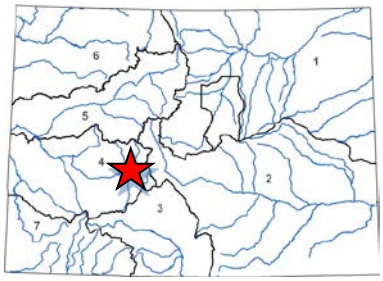
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Upper Gunnison Water, Forest, and Range Resiliency

Upper Gunnison Water Conservancy District

January 2021 Board Meeting

Colorado Watershed Restoration Program Application

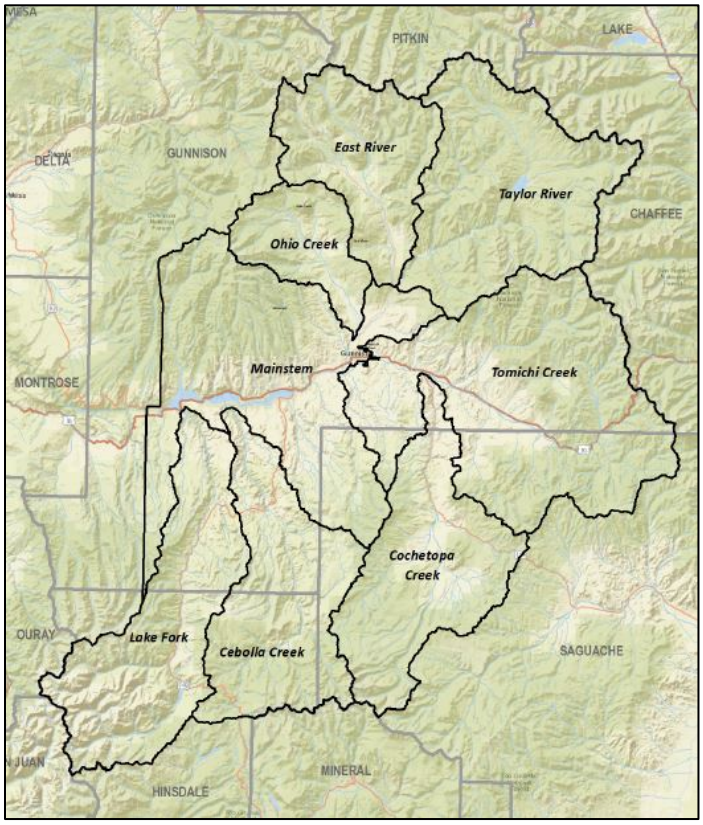


LOCATION	
County/Counties:	Gunnison
Drainage Basin:	Gunnison

DETAILS	
Total Project Cost:	$733,000
Colorado Watershed Restoration Program Request:	$180,000
Recommended amount:	$180,000
Other CWCB Funding:	$0
Other Funding Amount:	$105,000 secured $268,000 pending $47,000 in-kind
Applicant Match:	$133,000
Project Type(s): Watershed Restoration	
Project Category(Categories): Watershed/Stream Restoration	
Measurable Result: Restore 8.5 miles of stream and riparian habitat, protect 10 miles of stream from non-native trout, protect 10 acres of mesic meadow	

This project will synchronize restoration work on federal, state, and private lands in the Tomichi Watershed, support monitoring and assessment work in the Taylor Watershed, and complete watershed forest fire hazard assessment for forested headwaters of the Upper Gunnison River basin. The project will begin in 2021 and be completed in 2023.

This project will complete a wildfire hazard assessment and model watershed disturbance in the forested headwater areas of the Upper Gunnison Basin in collaboration with stakeholders. The goal is to identify hazards and recommend measures to protect the headwaters streams against the adverse effects of post-wildfire hydrologic changes, including flooding, erosion, and debris flows. This assessment will facilitate planning and projects with the USFS within the District that depend on water origination within the Upper Gunnison headwaters area.



In the Tomichi Watershed, this project will restore 8.5 miles of stream and riparian habitat, protect 10 miles of stream from non-native trout, protect 10 acres of mesic meadow, and improve grazing management.

In the Taylor Watershed, this project will support efforts to identify zones of concern, conduct watershed modeling scenarios of potential effects from disease and fire, improve water supply forecasting, and develop a plan for coordinated landscape level projects to improve forest resiliency and watershed health.

COLORADO WATERSHED RESTORATION PROGRAM GRANT APPLICATION
November 2020

PROJECT PROPOSAL SUMMARY SHEET

Project Title: Upper Gunnison Water, Forest and Range Resiliency
Project Location: Upper Gunnison Basin
Grant Type: Watershed/Stream Restoration Grants
Grant Request/Amount: $180,000
Cash Match Funding; $506,000
In-kind Match Funding: $47,000
Project Sponsor: Upper Gunnison Water Conservancy District
Contact: Sonja Chavez (General Manager) schavez@ugrwcd.org (970) 641-6065

Brief description of the project: Synchronize restoration work on federal, state, and private land in the Tomichi Watershed, support monitoring and assessment work in the Taylor Watershed, and complete watershed forest fire hazard assessment for forested headwaters of the Upper Gunnison River basin. The project will begin in 2021 and be completed in 2023.

