



**UPPER JEFFERSON RIVER WATERSHED RESTORATION PLAN
DEVELOPMENT PROJECT**

Submitted By:

The Jefferson River Watershed Council

Bureau of Reclamation 2023 WaterSMART Cooperative Watershed
Management Program Phase I Projects

Notice of Funding Opportunity No. R23AS00362

Applicant and Project Manager:

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List of Common Abbreviations

BDNF	Beaverhead-Deerlodge National Forest
BLM	United States Bureau of Land Management
cfs	Cubic feet per second
CWMP	Cooperative Watershed Management Program
GSM	Golden Sunlight Mine
DEQ	Montana Department of Environmental Quality
DMP	Drought Management Plan
DNRC	Montana Department of Natural Resources and Conservation
DOLI	Montana Department of Labor and Industry
EPA	Environmental Protection Agency
FWP	Montana Fish, Wildlife & Parks
JRWC	Jefferson River Watershed Council
JVCD	Jefferson Valley Conservation District
LTPBR	Low-tech process-based restoration
MBMG	Montana Bureau of Mines Geology
RVCD	Ruby Valley Conservation District
USBR	United States Bureau of Reclamation
USGS	United States Geological Survey
USFS	United States Forest Service
MTU	Montana Trout Unlimited

Technical Proposal and Evaluation Criteria

Executive Summary

Date: December 5, 2023

Applicant: **Jefferson River Watershed Council** - Whitehall, Madison County Montana

One of the three primary tributaries of the “Headwaters of the Missouri River,” the greater Jefferson Basin drains an area of 9,532 miles² (USGS). The headwaters of the Jefferson include the Beaverhead, Big Hole, Boulder, Red Rock, and Ruby Rivers and their tributaries (**Figure 1**). Located in southwest Montana, the Jefferson River, regularly experiences low-flow, high water temperature conditions (Leone, 2016; DEQ 2014; JRWC, 2013; FWP, 2012).

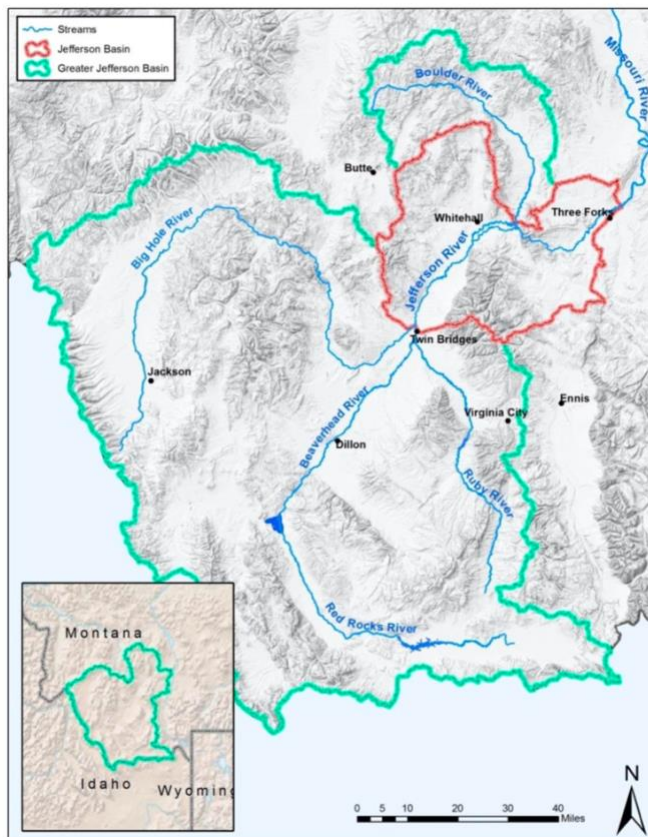


Figure 1. The greater Jefferson Basin (green) includes several, socioeconomically important HUC-8 watersheds; Red Rock, Beaverhead, Big Hole, Boulder, Ruby, and Jefferson River (red) watersheds, draining 9,532 miles² of the headwaters of the Missouri River watershed.

Since 1999, the Jefferson River Watershed Council (JRWC) has strived to achieve better water quality and quantity while enhancing the area’s natural resources and wildlife along the upper 775 miles² of Upper Jefferson River watershed and its tributaries, which is the focus of this proposal. For nearly 25 years, the JRWC has met monthly, coordinated restoration projects, successfully implemented a Drought Management Plan, and enabled watershed management planning conversations between private citizens, state and federal agencies, county governments and local non-profits, including Montana Trout Unlimited (MTU), who has been a steadfast partner to JRWC since its inception. By working together, the JRWC and MTU have made great strides – accomplishments that were once thought to be unreachable have become successful realities. This FY23 Cooperative Watershed Management Program proposal aims to leverage previous planning and prioritization efforts, such as surface water investigations and a recently completed

groundwater study by the Montana Bureau of Mines and Geology, in the basin and move priority restoration goals towards project implementation. Funds will be used to: **(1)** Support MTU staff and the JRWC in completing a Watershed Restoration Plan (WRP) for the upper Jefferson River and key tributaries, with an emphasis on stakeholder involvement, and project prioritization; **(2)** Contract technical assistance in identifying and developing low-tech, process-based restoration projects in discrete geographies that increase rangeland resiliency, increase groundwater storage, and base-flow in the Jefferson River and key tributaries; **(3)** Complete a riparian and littoral habitat assessment with the emphasis on developing at least one water temperature improvement project. These planning efforts will be completed by December 31, 2027.

Background Data

Geography and Demographics

The Upper Jefferson watershed area encompasses approximately 775 miles² of land in Madison and Jefferson counties beginning at the Jefferson River's point of origin near Twin Bridges and extending 46 miles to its confluence with the Boulder River near Cardwell. In total, the length of the Jefferson River flows approximately 83 miles before its confluence with the Madison River, and one mile downstream, the Gallatin River, the headwaters of the Missouri River. The geography of the Jefferson basin exhibits typical Southwest Montana landscapes, basin-and-range topography, sagebrush-steppe, high mountain conifer forest, and cottonwood-willow riparian forests. Land cover is dominated by a combination of grassland and irrigated agriculture (40%). A mix of several forest types, accounts for 38% of the land cover in higher elevations, sage brush-steppe 7%, dry irrigated agricultural lands 5%, and montane park lands and subalpine meadows comprise 3% of the watershed. The remaining 7% of land consists of minor amounts of 19 vegetation types (**Figure 2**). In addition to significantly impacting water quantity and quality throughout the Missouri River Basin, including US Bureau of Reclamation (USBR) Water Projects such as Canyon Ferry Reservoir, the Jefferson is a socioeconomically important river. Irrigated agriculture and open-range grazing dominate local industry in the Jefferson basin, and to a lesser extent, mineral extraction. Outdoor recreation continues to become larger proportions of the local economy, accounting for 4.4% of the State's GDP in 2021 ([DOLI, 2022](#)).

Private land dominates the upper Jefferson watershed at 45%. US Forest Service (USFS) lands account for 38.8% of the area, the U.S. Bureau of Land Management (BLM) manages another 11.5% of the area, and the State of Montana holds in public trust, 4.7%, including waterways. A number of tributary streams and spring creeks drain portions of the Tobacco Root, Highland, Bull, and Elkhorn Mountains into the Jefferson River. A variety of historical land use changes, such as agriculture, mining, and transportation networks are directly responsible for straightening or channelized the river and its tributaries. These alterations have significant effects on sediment transport dynamics and affect the stability of stream banks and natural water storage.

Water and Fish

The Jefferson is a multi-thread, freestone river, with a broad floodplain. The natural tendency of the river is to migrate within its floodplain, affecting agricultural lands and infrastructure, homes, and transportation infrastructure. Various methods to stabilize the channel and protect the floodplain development have been attempted. Many projects, especially those which block high-water channels have aggravated the river's instability. They have also increased sedimentation and removed overhanging bank vegetation, to the detriment of the aquatic resource. Jefferson inflows are highly dependent on snowmelt, rainfall, and upstream irrigation demand. Releases from two irrigation storage reservoirs, the Ruby Reservoir (37,642 acre-ft.) on the Ruby River and the Clark Canyon Reservoir (325,324 acre-ft.), a USBR facility, on the Beaverhead affect the flow patterns of the Jefferson. On interannual time scales, average yearly discharge volumes display significant variability. Multi-year variability in streamflow in the region is driven partly by large scale atmospheric processes that alter temperature and precipitation patterns ([Leone, 2016](#)).

