0976 • www.tu.org