Complete a wildfire hazard assessment and model watershed disturbance in the forested headwater areas of the Upper Gunnison Basin in collaboration with stakeholders. The goal being to identify hazards and recommend measures to protect the headwater streams against the adverse effects of post-wildfire hydrologic changes, including flooding, erosion, debris flows. This assessment will facilitate planning and projects with the USFS within the District that depend on water origination within the Upper Gunnison headwaters area.

Tomichi Watershed: Restore 8.5 miles of stream and riparian habitat, protecting 10 miles of stream from nonnative trout, protecting 10 acres of mesic meadow, and improving grazing management in sage brush range.

Taylor Watershed: Support efforts to identify zones of concern, conduct watershed modeling scenarios of potential effects from disease and fire, improve water supply forecasting, and develop a plan for coordinated landscape level projects to improve forest resiliency and watershed health.

The Upper Gunnison District will be the project lead/grant manager and coordinate closely with a project team comprised of representatives from Colorado Division of Parks and Wildlife, Gunnison County, United States Forest Service, Bureau of Land Management, Wet Meadow Restoration Resilience Building Project, Trout Unlimited, Colorado State Forest Service, and private landowners.

Qualifications Evaluation (Maximum of 20 points)

- Identify the lead project sponsor and describe the other stakeholders' level of participation and involvement. 10 points

  Lead Project Sponsor: Upper Gunnison Water Conservancy District. Project and fiscal management, coordination, reporting, and legal.

  Co-Sponsor: Trout Unlimited (TU) - Coordination, implementation, monitoring, grant reporting. Spring improvements, monitoring, riparian improvements.

  Forest Service: Zones of concern, fire hazard mapping, stockwater improvements.

  NRCS: Private landowner improvements

  NCAR: Inflow forecasting/watershed disturbance modeling

  BLM & Wet Meadows: Wet Meadows resiliency/restoration projects.

- Specify in-kind services and cash contributions (match) amount for the proposed activities.
  - Please see attached budget summary table.

Organizational Capability (Maximum of 30 points)

- Applicant organization's history of accomplishments in the watershed (10 points).
  The Upper Gunnison District was established in 1959 under the Water Conservancy Act. Its primary responsibilities including providing financial, legal, political and engineering support for agricultural, recreational, environmental and municipal uses of water within the basin. Examples of major accomplishments include:

  1) *Taylor Park Reservoir Storage and Exchange Agreement & Refill Decree* (CO River District, Uncompahgre Valley Water Users, and U.S. Bureau of Reclamation), 2) *Wet Meadows Resiliency Program* (Nature Conservancy, CO State University, Bureau of Land Management, National Forest Service, Colorado State FS, Parks and Wildlife, etc.), and 3) *Stream & Watershed Management Planning* (Upper Gunnison Water Users, Stockgrowers, Gunnison County, CWCB, TU, CTU, Forest Service, Coal Creek Watershed Coalition, High Country Conservation Advocates, Forest Service, etc.)

- Number of staff, time dedicated (10 points): The Upper Gunnison District plans to work within our well established and existing partnerships. In addition, we anticipate additional work identified in this project above and beyond our on-going efforts that requires staff (4) and consultants (1 Direct Consultant) to implement the proposed project. Other consultants TBD:
  - Sonja Chavez (General Manager): Project management, coordination, NEPA, and fiscal oversight. BA Environmental Biology; MA Limnology. Twenty-five years water resource management and planning experience.
  - Beverly Richards (Water Resource Specialist): Project management, grant administration and reporting, fiscal oversight, stakeholder coordination and outreach. Master's Environmental Policy & Management. Twenty years in water resource planning and administration.
  - Jill Steele (Accountant): Fiscal management. BA Accounting. Thirty years of experience in fiscal management of water resources.
  - John McClow (Legal): Contractual/legal agreements with consultants or vendors. Juris Doctorate. Over 29 years with District. Served on numerous commissions Colorado water.
  - Paul Jones (Wet Meadows Coordinator / Existing Annual Consultant Agreement 20%): Project coordination and implementation. Retired from CPW with over 20 years experience.
  - Volunteers: Existing Conservation Corps agreements for Wet Meadows resiliency work.
  - Jesse Kruthaupt (TU): 300 hours to help coordinate Tomichi restoration work, spring improvements, monitoring, and grant reporting. Eight-year tenure with TU, experience

managing habitat & ag infrastructure projects in Upper Gunnison Basin (over $500k).