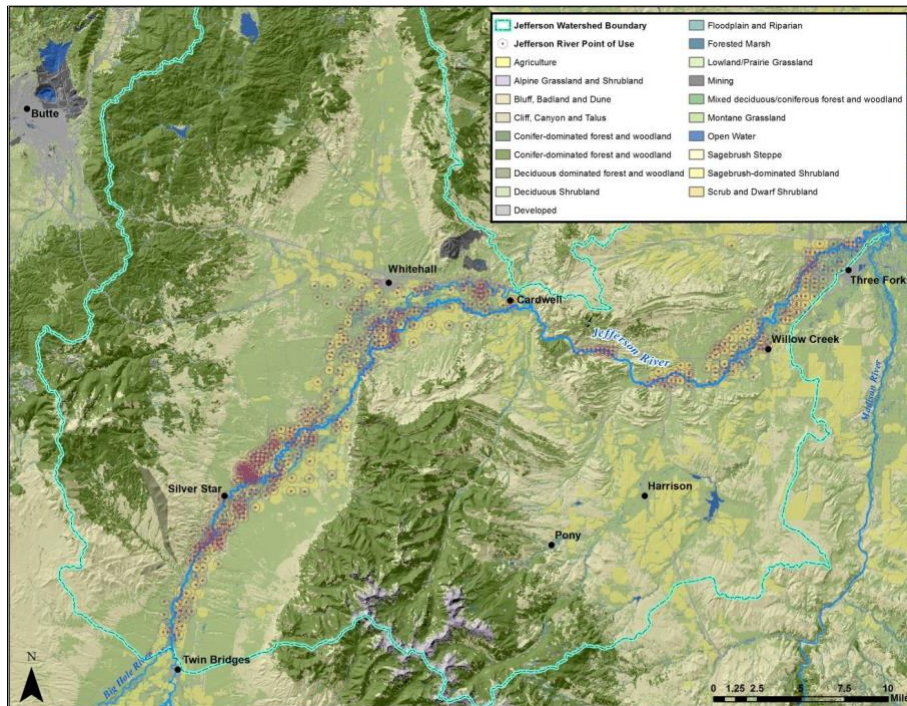


Figure 2. Locations of points of use for water rights and basin-wide habitat types.

During the irrigation season, a majority of the water in the Jefferson basin is diverted, resulting in many tributaries that don't reach the mainstem river. Throughout the course of upstream tributaries and the Jefferson River proper, river and storage water are extensively used as a source of irrigation water. In below average and even average water years, portions of the river are dewatered to varying levels of severity, exacerbated by recurring drought conditions. The primary irrigation withdrawal occurs on the upper 22 miles of the Jefferson from the river's origin downstream to Waterloo (**Figure 2**).

Downstream of Waterloo, a combination of irrigation return, tributary inflows, and geology slowly increase baseflow conditions. Four major canals, Creeklyn, Parrot, Fish Creek, and Jefferson, with a total of 1,038 cfs of water rights (Brummond 2021), greatly affect the amount of instream flow upstream of Waterloo. These four canals are the primary driver of the JRWC’s Drought Management Plan (DMP), which is managed by MTU. The DMP has been an effective mechanism in maintaining target flows on the main stem of the river and to set a standard for temperature dependent fishing restrictions (DNRC 2021). The DMP is enacted in two-phases: 600 cfs at the Twin Bridges USGS gage (06026500) the DMP warrants an alert to water users of declining conditions and requests voluntary reductions. At 280 cfs at the Twin Bridges gage, the DMP coordinator (MTU) measures irrigation withdrawal at the four major canals and shares the information with water users to help them implement measures to meet the goal of maintaining an emergency minimum instream flow of 50 cfs at the Waterloo USGS gage (06027600) (Figure 3), to prevent a catastrophic ecological collapse, such as the 1988 dry-up.

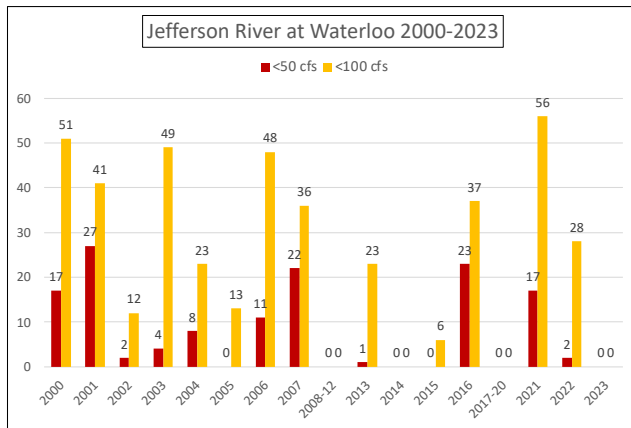
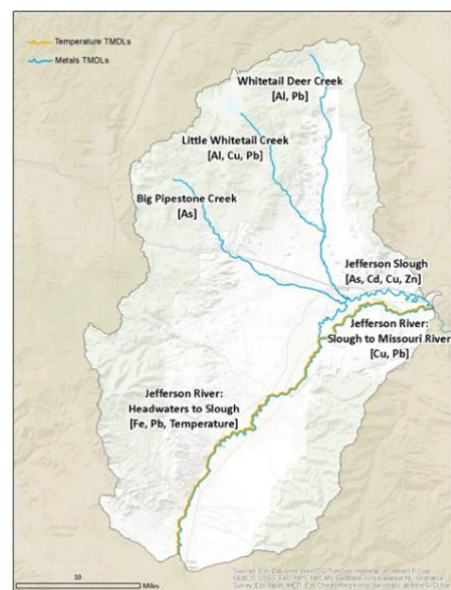


Figure 3. The number of days the discharge of the Jefferson River at Waterloo, 2000-2023, fell below the DMP minimum target of 50 cfs (red) at Waterloo and 100 cfs (yellow). Prior to 2000, there was no DMP. 2021 had the least water availability in the basin on record according to DNRC. The Montana Department of Fish, Wildlife & Parks designated this fishery as chronically dewatered.

The Upper Jefferson and its tributaries exhibit a combination of impairments that affect water quality and quantity. The Montana Department of Environmental Quality (DEQ 2014, 2013, 2012, and 2009) has documented several non-point source pollutants in the basin (Figure 4). They include, but are not limited to; temperature, flow regime modification, sediment, nutrients, and heavy metals. Land use modification in the form of mining, agriculture, and development effect waterways in the planning area. Using USBR planning dollars to fund the development of a Watershed Restoration Plan will support local solutions that will alleviate many of the impacts from these pollutants.

Figure 4. DEQ listed streams in the upper Jefferson.



Historically, native Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*), Arctic grayling (*Thymallus arcticus*), Mountain whitefish (*Prosopium williamsoni*), and a variety of baitfish were present in the Jefferson River system. The two former species are listed by the State of Montana as [Species of Concern](#). This watershed is important to the recovery of the Westslope cutthroat trout ([FWP 2022](#)) Today, nonnative, wild brown (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) are the primary gamefish in the Jefferson River basin. Fish populations trend with water availability, increasing after years with abundant instream flow and declining during drought conditions. The severe drought and associated low summer streamflow (2000-2007) reduced abundance of all species (**Figure 5**). The recovery of all species after flow improved was aided by the drought plan which likely improved survival of a baseline population that could eventually respond to improved conditions. Rainbow trout population recovery appeared to occur prior to streamflow improvements. This is likely due to Parson Slough habitat restoration and imprinting of thousands of juvenile Rainbow trout in the new Parsons Slough channel.

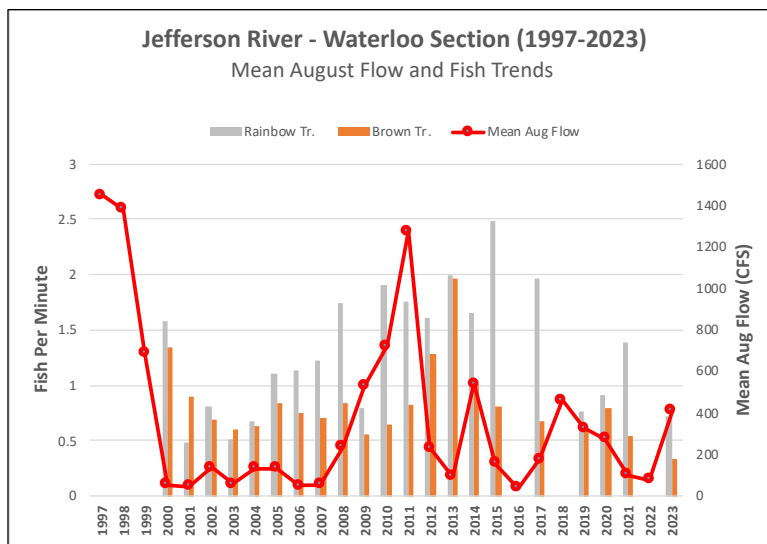


Figure 5. Jefferson River mean August flow and fish population trends (catch per effort unit). Two years after good flows there is generally an increase in fish abundance. One anomaly is the Rainbow trout abundance in 2015, which was likely related to habitat improvements and juvenile imprinting in Parson’s Slough. The DMP likely maintains a baseline population.