- Project budget (10 points): The District and TU have significant experience working with identified partners and the District has over 8+ years of experience in carrying out Wet Meadows resiliency work and therefore is confident in the work effort and budget requirements identified. Fire hazard assessment is estimated based upon previous work done by JW associates on front range watersheds.

Proposal Effectiveness (50 points)

- **What information is the project sponsor using to develop the proposed plan or project? (10 points):** Upper Gunnison Stream & Watershed Management Plan (in-progress), Upper Gunnison Environmental & Geomorphological Assessments (RFQ release November 2020), Water Supply/Watershed Forecast Modeling (NCAR / UGRWCD - underway), Taylor Stream Gaging (Planned 2021), Gunnison Ranger District – Zones of Concern Identification, and Temperature & WQ Monitoring of Tomichi (USGS, TU, Cold Harbour), previous JW front range wild fire hazard work.

- **Discuss the multiple objective aspects of the project and how they relate to each other (30 points):** The project will involve habitat restoration and planning activities on federal, state and private lands across the Upper Gunnison watershed. Activities will either benefit instream and riparian habitats, wetlands, rangelands and forest health. Taken as a whole, these activities represent a watershed-scale approach to improve resiliency drought and future water supply shortages.

The project is closely coordinated with, and will be a catalyst for, the Upper Gunnison Stream & Watershed Management Planning: A comprehensive public planning effort focused on developing an assessment of existing and future uses and needs. Environmental & Geomorphological rapid assessment using LiDAR followed by field verification for high priority segments for channel stabilization, revegetation, natural hazard reduction, flood mitigation or upland mitigation efforts. Supports identification of sensitive or high priority watershed areas for mitigation as part of fire hazard assessment.

Restoration activities will improve instream habitat and riparian health by reducing erosion, increasing vegetative cover managing grazing impacts, reconnecting / re-establishing floodplains. Cooperation with Staheli Ranch to repair Vouga Dam, use it as a barrier, and reintroduce CRCT upstream of Vouga Reservoir. Releases from Vouga Reservoir also supports irrigated meadows, riparian, and stream flows in Razor and Tomichi Creek.

Water Supply/Watershed Forecasting Modeling (Taylor, Tomichi, East and Ohio): Purpose is to conduct snow data assimilation and water supply forecasting for high elevation areas in the Upper Gunnison basin using WRF-Hydro model as well as experimenting with quantifying impacts of watershed disturbances, watershed health and water management operations on seasonal water supply. Will support identification of high priority areas for mitigation as part of fire hazard assessment.

- **Describe the proposed monitoring or implementation plan (10 points):**

Stream gages will support bracketing all sub-basin in-flow contributions and efforts to model the impacts of watershed disturbance scenarios. Also serve as support for long-term trend monitoring sites following implementation of forest and watershed health management or mitigation measures or actual disturbance. A field technician will be hired to assist partner agencies, pre and post riparian and stream restoration monitoring. CSU under existing agreements helps to monitor wet meadows restoration. Restoration areas will be mapped and show linear feet of stream bank and acreage of riparian habitat restored. This data will be entered into an ERSI Geo-database. Progress

and completion of the fire hazard assessment will be tracked by consultant report including fluvial mapping of zones of concern.

ATTACHMENTS – Please complete the attached scope of work and budget/timeline template. Other documents may be attached to the application in order to support the request for funding. These may include:

- Link: Phase 1 Watershed & Stream Management Plan
- Please see attached letters of support
- Please see attached map

Scope of Work

Grantee and Fiscal Agent: Upper Gunnison District
Primary Contact: Sonja Chavez
Address: 210 W. Spencer Ave., Suite B, Gunnison, CO 81230
Phone: 970-641-6065
Project Name: Upper Gunnison Watershed, Forest and Range Resiliency
Grant Amount: $180,000

INTRODUCTION AND BACKGROUND (Please limit to half a page)

The Upper Gunnison Water, Forest and Range Resiliency Project will synchronize restoration work on federal, state, and private land in the Tomichi Watershed, support monitoring and assessment work in the Taylor Watershed, and complete watershed forest fire hazard assessment for forested headwaters to the Upper Gunnison River. The project is also closely coordinated with and will be a catalyst for, the Upper Gunnison Stream & Watershed Management Planning throughout the watershed that includes greater assessment and coordination with local federal land managers related to wildfire hazard planning and watershed health. Please also see project description on Project Summary Proposal Worksheet.

OBJECTIVES

- Restore degraded stream segments in the Tomichi watershed by reducing erosion, increasing vegetative cover on stream banks, reconnecting/re-establishing floodplains, or aggrading channel bed to increase adjacent ground water levels.
- Restore mesic meadows and rangeland in the Tomichi watershed by improving infrastructure and management at two springs includes repair and use of Vouga reservoir to serve as barrier for non-native fish and restore storage for downstream water users.
- Improve water supply forecasting for Taylor Reservoir using WRF-Hydro, install 2 stream gage stations and model watershed disturbance to help identify wildfire or forest health zones of concern.
- Assess fire hazard risk in headwaters and fluvial mapping of high priority watershed areas for mitigation and treatment as part of fire hazard assessment in the Upper Gunnison River basin.

TASK 1 – Riparian and Channel Restoration Tomichi Creek

Description of Task: Restore instream and riparian habitat to improve drought resiliency and benefit aquatic species, including wild trout and, in one location, Colorado River Cutthroat Trout. Complete repairs to Vouga Reservoir dam, and two problematic irrigation dams on Tomichi (Lobdell No. 2 and McCanne No.3).

Method/Procedure: The stream restoration work will begin in April 2021 with design and permitting. Construction work will begin as early as July 2021 and be phased over a period of two years. Project partners anticipate hiring five contractors to assist with completion with this project activity: one to assist with design and permitting, one to assist with channel restoration equipment and labor, one to construct fence, and one to complete repairs to Vouga Dam. Design for Vouga dam repairs are completed. A field technician will be hired to assist project partners to monitor pre and post restoration conditions at instream and riparian restoration sites.

Deliverables: Summary of each restoration site including pre- and post-monitoring data, photo points, aerial photos (base and NDVI). Restore 8.5 miles of stream channel and riparian habitat and protect 10 miles of stream from non-native species with completion of repairs to Vouga and agreement between TU, Staheli Ranch for cooperation on CRCT restoration upstream of reservoir.

TASK 2 – Tomichi Mesic Meadows and Range Stockwater

Description of Task: These tasks will involve updating stock watering infrastructure and plumbing

components at 8 existing rangeland water sources through installation of solar wells, tanks, floats, water storage facilities and distribution pipelines. These efforts will reduce grazing impacts at the spring source, reduce the volume of water moving from the water source to the water tank, and allow improved grazing management/forage utilization in range pastures.

Method/Procedure: A hired contractor will work closely with BLM, Forest Service, CPW, grazing permittees, and private landowners to design and install equipment at identified springs. A field technician will be hired to assist project partners to monitor pre and post restoration conditions at the locations where improvements are made.

Deliverable: Update stock watering infrastructure at 8 range water sources and restore 10 acres of mesic meadow habitat. Pre- and post-project monitoring data, photo points, aerial photos (base and NDVI).

Task 3- Water Supply Forecast, Disturbance Modeling, & Stream Gaging

Description of Task: 1) Install 4th Snolite station (Taylor Park Sub-basin) Cottonwood Pass area, 2) Continue to expand upon snowpack data assimilation research and WRF-Hydro modeling for Ohio, Tomichi, East and Taylor, 3) Implement and assess probabilistic flow metrics using WRF-Hydro for Taylor Park Operations and coordinate closely with stakeholders, and 4) Conduct stakeholder defined watershed model disturbance mechanisms and share with stakeholders.

Method/Procedure: 1) Work with NRCS and FS on the Installation of Cottonwood Pass Snolite equipment, 2) Gather and process data generated from all Snolite, Snotel and remotely sensed snow pack data and assimilate into WRF-Hydro, 3) Develop probabilistic flow metrics including peak flow dates, rates, tributary inflow, dates of low threshold and display in NCAR Hydroinspector web-display tool, and 4) Use WRF-Hydro to experiment with modeling watershed disturbance and share with stakeholders.

Deliverables: 1) Snolite Station on Cottonwood Pass, 2) Bi-weekly seasonal water supply and inflow forecasts April through September, 3) Three stakeholder outreach events presenting project progress and results, and 4) Model output from watershed disturbance model experiments.

Task 4- Watershed Forest Fire Hazard Assessment

Description of Task: Completing a wildfire hazard assessment in the forested headwaters of the Upper Gunnison. The goal of the wildfire hazard assessment is to identify hazards and recommend measures to protect against the adverse effects of post-wildfire hydrologic changes, including flooding, erosion, debris flows. This assessment will facilitate planning and discussion with the USFS and adjacent communities that depend on the Gunnison River.

Method/Procedure: A consultant will be hired to complete this assessment with guidance from the UGRWCD, Forest Service, Gunnison County, etc. The assessment will be catered to specific use concerns and needs identified through stakeholder outreach channels.

Deliverables: Progress and completion of the fire hazard assessment will be tracked by consultant progress reports and a final technical report summarizing assessment results will be provided.

REPORTING AND FINAL DELIVERABLE: Six-month progress reports and final report including described deliverables. The Upper Gunnison District will comply with all other requirements as described in the application guidance document.