Upstream tributaries, Hells Canyon Creek, Parson’s Slough, Willow Springs Creek, and the Boulder River are the primary spawning locations for the river’s populations. Extensive habitat restoration and protection of these tributaries has been the focus of JRWC, MTU, and Montana Fish, Wildlife & Parks (FWP) for at least three decades. Greater focus on other tributaries is a goal of the JRWC and partners. MTU and FWP are working on a significant fish passage and water savings project with Golden Sunlight Mine on the Boulder River near Cardwell. It is anticipated that the Boulder will resume a greater role in fish recruitment and thermal refugia in the coming years.

Project Location

The Jefferson River Watershed, Hydrologic Unit Code (HUC) 10020005, flows approx. 83-miles from the confluence of the Beaverhead and Big Hole Rivers near Twin Bridges, MT, to its confluence with the Madison River near Three Forks, MT. The Boulder River Watershed, HUC

10020006, and the river’s 78-miles rise on the eastern flank of the Continental Divide north of Butte Montana in the Boulder Mountains, flowing north, turning east, gaining water from the Elkhorn Mountains, near Boulder, Montana. There, the river turns south towards its confluence with the Jefferson River near Jefferson’s mid-point at Cardwell, MT. The Boulder is a high-value, coldwater tributary and the Jefferson’s largest by volume downstream of the Beaverhead-Big Hole confluence. Due to watershed characteristics, community demographics, opportunities, the availability of TMDL determinations, and achievable goals, we are proposing to complete this planning effort on approximately the upper 46-miles of the Jefferson River and lower 15-miles of the Boulder River watersheds (Figure 6).

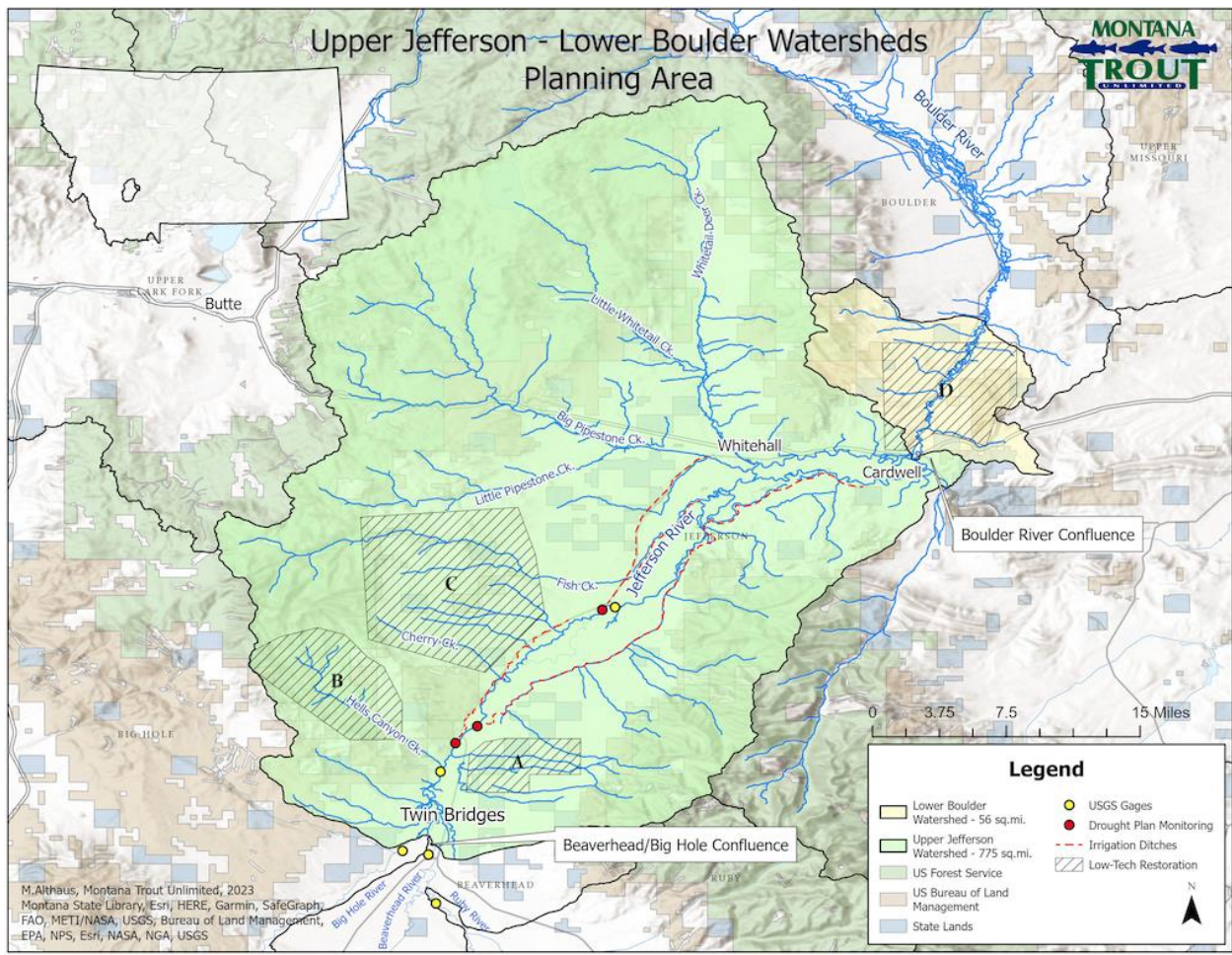


Figure 6. Upper Jefferson – Lower Boulder Watershed Planning Area. The planning project will develop a Watershed Restoration Plan for the 831 mi² region, a 60-65 miles riparian assessment, and investigate and design low-tech process-based restoration projects. National Trout Unlimited recognizes the Jefferson and Boulder Rivers as top priorities in their 2023 Priority Waters Initiative, Upper Missouri Strategic Action Plan (attached) *Map layers available upon request.*

Technical Project Description

Applicant Category

The JRWC is seeking funding as an Existing Watershed Group.

The Jefferson River Watershed Council is seeking funding as an Existing Watershed Group. Formed in 1999, the JRWC has established a project planning and monitoring system which clearly outlines the goals, objectives, tasks, and deliverables on each of its projects. The overarching goal of the Council is to seek and develop practical solutions to difficult problems which impact the upper Jefferson River. Originally made up of irrigators who wanted to ensure that water was plentiful and safe for all uses, the watershed group grew to include two conservation districts, county commissioners, mining representatives, a local business development corporation, recreationalists, sportsmen's groups, Montana Trout Unlimited (MTU), federal and state agencies, and others. While the Watershed Council's membership has waxed and waned, the continued existence of the JRWC has allow for consistent momentum for nearly 25 years.

In addition to the board, since its inception, the JRWC has operated a Voluntary Drought Management Plan, via committee. The DMP's implementation is tied to established flow and temperature triggers. The implementation of the DMP is coordinated by the JRWC Drought Coordinator (MTU project manager) in conjunction with four irrigation canal organizations, individual irrigators, upstream watershed groups, Montana Fish Wildlife & Parks, MTU, sportsman organizations, Jefferson Valley Conservation District, and fishing outfitters.

The JRWC sponsored a groundwater study by the Montana Bureau of Mines and Geology, coordinated with the DEQ on several Total Maximum Daily Load (TMDL) study areas, completed several restoration projects, and most recently has been heavily engaged in eradicating Eurasian Watermilfoil in Jefferson Slough, the highest known upstream source of this aquatic invasive species in the entire upper Missouri River basin.

Throughout its history, the JRWC has had a part-time contracted Watershed Coordinator (who is retiring in March 2024), Big Sky Watershed Coordinator, a contracted Accountant, and a contracted Drought Management Coordinator. Because of the member organizations' ability to design and implement watershed work is strained by limited staff, resources, and competing workloads, there is a growing need for the JRWC to forge new partnerships and strengthen existing ones to undertake and accomplish planning and project development work to maintain synergy. One primary partnership is with Montana Trout Unlimited, a state-wide nonprofit, who employs a project manager in the greater Jefferson watershed, with extensive experience planning and implementing watershed restoration projects throughout the Jefferson basin. The partnership with MTU will increase JRWC's capacity and connection to new technical resources,

allowing the collaborative work of watershed restoration to continue along the Jefferson River and its tributaries. The JRWC does not have an existing Watershed Restoration Plan in place, an overdue step to create a collaborative vision for future restoration work and attract certain funding sources, such as DEQs 319, non-point source pollution grant program. The proposed Upper Jefferson River Watershed Restoration Plan Development Project is intended to develop such a plan to address the increasing difficulty of maintaining Jefferson River flows in late summer due to climate change and increased demand.