Budget & Timeline Table

Task	Description	Target Start Date	Target Completion Date	CWCB Funds	RESTORE CO Cash Match Requested	UGRWCD Cash	UGRWCD In-Kind	Partner Match (Cash)	Partner (In-Kind)	Total
1	Riparian and Channel Restoration Tomichi Creek	4/1/2021	12/01/2023	$100,000	$188,000	$40,000		$60,000	$40,000	**$428,000**
2	Mesic Meadows & Stock Water	4/1/2021	12/01/2023	$20,000	$40,000	0		$20,000		**$80,000**
3	Disturbance, Forecast Modeling, Gaging	11/01/2020	10/01/2023			$ 93,000				**$93,000**
4	Watershed Forest Fire Hazard Assessment (Phase 1)	02/01/2020	10/01/2023	$60,000	$40,000		$7,000	$25,000		**$132,000**
	TOTALS			**$180,000**	**$268,000**	**$133,000**	**$7,000**	**$105,000**	**$40,000**	**$733,000**

Upper Gunnison River Water Conservancy District

November 5, 2020

Colorado Water Conservation Board
1313 Sherman, Street, Room 721
Denver, CO 80203

RE: Upper Gunnison Colorado Watershed Restoration Program Proposal

Dear Colorado Watershed Restoration Program Grant Review Committee,

The Upper Gunnison River Water Conservancy District (UGRWCD) wishes to offer our leadership and support for the *Upper Gunnison Water, Forest and Range Resiliency Project*. This project has the potential to implement wildfire hazard assessment, restoration of wet meadows, and riparian habitat improvements at a landscape level while addressing water management challenges we face in the Upper Gunnison Basin.

The UGRWCD has embarked on two major watershed initiatives, the Watershed Management Planning effort and the Wet Meadows Restoration Resilience Building Group. These initiatives will develop solutions to protect water resources and improve watershed health in the face of reduced water supply and increased water demands. As part of those efforts the District has also begun coordinating closely with federal land managers on assessing wildfire hazard mapping and zones of concern that will help facilitate protection of the Upper Gunnison basin watershed and protect and improve watershed health.

We hope that you will give this project your full support and if you have any questions, please contact me.

Thank you for your consideration!

Sincerely,

Sonja Chavez

Sonja Chavez
General Manager

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

November 5, 2020

Colorado Water Conservation Board
1313 Sherman, Street, Room 721
Denver, CO 80203

RE: Colorado Watershed Restoration Program Water, Forest and Range Project Proposal

Dear Mr. Sturm,

Trout Unlimited (TU) wishes to offer our support for the Upper Gunnison River Water Conservancy Distirct's Water, Forest and Range Resiliency Project. This project has the potential to provide significant benefits to agricultural producers, watershed health and wildlife habitat on public and private lands. The timing of this project is of importance as our community recovers from, and prepares for future, hot and dry years.

TU has been involved with the Upper Gunnison Stream and Watershed Management Planning (WMP) effort for the last four years. Multiple watershed protection and improvement opportunities have been identified through this effort. The Water, Forest and Range Resiliency project will allow several of these identified WMP projects to come to fruition.

The scale of this project approach will produce habitat and water supply benefits across jurisdictional boundaries on private property and federal land to address watershed needs of a variety of uses. For these reasons TU has committed $13,500 of in-kind resources in the form of Jesse Kruthaupt's time to support this effort.

TU encourages the Colorado Water Conservation Board to award the funds requested.

Thank you for your consideration.

Sincerely,

Jesse Kruthaupt

Jesse Kruthaupt
Upper Gunnison Project Manager

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

USDA United States Department of Agriculture Forest Service Grand Mesa, Uncompahgre and Gunnison National Forests

Gunnison Ranger District
216 North Colorado Street
Gunnison, Colorado 81230

February 24, 2020

Sonja Chavez, General Manager
Upper Gunnison River Water Conservancy District
210 Spencer Avenue Suite B
Gunnison, Colorado 81230

Dear Ms. Chavez:

I write on behalf of the United States Forest Service's Gunnison Ranger District in support of the Upper Gunnison River Water Conservancy District's (UGRWCD) proposal to the RESTORE Colorado grant to fund wet meadow restoration, cheatgrass treatment, and integrated approach to pre-wildfire watershed planning. We strongly support the project and its efforts to improve Gunnison sage-grouse habitat and big game winter range with a collaborative landscape-scale, multi-faceted effort. We support this application because it addresses three critical challenges to the health and biodiversity of the Gunnison Basin's shrub steppe, and complements current habitat restoration work in the Gunnison Basin.

The USFS Gunnison Range District sees the threat that cheatgrass poses to all user groups and to our native ecosystems, including the remaining habitat of the threatened Gunnison sage-grouse and critical big game winter range. Sagebrush landscapes are susceptible to conversion to cheatgrass monocultures, but we believe widespread invasion here can be prevented as cheatgrass invasion is in relatively early stages. Additionally, wet meadow treatments have been an important improvement on sagebrush ecosystems, providing more and higher quality brood-rearing habitats for sage-grouse, and improving big game winter range and livestock forage quality and quantity. This grant will help land managers move forward with landscape-scale treatments and combine both wet meadow restoration and cheatgrass treatment into a more comprehensive habitat restoration effort.

Additionally, a pre-wildfire watershed assessment/mapping and fluvial hazard zone mapping will identify key locations on the landscape that can be bolstered to retain sediment on the landscape post-fire. This sort of planning and implementation is key to long term watershed protections vs. expensive short term disaster response.

We look forward to joining the Upper Gunnison River Water Conservancy District in the work to improve wet meadows, reduce the threat of cheatgrass invasion and pre-wildfire watershed planning in the Gunnison Basin in order to improve critical habitats for the Gunnison sage-grouse, wintering big game and preserve indigenous populations of cutthroat trout.

Sincerely,

Acting for

Matthew McCombs
District Ranger
Gunnison Ranger District

USDA United States Department of Agriculture | Forest Service | Gunnison Ranger District

216 North Colorado Street
Gunnison, CO 81230
970-641-0471
Fax: 970-642-4425

File Code: 2200
Date: October 29, 2020

National Fish and Wildlife Foundation
RESTORE Colorado Grant Review Committee
1133 Fifteenth Street NW, Suite 1000
Washington, DC 20005

RE: Restore Tomichi Project Proposal

Dear RESTORE Colorado Grant Review Committee,

The United States Forest Service, Gunnison Ranger District is in support of Trout Unlimited's Restore Tomichi project. This project has the potential to provide significant benefits to agricultural producers, watershed heath and wildlife habitat on public and private lands. The timing of this project is of importance as our community recovers from and prepares for future hot and dry environmental conditions

The Forest Service looks forward to working with Trout Unlimited to upgrade stockwater sources and provide guidance to the contractor hired to complete the forest fire hazard assessment. These proposed projects will provide direct and indirect benefits to rangeland and forest health resiliency.

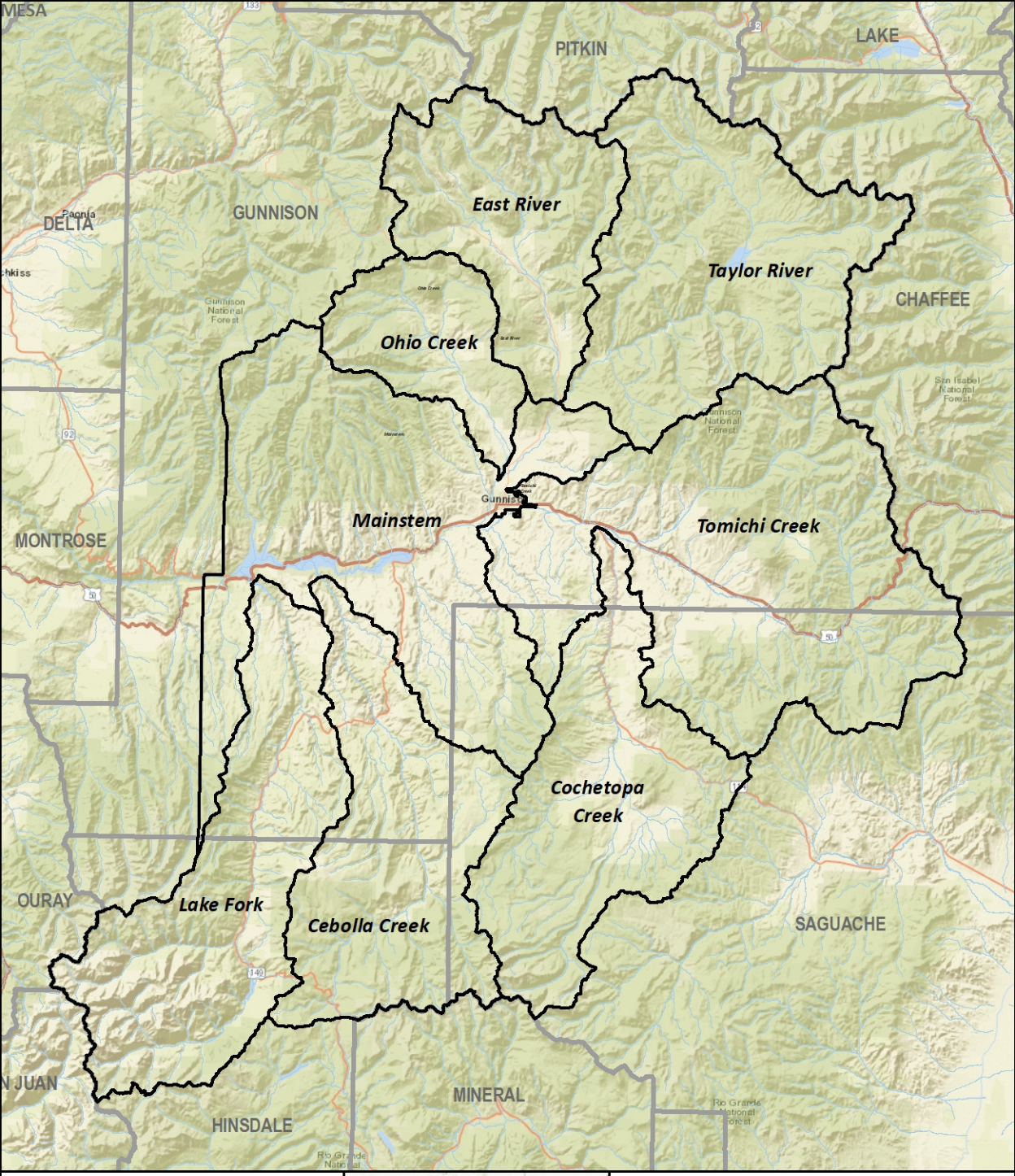
The scale of the Restore Tomichi approach will produce habitat benefits across jurisdictional boundaries on multiple private properties and federal lands. This approach will help address watershed needs of a variety of uses. For these landscape level benefits the Gunnison Ranger District encourages the grant committee to award the funds requested.