Applicant Eligibility

The Jefferson River Watershed Council is a 501(c)3 nonprofit, with a board of directors elected by consensus from its watershed group members. It is a grassroots organization that formed to meet the needs of local landowners, resources managers, and corporations in stewarding fisheries, agricultural, and water resources. While the JRWC partners with government agencies that have regulatory authority, these entities do not serve on the board and the JRWC works only in voluntary restoration and drought management. The group seeks to be a positive voice for the effective management and enhancement of the basin's resources. The JRWC operates on a cooperative and consensus basis and has been a model for watershed groups in Montana.

Mission and Goals

The JRWC is a forum to promote locally based resource management in the Upper Jefferson watershed. Through a spirit of cooperation and shared sacrifice, our mission is to *coordinate efforts that will enhance, conserve, and protect the natural resources, the quality of life, and the economic vitality of the area.*

The overarching goals of the group include:

- Maintain or improve buy-in for the Drought Management Plan;
- and, improve water quality and quantity through a collaboratively developed watershed planning, strategies, and restoration projects.

The immediate goals of our proposed activities are to:

- Develop a long-term vision of watershed health and restoration projects that support that vision through the development of a Watershed Restoration Plan;
- Pursue new partnerships in these planning efforts, with specific focus on stakeholder engagement;
- Initiate project planning and design for priority projects through collaboration with Montana Trout Unlimited;
- and, have multiple "shovel-ready" projects on hand that to translate into on-the-ground implementation.

Approach

The JRWC has a successful history of partnering with state and federal agencies, private land-owners and non-profits to identify and implement projects within the watershed, developing trusting relationships with these various stakeholders. In 2019, in concert with the Montana Bureau of Mines and Geology-Ground Water Investigation Program (MBMG), we completed a groundwater study. The conclusion of the study pointed to developing projects that protect surface-groundwater interactions throughout the system. JRWC's DMP is one of the longest-running in Montana. It's the only one we're aware of that includes recording up-to-date irrigation withdrawal data so irrigators can make informed decisions on water management to maintain an emergency minimum base-flow. Stream temperatures are increasingly a basin-wide issue. Recently, there has been focused attention from conservation groups, commercial fishing interest, concerned public, and media on historically low FWP long-term fish population trend data in the Jefferson Basin ([NYT 2023](#)). The JRWC and MTU are in the position to create meaningful impacts through watershed planning. Our proposed activities for the CWMP Phase I grant builds upon the momentum of nearly 25-year effort to bring our neighbors together to create a WRP and plan projects that improve water availability, as outlined in the Tasks below:

Task A - Watershed Group Development:

The JRWC is not proposing activities related to Task A.

Task B - Watershed Restoration Planning:

B1. *Watershed Restoration Plan (WRP), Planning and Completion:* MTU, JRWC, and a Montana Conservation Corp. member will engage with local stakeholders to plan and develop a WRP. Due to the watershed characteristics, community demographics, opportunities, the availability of TMDL determinations, and achievable goals, the partners will guide the development of a single, or two separate WRPs. The goal of the Council is to create a long-term vision of restoration and watershed health for approximately the upper 55% of the Jefferson and the lower 20 % of the Boulder River watersheds. This approach has the support of the Montana Department of Environmental Quality (DEQ - personal communication). The JRWC intends to have draft WRP(s) ready for review in December 2026 with a final draft ready in early 2027. We are requesting **\$49,460** to support a part-time WRP Developer and a Montana Conservation Corps. Big Sky Watershed Coordinator (BSWC). Their time will be used to **1)** Complete stakeholder outreach, **2)** complete a review of technical documents, **3)** complete a draft Watershed Restoration Plan, **4)** collect and incorporate edits and suggestions from stakeholders on the draft WRP, including the DEQ, and **5)** Finalize the WRP and submit to the DEQ for final approval. A key component of all of the above tasks will be outreach to key stakeholders in the drainage, by providing up-to-date information on the JRWC website and via email, as well as targeted efforts to engage diverse entities, by personal contact.

B2. *Monitoring Activities*: MTU will hire and coordinate with a watershed consultant to complete a riparian assessment from Mile 00 on the Jefferson to Mile 46 and the Boulder River Mile 60 to 78. Both surveys will finish at mouth of the Boulder River. Data will be collected by an FAA-certified drone pilot with an RGB camera, providing normal/true color imagery, georeferenced and orthorectified image of the flight area, and a georeferenced Digital Surface Model. This survey will include a technical narrative, and GIS layers. The information collected will inform the WRP and future restoration opportunities. We are requesting **\$76,310** for MTU to **1)** develop a scope of work, **2)** solicit and procure a watershed consultant with the requisite skillset, **3)** provide funding to complete the assessments, **4)** provide funding to complete the technical narrative and mapping. Relevant information will be available on the website and shared with JRWC's email listserv and the USBR if requested.

Task C – Watershed Management Project Design:

C1. *Technical Assistance and Project Development*: Over the past two years, July 2021-October 2023, the JRWC and MTU identified four general locations, based on geography, willing landowners, and potential benefits to Jefferson River baseflow, to investigate the feasibility of low-tech process-based restoration projects (LTPBR, conifer removal, beaver dam analogs, etc.) in the WRP project area. Three areas are in the Jefferson Basin (A. Sandru Ranch – Tobacco Root Bench, B. Hells Canyon Creek watershed, C. Holt-Baker Ranch - Highlands Bench), and one is in the Boulder Basin (C. Lower Boulder River Benches), see map (Figure 6). This will require technical services outside of the skill set of JRWC and MTU staff to guide project development and implementation. We are requesting **\$27,965** to: **1)** Support a BSWC to assist with the project. **2)** Coordinate with the MBMG to review its [Groundwater/Surface-Water Study in the Upper Jefferson Valley](#) (2023) and the [Hydrogeologic Investigation of the Boulder Valley](#) (2016). The lead author of these studies, Andy Bobst, will be an invaluable resource in this task. His knowledge and data regarding the distribution of hydrogeologic units (the geologic units where groundwater flows) and the groundwater budget (an estimation of the inflows and outflows of the groundwater system) will be key in identifying areas where groundwater storage will have outsized benefits to the overall watershed. We also plan to obtain technical input from FWP and the National Wildlife Federation **3)** Coordinate with willing landowners to refine the viability of moving one or more LTPBR project areas to **Task C2**. This budget item also includes time for MTU and BSWC to attend field visits and complete training opportunities. This exposure will help enable these groups to perform basic site assessments/project scoping in the future, better recognize restoration opportunities, and create lasting capacity for MTU to support JRWC in developing future projects.

C2. *Complete Site-specific Project Design*: Utilize the analysis completed in **TASK C1** to design and engineer at least one medium to large-scale LTPBR project in one of the LTPBR planning areas of the WRP planning area. We are requesting **\$37,410** for MTU project manager and BSWC to: **1)** to

develop a scope of work. **2)** solicit and procure a LTBPR consultant to design the project, environmental surveying, writing grants to secure project funding, complete the necessary pre-project monitoring, and permitting.

Evaluation Criteria

Evaluation Criterion A - Watershed Group Diversity and Geographic Scope

Sub-criterion No. A1. Watershed Group Diversity

Stakeholders in the upper Jefferson watershed include residents, landowners, agricultural producers, industry, NGOs, and land managers, as well as those who recreate, use, and value water resources along the river. Key stakeholders include:

- **Public Land Managers:** The Jefferson watershed is a moderately rural area with 55% in public ownership. Agency representatives from the US Forest Service, US Bureau of Land Management, and the State (DEQ DNRC, FWP, and Montana State Parks), play a crucial role in land management, data collection, and regulatory policy.
- **Ranchers:** The area provides significant agricultural production and is home to scores of multi-generational ranches. Many local ranchers are the founders and backbone of the JRWC and the drought management plan (DMP).
- **Mining:** Golden Sunlight Mine (GSM) is Montana's most historically profitable gold and silver mines. GSM financially contributes to the DMP, and is partnering with MTU and FWP on removing a documented fish barrier on the lower Boulder River. Limestone is quarried in the Pipestone Creek drainage and an open-pit chlorite mine operates intermittently southwest of Silver Star. Several small mining claims exist in the area.
- **Hydropower:** Water flowing through the Jefferson plays a significant role in power production at the state-owned Toston Dam and the USBR facility, Canyon Ferry Reservoir.
- **Anglers:** Southwest Montana is a premier trout fishing destination, creating a significant portion of the local economy. MTU has direct connections with this community.
- **Private Land Owners:** Landowners (who largely reside in the valley along the Jefferson River and its tributaries) have invested in maintaining and restoring riparian health.
- **NGOs:** Several NGOs operate in the greater Jefferson watershed. MTU and JRWC are the primary NGOs operating in the HUC 8 Jefferson watershed. Coordination with up- and downstream groups will contribute to the success of the planning effort.

Formal JRWC membership and advisors currently include:

- Beaverhead-Deerlodge National Forest – rotating
- Bureau of Land Management – rotating

- Canal Groups (Creekllyn, Parrot, Fish Creek, and Jefferson)
- Golden Sunlight Mine
- Jefferson Business Development Corporation
- Jefferson County Commissioner
- Jefferson Valley Conservation District
- Montana Bureau of Mines and Geology
- Montana Fish, Wildlife & Parks
- Montana Trout Unlimited
- Natural Resources Conservation Service

Beyond formal membership, the JRWC welcomes all interested parties to attend monthly meetings and participate in watershed planning activities. Representatives from the following have all participated in watershed group meetings and activities:

- Beaverhead Watershed Committee
- Big Hole Watershed Committee
- Jefferson and Madison Counties (i.e., the county planner, floodplain administrator, etc.)
- Missouri Headwaters Partnership (representatives from each HUC 8 in the watershed)
- Montana Department of Environmental Quality
 - This planning effort will better engage the DEQ
- Montana Department of Natural Resources and Conservation
 - This planning effort will better engage the DNRC
- Montana Land Reliance (local nonprofit land trust)
- The Nature Conservancy (a world-wide nonprofit with local representation)
- Ruby Valley Conservation District
- Ruby Valley Strategic Alliance
- Soil and Water Conservation Districts of Montana (a statewide nonprofit)
- Trout Unlimited (a national nonprofit)
- Interested landowners and residents

Sub-criterion No. A2. Geographic Scope

The Jefferson River is formed by the convergence of the Ruby, Beaverhead, and Big Hole Rivers, near present-day Twin Bridges. From there, it flows for 83 miles before combining with the Madison and Gallatin Rivers at the headwaters of the Missouri River. The upper Jefferson River watershed planning area encompasses approximately 775 square miles of land in Jefferson and Madison counties and 56 square miles of the lower Boulder Watershed in Jefferson County. A number of tributary streams drain portions of the Tobacco Root, Highland, Bull, Boulder, and Elkhorn Mountain ranges.

Evaluation Criterion B - Developing Strategies to Address Critical Watershed Needs

The JRWC, along with its partners have built and sustained a network of resource specialists to ensure that our work targets critical watershed needs by using the best available science. Our *rolodex* of state and federal biologist and land managers, concerned citizens, irrigators, ranchers, and NGOs are the foundation of the JRWC's accomplishments and progress. Our partners deeply understand the intricacies of the regions ecological landscape and offer an invaluable perspective in prioritizing our work. Our partnership with Montana Trout Unlimited, a science-based non-profit, goes back for more than two decades. MTU's personnel changed about five years ago, when they dedicated a full-time project manager in the basin. They have been steadfast contributors to this perspective while enhancing our capacity to address watershed needs on the ground through technical assistance and contracted management of our drought plan.

Sub-criterion No. B1. Critical Watershed Needs or Issues

The Upper Jefferson Watershed, including the Lower Boulder Watershed face two primary aquatic resource concerns. Since the inception of the JRWC more than two and a half decades ago, these longstanding concerns have been well documented by several agencies, primarily FWP, DEQ, and to a lesser extent, the USFS and BLM. While significant progress has been made, it is now time to bring disparate data, knowledge, and interests together to create a Watershed Restoration Plan and complimentary projects to address critical watershed needs through a vetted plan and wholistic restoration practices, at a time when JRWS's watershed coordinator is retiring. The CWMP grant funding will be used to increase MTU's capacity to assist the JRWC with the development and planning of restoration opportunities with each resource concern:

1. *Water Quality and Quantity*

- *Resource Concern:* The mainstem Jefferson and many of its tributaries, including the Lower Boulder, exceed Total Maximum Daily Loads (TMDLs) for singular or multiple impairments from human-caused pollutants/pollution affecting their beneficial uses, as defined by the Clean Water Act (DEQ, 2021). Flow Regime Modification (reduced water quantity due to irrigation) is the primary impairment, it is also the most visible to the general observer. Elevated water temperatures are another primary concern and correlate with low flows caused by irrigation withdrawal. Excess sediment/siltation has degraded aquatic habitat and poses a threat to infrastructure (irrigation diversions and dams, such as downstream USBR facilities). TMDL exceedance for metals (lead, iron, copper, arsenic, aluminum, cadmium, zinc) and ammonia from legacy and active mining, especially on the Lower Boulder, pose a risk to aquatic and human health. Impacts from agriculture and grazing contribute to elevated levels of nutrients (nitrogen, nitrate, and phosphorus) and alterations in littoral vegetation which increases total suspended solids in the aquatic ecosystem, suppressing macroinvertebrates at the base of the food chain.

- *Restoration Opportunities:* Given the wide-ranging impairments, there are innumerable opportunities to improve the ecosystem. The development of a Watershed Restoration Plan (**B1**) will help create a long-term vision for restoration in the upper Jefferson and lower Boulder River watersheds. A riparian assessment (**B2**) will identify streamside degradation, inform the WRP, and assist the watershed group and its partners in prioritizing water quality and quantity projects. Planning and designing medium to large scale LTPBR projects (**C1 and C2**) in strategic areas will boost tributary and mainstem river base flows by slowing down runoff and improving natural storage. Increasing base flows is one way to mitigate the pollutants in the system. Planning and design that leads to the implementation of restoration projects will boost riparian function in the floodplains and rangelands in the basin. All of these planning areas will give the watershed group and local agricultural producers more tools to soften the sharp edge of recurring drought conditions.

2. *Declining Ecological Resiliency*

- *Resource Concern:* Existing impairments, combined with rapid, regional population growth, and more variable climate conditions are having a compound effect on our water resources. Stream channels have been modified and over-simplified to accommodate agriculture, housing development, transportation, and to reduce the risk of flooding, limiting a stream's ability to self-regulate, setting the river morphology on a negative feedback loop. It is now well-accepted that simplifying stream channels can lead to greater flooding impacts, especially with the increasing risk of rain-on-snow events, such as the historic 2022 Yellowstone flooding. Low water conditions have reduced the streamside vegetation and limited habitat complexity, further increasing the vulnerability of the effects of flooding. In 2021, the region experienced the most severe low-flow, high-temperature river conditions since the extreme 1988 drought. June 28, 2021 was the earliest local rivers went on drought and fishing restrictions since their inception in the early 2000s. Water rights in the basin are over-appropriated. FWP lists the Jefferson as chronically-dewatered. There are more than 1000cfs of water rights in the 22 miles between Twin Bridges and Waterloo. During August, it is common for the Jefferson to flow 200-300 cfs at the Twin Bridges USGS gage and less than 50 cfs at the Waterloo USGS gage. Without the cooperation from irrigators in the DMP, the river would go dry 8 out of 10 years (**Figure 3**). Four discrete tributaries, including the Boulder River, and the mainstem Jefferson are impaired for a combination of flow modification, loss of streamside habitat, temperature, heavy metals, and nutrients (DEQ, 2021). All of these impairments are compounding the ecological impacts down to the local food web. Of the three native salmonids in the basin, only Mountain whitefish is still widely distribution.

Westslope cutthroat trout only exist in the very headwaters of a few tributaries. Arctic grayling have been extirpated from the Jefferson and Boulder watersheds.

- *Restoration Opportunities:* Creation of WRP (**B1**) is intended to solicit input and create buy-in from a broad spectrum of stakeholders to develop a long-term plan to improve ecological resiliency in a watershed. Additionally, a WRP shows other grantors that this watershed is worth investing in, and opens up specific funding sources like the DEQ's-319 non-point source pollution grant program. Tasks B2 (riparian assessment), C1 and C2 (LTPBR project planning and design), are all working towards a common goal of creating a more sustainable and drought resilient watershed for all.

All Tasks in this planning proposal will prepare JRWC, MTU, and their partners to continue to pursue drought resiliency, and aquatic restoration funding through the USBR.