Thank you for your consideration.

Sincerely,

Acting

MATTHEW M. MCCOMBS
District Ranger



Map Legend

Watershed Boundary

County Boundary

Watershed Overview Map

Upper Gunnison River Water Conservancy District

0 5 10 20 Miles

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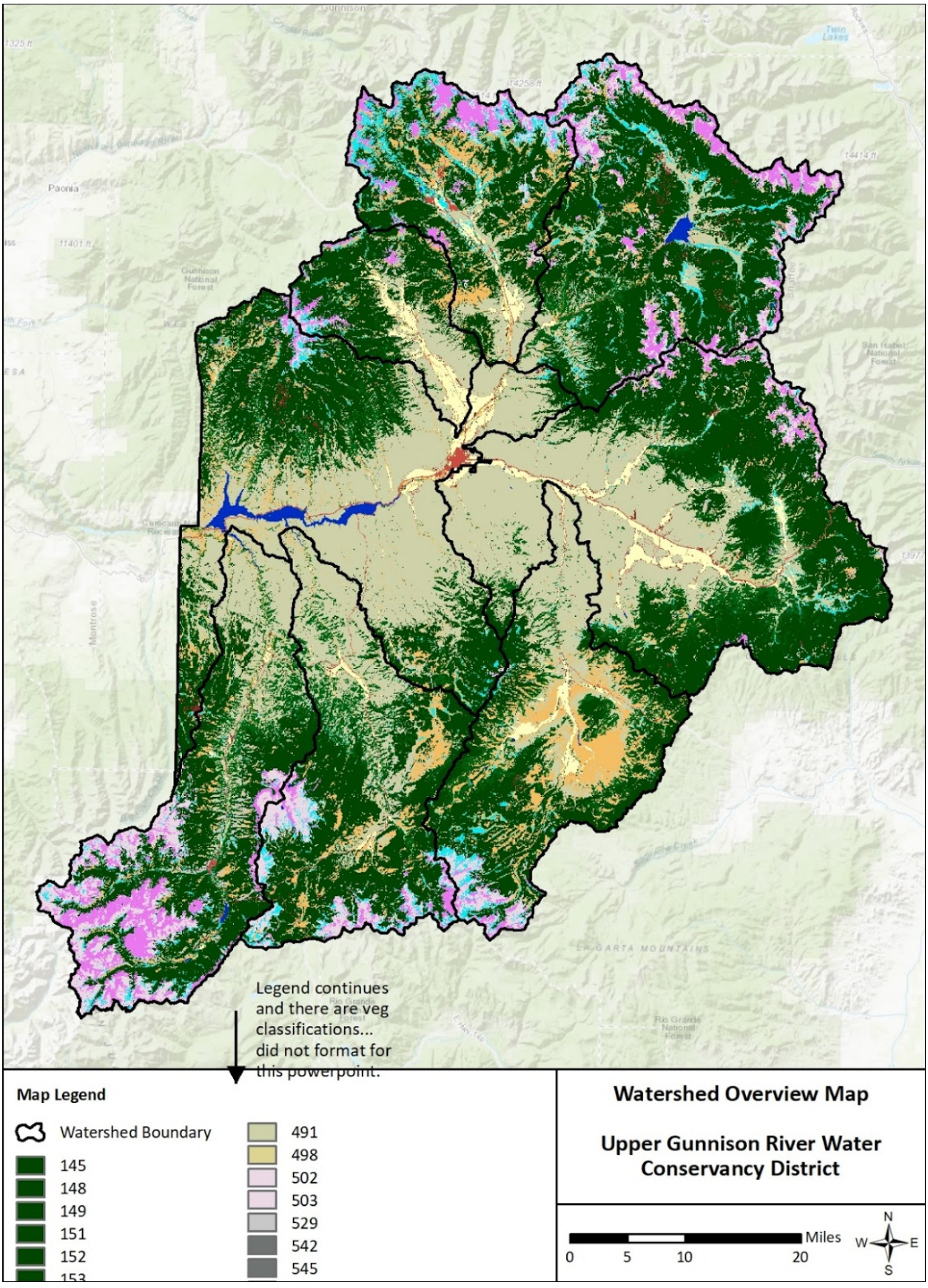
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Map Legend
Watershed Boundary
145
148
149
151
152