Sub-criterion No. B2. Project Benefits

The JRWC has been active for nearly 25 years, bringing disparate interest groups together, for the benefit of all users in the watershed, for the health of the watershed, and creating an undercurrent of progress. The JRWC is in the position to bridge the gap between agency's science-based management priorities and the goals of local landowners to write a new chapter of watershed health and resiliency. Key functions the JRWC performs in the watershed are to:

1. **Facilitate grassroots collaboration** by providing a monthly forum for stakeholders to share challenges and ideas on Jefferson watershed related issues and projects.
2. **Coordinate volunteer drought management plan with MTU** by collecting up-to-date irrigation withdrawal data, communication and organization of meetings with irrigators, and community outreach via email and local news outlets.
3. **Communicate with partners** regarding ongoing, future and past projects; and any developments pertaining to watershed resources in the Jefferson basin.
4. **Coordinate restoration projects and activities** that promote water quality and quantity, improve fish habitat, and support the ecological health of the watershed in line with multi-partner planning, prioritizing, and strategizing.
5. **Harness resources** for Jefferson watershed projects by pursuing coordinated funding from government grants, foundation grants, and corporate contributions.
6. **Maintain records** of past projects and efforts in the watershed independent of land ownership boundaries, project area, or agency jurisdiction in order to document the legacy of conservation efforts and inform future efforts.
7. **Engage and educate** stakeholders, landowners, and public in watershed health, the benefits of restoration, and the specific goals of present, past and potential projects.

The activities described in this proposal will build on a history of fostering trust through collaboration in the watershed, and motivate further stakeholder outreach. Much of the JRWC's and MTU's past successes in implementing on-the-ground projects and the drought management plan are due to collaborative project planning, funding, implementation, and monitoring. Stakeholder outreach and partnership building associated with each proposed task are:

- *B1. Watershed Restoration Plan (WRP), Planning and Completion:* The development of a WRP creates a natural confluence to engage existing (direct contact) and new stakeholders (email, press release, and web site) in the planning area. The planning process will identify opportunities to restore and enhance rangeland and streams in the watershed for the benefit of water quality and wild trout fisheries while meeting resident and industry needs such as recreational access and agriculture.
- *B2. Monitoring activities:* Completion of riparian monitoring will have a more targeted stakeholder outreach approach. To date, many landowners have already been engaged in securing a letter of support from Jefferson River irrigators for this planning effort. Landowners who are not irrigators will be contacted directly. Leading this effort, the MTU project manager will develop a Scope of Work and advertise a Request for Proposals to hire a qualified consulting firm, and/or drone pilot to complete the assessment.
 - C1. Technical Assistance and Project Development:* The JRWC and MTU have been pursuing LTPBR opportunities in the Jefferson basin for several years. In 2021, MTU had informal conversations with landowners on planning sites *A. Sandru Ranch – Tobacco Root Bench*. In 2022, MTU submitted a conceptual project proposal to the USFS and BLM on the planning site *B. Hells Canyon Cr. Watershed*. In 2023, MTU and JRWC joined FWP, National Wildlife Federation, and a landowner to investigate opportunities on planning site, *C. Holt-Baker Ranch - Highlands Bench*. We have received multiple requests by landowners to investigate the, *D. Lower Boulder River Benches*. See map (Figure 6.) for LTPBR project investigation sites A-D. Completion of this task will engage agency, NGOs, and consultants with LTPBR expertise, including the MBMG, FWP, and the NWF.
- *C2. Complete Site-specific Project Design:* Once task C1 is complete, the project lead will further engage with at least one, possibly two landowners and enter into a landowner agreement. A contractor will be hired to complete conceptual designs, planview sketches, conifer removal units, and finally, final design and permitting.

Task B: Watershed Restoration Planning

- B1. WRP Completion and Project Planning
JRWC's efforts in developing a long overdue WRP will require significant stakeholder outreach, planning, and organization. A kick-off meeting will be held for the development of the WRP in the second quarter of 2025. From then on, quarterly meetings will be held

to share ideas, and synchronize a path towards completion of a draft-WRP by December 2026. The JRWC will continue monthly business meetings. Progress reports will be shared with the board. Recently, the DEQ, who is responsible for submitting draft-WRP's to the EPA, have been encouraging groups to identify specific projects in a WRP to address non-point source pollution. The content and projects identified in the *Upper Jefferson-Lower Boulder River WRP* will largely be directly developed by stakeholders and facilitated by JRWC, MTU, and their partners. The WRP will address the following issues and topics to satisfy the requirements of the EPA and those of local stakeholders:

- Water quality, as identified by the DEQ in their 2020 Montana Water Quality Integrated Report, released in 2021.
 - Water quantity, as identified as the limiting factor for the fishery by FWP, and primary interest of the JRWC's longstanding drought management plan, and MTU.
 - Specific planning and projects such as, but not limited to, those identified in **Tasks B2 and C2**.
- B2. Monitoring
Data collection in the form of a riparian mapping and assessment will inform the development of the WRP, **Task B1**, and potential projects or implementation of best management practices (i.e., riparian fencing, wetland development, etc.). Use of this data will give the JRWC, MTU, and their partners a base-line synopsis of riparian conditions. Mapping will illustrate the relationship between riparian health and degradation of water quality and to a lesser degree, quantity. Maps are a powerful tool when applying for grant funding or sharing resource concerns and project successes.

Task C: Watershed Management Project Design

Project development and design activities described in this proposal are an outgrowth of previous and ongoing watershed planning activities, performed by JRWC and MTU. These activities will translate the momentum of planning efforts into project development and eventual implementation. The work will be accomplished through collaboration under the following tasks, also described in the Technical Project Description:

- C1. Technical Assistance and Project Development
Low-tech process-based restoration (LTPBR) (conifer removal, beaver dam analogs, post-assisted log structures, Zeedyk structures) are a set of rapidly evolving tools across the West, including in Southwest Montana. The basin and range topography, and large landownerships of the Jefferson and Boulder River basins are an ideal geography to perform this work at scale. Building on previous studies by MBMG, and conversations

with local landowners whose land has experienced the ecological uplift provided by LTPBR, the partners aim to identify where these types of projects, at scale, will build watershed resiliency.

- C2. Complete Site-specific Project Design

Utilizing the investigation analysis completed in **TASK C1**, the project partners will advertise a Request for Proposals to design, engineer, and permit at least one medium to large-scale LTBPR project in one of the LTPBR planning areas of the WRP planning area. This will be a targeted and intentional implementation of LTPBR to build watershed resilience by improving riparian and range conditions. Improving these areas will give agricultural producers more tools to soften the sting of drought conditions in the basin. Where feasible, the project design will target areas where groundwater aquifers connected to the Jefferson will improve base-flow conditions over time.

Evaluation Criterion C - Readiness to Proceed

The *Upper Jefferson River Watershed Restoration Plan Development Project* is strongly supported by the members of JRWC’s Board of Directors and Drought Committee, and Montana Trout Unlimited as described in the previous sections. We have reviewed the program requirements and can comply with all requisite timeframes and reporting. Our budget request has been split between the three funding years as required and can be completed within the 3-year timeframe.

B1. Watershed Restoration Plan, Planning and Completion (\$49,460; FY2025 - FY2027)

TASK	MILESTONES
<p>Stakeholder kickoff and meeting Dates: April 2025</p>	<ul style="list-style-type: none"> • Direct and indirect (email, press release, etc. invitation to stakeholders • Host public meeting
<p>Quarterly stakeholder meetings Dates: June 2025 – December 2026</p>	<ul style="list-style-type: none"> • Communicate with interested stakeholders • Host quarterly meetings to solicit ideas and share progress • Compile Watershed data from studies
<p>Prepare Draft WRP Dates: December 2025 – December 2026</p>	<ul style="list-style-type: none"> • Draft WRP completed by December 2026
<p>Collect and incorporate edits and suggestions from stakeholders on draft WRP</p>	<ul style="list-style-type: none"> • Solicit input on draft WRP • Incorporate input and revise draft

Dates: April 2025 – December 2026	<ul style="list-style-type: none"> • Submit draft WRP to DEQ for review and approval
Upper Jefferson-Lower Boulder WRP finalized and approved Dates: December 2025 – March 2027	<ul style="list-style-type: none"> • Incorporate edits received from DEQ on draft WRP • Final stakeholder meeting • Resubmit to DEQ for approval • Final reporting to CWMP • Share WRP with local libraries and on JRWC's website

B2. Monitoring (\$76,310; FY2025 - FY2027)

TASK	MILESTONES
Hire a consultant Dates: March 2025	<ul style="list-style-type: none"> • Develop a Request for Proposals (RFP) • Advertise RFP • Score proposals and hire consultant • Develop scope of work and sign contract
Data collection Dates: May 2025 - June 2026	<ul style="list-style-type: none"> • Consultant to fly environmental drone for imagery and associated data on riparian zone
Final report Dates: December 2026	<ul style="list-style-type: none"> • Consultant to provide partners with final report • Public meeting on findings • Final reporting to CWMP

C1. Technical Assistance and Project Development (\$27,965; 2025-2027)

TASK	MILESTONES
Kick-off meeting with stakeholders to identify projects and leverage technical assistance Dates: July 2025	<ul style="list-style-type: none"> • Direct invitation to relevant stakeholders, including relevant landowners, MBMG, USFS, and BLM • Host meeting

<p>Complete technical assistance services and reporting Dates: July 2025 – December 2026</p>	<ul style="list-style-type: none"> • On-the-ground site investigation • Draft conceptual plan
<p>Close project Dates: June 2027</p>	<ul style="list-style-type: none"> • Final Conceptual Plan

C2. Complete Site-specific Project Design (\$37,410; 2027)

TASK	MILESTONES
<p>Project planning and contracting Dates: October 2026 – March 2027</p>	<ul style="list-style-type: none"> • Utilize project identification in Task C1 to determine project/s to pursue • Develop scope of work, request proposals in open bidding process, select contractor to complete design
<p>Survey and conceptual design Dates: April - June 2027</p>	<ul style="list-style-type: none"> • Contractor completes topographical survey of the project area/s • Contractor develops planview for LTBPR and maps logging units • Contractor develops Conceptual Design and recommendations for project implementation
<p>LTPBR-Conifer removal restoration design Dates: June - October 2027</p>	<ul style="list-style-type: none"> • Review conceptual design with relevant landowner/s, MTU, and JRWC • Contractor develops final design
<p>Close project Dates: October - December 2027</p>	<ul style="list-style-type: none"> • Final design due to JRWC, MTU, and relevant landowners (private, State, USFS, or BLM) • Final reporting to CWMP

Evaluation Criterion D - Presidential and Department of the Interior Priorities

Climate Change

The [2017 Montana Climate Assessment \(MCA\)](#) showed that impacts from climate change are anticipated to drastically alter Montana's hydrologic cycle in the coming decades (Whitlock et al. 2017). For example, the MCA found that overall snowpack values have been steadily declining across the state due to rising temperatures. In addition, changes to the hydrologic regimes in mountainous areas have resulted in earlier snowmelt runoff and reductions in late season stream flows. Climate predictions are forecasting that these patterns will continue, and the future impacts will only increase in magnitude. The MCA found that climate change is anticipated to significantly increase average stream temperatures in the northern Rockies exacerbate the severity of future drought episodes. The combination of reductions in late season stream flow and increases in summer stream temperatures have already adversely impacted Montana's coldwater fisheries ([Cline et al. 2022](#)). See *MTU's Policy on Climate Change (2023, attached)*.

Disadvantaged or Underserved Communities

While this planning area is not formally considered historically underserved, the White House Council on Environmental Quality identify adjacent areas, Butte Montana (26 mi.) and Townsend (34 mi.). Both Townsend and Butte qualify for low income/life expectancy, and Butte for poverty. Access to high-quality outdoor experiences can alleviate stress, improve mental health, and build resiliency in individuals. Butte is adjacent to a Superfund Site; the Jefferson watershed is one of the most accessible outdoor regions to its residents and has a significant water right on the Jefferson River. Lastly, Townsend qualifies for flood risks. Restoration and intact floodplains can reduce this downstream flood risk to Townsend.

There are not the quality and diversity of services in the Jefferson watershed compared to adjacent watersheds. The area can be considered economically disadvantaged relative to the wealth of surrounding counties. Census data shows that Montana has recently experienced a significant rise in high-income households, mostly in urban centers, which has exacerbated the rural-urban income gap. This socio-economic trend in Montana, combined with high inflation and low economic development and employment opportunities in rural agricultural counties, render places such as the planning area economically challenged. Climate change has increased the potential for severe droughts, especially those that occur quickly and without significant indicators, i.e., "flash droughts" ([Hoell et al. 2019](#)), to which the socioeconomic conditions of the region are particularly vulnerable. This project will build watershed resiliency, create additional reliability of water supplies for these economically disadvantaged agricultural communities, to some degree, address historic environmental challenges, and provide a measure of adaptation to uncertain future climate impacts.

Tribal Benefits

This project does not directly provide tribal benefits.

Environmental and Cultural Resources Compliance

The proposed planning activities do not require compliance review.

Required Permits or Approvals

No agency approvals or permits are required for this project at this time.

Project Budget

Table 1.

JRWC Budget Items	Price per Unit	Quantity	Unit	Total Request	FY25 Request	FY26 Request	FY27 Request
Project Planning Support							
MCC Service Member	See Request per Year	1	Service Year	\$ 45,582	\$ 12,751	\$ 15,732	\$ 17,099
MCC Per Diem	See Request per Year	1	Service Year	\$ 3,000	\$ 1,000	\$ 1,000	\$ 1,000
Laptop and Monitor for MCC	est. \$1,000	1	Each	\$ 1,000	\$ 1,000	\$ -	\$ -
Satellite Internet	\$ 1,000	1	Year	\$ 3,000	\$ 1,000	\$ 1,000	\$ 1,000
Subtotal				\$ 52,582	\$ 15,751	\$ 17,732	\$ 19,099
B1. WRP Completion and Project Planning							
MTU Contractor	\$ 50	520	Hours	\$ 26,000	\$ 11,000	\$ 11,000	\$ 4,000
Travel	\$ 0.655	8000	Miles	\$ 5,240	\$ 2,620	\$ 2,620	\$ -
Conference Room	\$ 200	10	Each	\$ 2,000	\$ 800	\$ 1,000	\$ 200
Web Developer	Variable	18	Months	\$ 11,220	\$ 3,600	\$ 3,720	\$ 3,900
Digital Projector and Screen	est. \$1,000	1	Each	\$ 1,000	\$ 1,000	\$ -	\$ -
Meeting and Misc. Supplies	N/A	N/A	N/A	\$ 4,000	\$ 2,000	\$ -	\$ 2,000
Subtotal				\$ 49,460	\$ 21,020	\$ 18,340	\$ 10,100
B2. Monitoring							
MTU Contractor	\$ 50	180	Hours	\$ 10,000	\$ 6,000	\$ 3,000	\$ 1,000
Travel	\$ 0.655	2000	Miles	\$1,310	\$ 655	\$ 655	\$ -
Drone Imaging	\$ 1,000	65	Miles	\$ 65,000	\$ 27,500	\$ 27,500	\$ 10,000
Subtotal				\$ 76,310	\$ 34,155	\$ 31,155	\$ 11,000
C1. Technical Assistance and Project Development							
MTU Contractor	\$ 50	120	Hours	\$ 6,000	\$ 2,000	\$ 3,000	\$ 1,000
NWF Contractor	\$ 50	400	Hours	\$ 20,000	\$ 10,000	\$ 10,000	\$ -
Travel	\$ 0.655	3000	Miles	\$ 1,965	\$ 983.00	\$ 982.00	\$ -
Subtotal				\$ 27,965	\$ 12,983.00	\$ 13,982.00	\$ 1,000
C2. Complete Site-specific Project Design							
MTU Contractor	\$ 50	180	Hours	\$ 9,000	\$ -	\$ 2,000	\$ 7,000
NWF Contractor	\$ 50	100	Hours	\$ 5,000	\$ -	\$ -	\$ 5,000
LTPBR Contractor	N/A	N/A	N/A	\$ 21,000	\$ -		\$ 20,000
LTPBR Training	\$ 700			\$ 2,100	\$ -	\$ 700	\$ 1,400
Travel	\$ 0.655	2000	Miles	\$ 1,310	\$ -	\$ -	\$ 1,310
Subtotal				\$ 37,410	\$ -	\$ 2,700	\$ 34,710
Compliance Reporting and Finalization of Tasks							
Compliance and Reporting	\$ 50	220	Hours	\$ 11,000	\$ 1,000	\$ 1,000	\$ 9,000
Certified Public Acct.	\$500	18	Months	\$ 18,000	\$ 6,000	\$ 6,000	\$ 6,000
Subtotal				\$ 29,000	\$ 7,000	\$ 7,000	\$ 15,000
TOTAL DIRECT COSTS				\$ 272,727	\$ 90,909	\$ 90,909	\$ 90,909
INDIRECT COST				TYPE	PERCENTAGE	BASE	
JRWC Administration	de minimus		10%	\$ 272,727			
TOTAL INDIRECT COSTS				\$ 27,273	\$ 9,091	\$ 9,091	\$ 9,091
TOTAL PROJECT COST				\$ 300,000	\$ 100,000	\$ 100,000	\$ 100,000

Budget Narrative

a. Personnel - \$45,582

The Jefferson River Watershed Council and Montana Trout Unlimited will hire a Montana Conservation Corps. (MCC) member to assist in all tasks including, but not limited to, the organizing and hosting stakeholder meetings, data collections, compilation of existing data, and development of a Watershed Restoration Plan. In 2025, an MCC Conservation Fellow will complete their service from May through October. In 2026 and 2027, an MCC Big Sky Watershed Coordinator will complete their service from January through November of each year.