153
491
498
502
503
529
542
545
Watershed Overview Map
Upper Gunnison River Water Conservancy District
Miles
0
5
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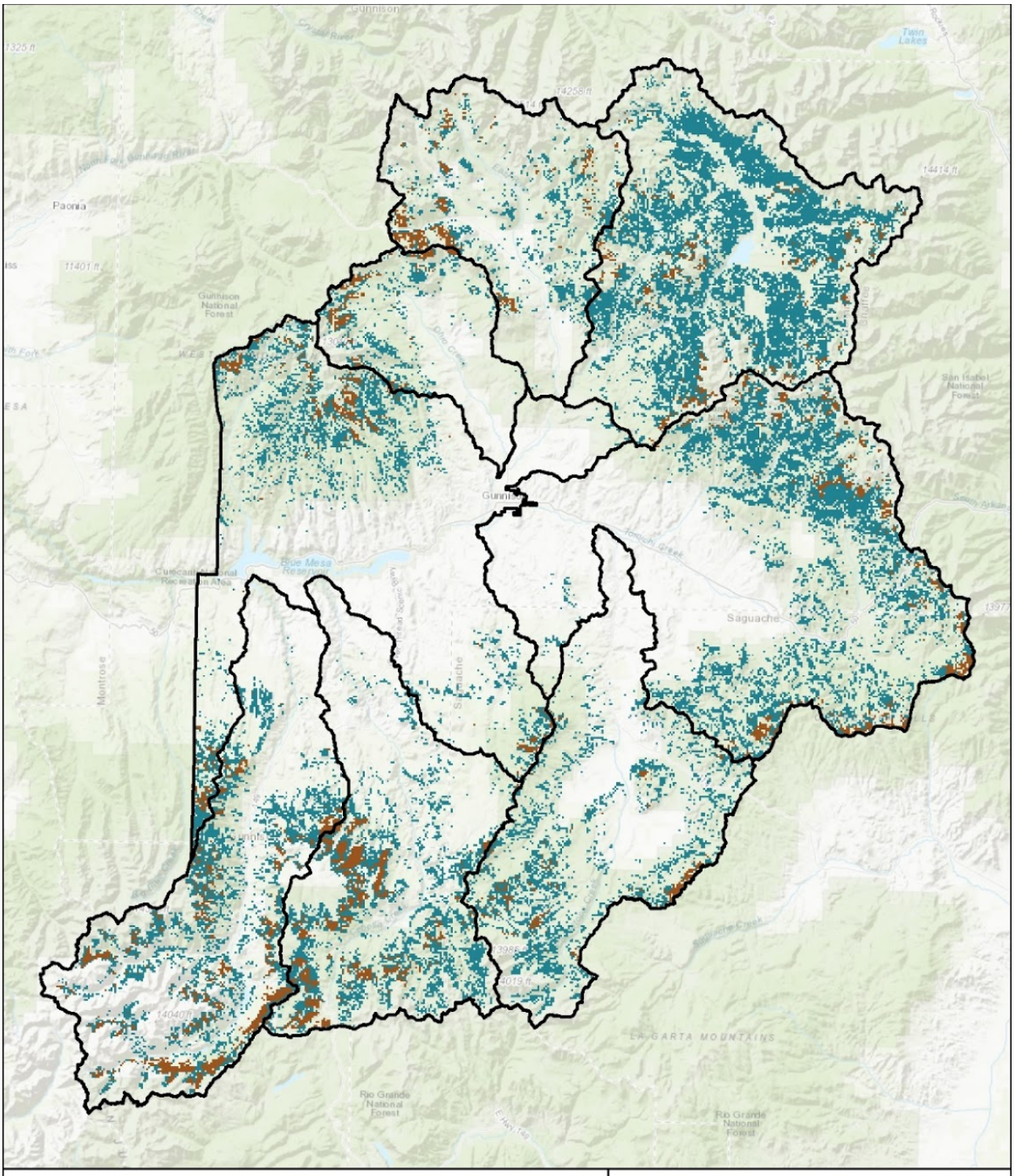
Upper Gunnison Disease & Insect Map



Map Legend

Watershed Boundary

UGRWCD_NIDRH_USFS.tif

Risk Value

Risk = 1

Risk = 2

Watershed Overview Map

Upper Gunnison River Water Conservancy District

0 5 10 20 Miles

N W E S