Cost estimate breakdown to hire an MCC service member:

FY25 Conservation Fellow, \$12,751

FY26 Big Sky Watershed Coord. \$15,732

FY27 Big Sky Watershed Coord. \$17,099

b. Fringe Benefits

No fringe benefits request in this proposal

c. Travel - \$12,825

Travel expenses consist of mileage reimbursement, based on the 2023 federal rate of \$0.655/mile. Proposed travel includes round trip mileage between Dillon, MT. and the Jefferson and Boulder River watersheds for Montana Trout Unlimited (MTU) and MCC member (120 miles r/t) and National Wildlife Federation from Missoula (300 miles r/t), including additional travel to project sites within the watershed. Travel will be required for stakeholder meetings, site assessments, and project planning activities as outlined in the budget proposal. Total travel expected is 15,000 miles. To support the MCC is a service position, the budget includes \$1,000 per diem per year on days/trips working on the planning activities outlined in the proposal.

d. Equipment - \$5,000

Equipment needed for the project is a laptop and second monitor (\$1,000) for the MCC member. They will be used for the life of the project. A digital projector and screen (\$1,000) will be necessary for public meetings. Satellite internet (\$1,000/yr. for 3 years) will keep the project participants connected.

e. Supplies - \$4,000

Miscellaneous meeting supplies and printing will be necessary for the life of the project. Field notebooks and other supplies will be needed for field work.

f. Contractual - \$190,000

With the retirement of the JRWC watershed coordinator, JRWC will need significant contractual obligations to complete the project.

Michael Blakeley, CPA (\$18,000)

FY25, 26, 27: 18 months @\$500/mo.

Montana Trout Unlimited (\$62,000)

FY25: 400 hours @ \$50/hr. for tasks B1, B2, C1

FY26: 400 hours @ \$50/hr. for tasks B1, B2, C1, C2

FY27: 440 hours @ \$50/hr. for tasks B1, B2, C1, C2

Watershed Consultant/Drone Pilot (\$65,000)

FY25, FY26, and FY27: 65 miles @ \$1,000/mi. for drone imaging, processing, and deliverables for task B2.

National Wildlife Federation (\$25,000)

FY25: 200 hours @ \$50/hr. for task C1

FY26: 200 hours @ \$50/hr. for tasks C1, C2

FY27: 100 hours @ \$50/hr. for task C2

LTPBR Engineering Contractor (\$20,000)

FY27: \$20,000 for task C2

g. Construction - \$0

The JRWC is not proposing any construction activities in this grant.

h. Other Direct Costs - \$15,320

FY25, 26, 27: Web developer and site hosting, \$11,220

FY26, 27: 3 LTPBR Trainings @ \$700/training for tasks C1, C2

FY25, 26, 27: Borden's Meeting Room in Whitehall MT. 10 meetings @ \$200/mtg. for task B1.

i. Total Direct Costs - \$272,727

Total direct costs of the project.

j. Indirect Costs - \$27,273

The JRWC is requesting 10% of the base direct costs to cover indirect expenses. This rate is allowable and comparable to other grants received. Indirect total is.

k. TOTALS - \$300,000

Total planning project cost.

References

- Brummond, A. Montana Department of Fish, Wildlife and Parks, personal comm, 2021
- Cline et al. (2022) [Socioeconomic Resilience to Climatic Extremes in a Freshwater Fishery](#)
- DEQ – Montana Department of Environmental Quality (2021) [Montana 2020 Water Quality Integrated Report – Final](#)
- DEQ – Montana Department of Environmental Quality (2014) [Jefferson River Metals Project Area and Water Quality Improvement Plan](#)
- DEQ – Montana Department of Environmental Quality (2014) [Lower Beaverhead and Upper Jefferson River TMDLs](#)
- DEQ – Montana Department of Environmental Quality (2013) [Boulder-Elkhorn Sediment, Nutrient, and Temperature TMDLs and Water Quality Improvement Plans](#)
- DEQ – Montana Department of Environmental Quality (2012) [Boulder-Elkhorn Metals TMDL and Framework Water Quality Improvement Plan](#)
- DEQ – Montana Department of Environmental Quality (2009) [Upper Jefferson River Tributary Sediment TMDLs and Framework Water Quality Improvement Plan](#)
- DNRC – Montana Department of Natural Resources and Conservation (2021) [Missouri Headwaters Basin Drought Contingency Plan](#)
- DOLI - Montana Department of Labor and Industry (2022) [Montana’s Outdoor Economy](#)
- FWP - Montana Department of Fish, Wildlife & Parks (2022) [Westslope Cutthroat Trout Conservation Strategy for the Missouri River Headwaters of Southwest Montana](#)
- Hoell, et al. (2019) [Lessons Learned from the 2017 Flash Drought across the U.S. Northern Great Plains and Canadian Prairies](#)
- Leone, A. *Thesis*. (2016) [Impacts of Low Summer Streamflows on Water Resources in the Jefferson Valley](#)
- MBMG – Montana Bureau of Mines and Geology (2023) [Groundwater/Surface-water Study in the Upper Jefferson Valley, Montana](#)
- MBMG – Montana Bureau of Mines and Geology (2016) [Hydrogeologic Investigation of the Boulder Valley](#)
- Montana Trout Unlimited (2023) Policy on Climate Change
- Oakey, M. Montana Department of Environmental Quality, personal comm, 9/27/2023
- Robbins, J. New York Times (2023-Sept.) [Zombie Trout Unsettle Montana, Long a Fly-Fishing Mecca](#)
- Trout Unlimited (2023) Priority Waters Initiative, Upper Missouri Strategic Action Plan
- Whitlock C, Cross W, Maxwell B, Silverman N, Wade AA. (2017) [Montana Climate Assessment](#). Bozeman and Missoula MT: Montana State University and University of Montana, Montana Institute on Ecosystems.

Attachments

Board Resolution

Jefferson River Watershed Council - Board Resolution, signed November 2, 2023.

Trout Unlimited Policy Statements

- Montana Trout Unlimited, *Policy on Climate Change*
- Trout Unlimited, *Priority Waters - Upper Missouri Strategic Action Plan*

Letters of Support

- Barrick Gold Corporation, Golden Sunlight Mine
- George Grant Chapter of Trout Unlimited
- Jefferson Valley Conservation District
- Jefferson Valley Irrigators
- Montana Bureau of Mines and Geology
- Montana Department of Fish, Wildlife & Parks
- Montana Trout Unlimited
- National Wildlife Federation
- Ruby Valley Conservation District

Jefferson River Watershed Council

RESOLUTION

Board of Directors Meeting November 2, 2023

Approval of Application for Grant Funds from the Bureau of Reclamation WaterSMART Cooperative Watershed Management Program Phase I for Fiscal Year 2023

Funding Opportunity Announcement # R23AS00362

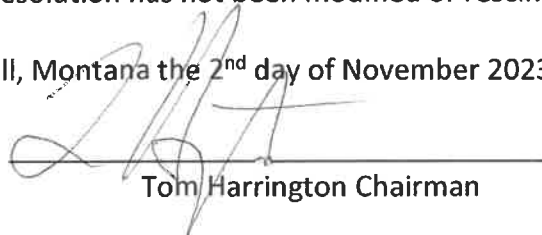
RESOLVED, that the Board of Directors of the Jefferson River Watershed Council (JRWC) identifies Chris Edginton, JRWC Drought Management Coordinator, as possessing the legal authority to enter the JRWC into contractual agreements and financial and legal obligations associated with the receipt of an Cooperative Watershed Management Program Phase I for Fiscal Year 2023 award.

RESOLVED FURTHER, that if the JRWC is selected to receive funds through the Cooperative Watershed Management Program it will work with the Bureau of Reclamation to meet established deadlines for entering into a financial assistance agreement.

RESOLVED FURTHER, that the Board of Directors supports the application for the project, "Upper Jefferson River Restoration Plan Development," as it furthers the JRWC's mission to protect and restore the upper Jefferson River.

I Tom Harrington, certify that I am the duly elected and acting Chairman of the Jefferson River Watershed Council, a not-for-profit corporation organized under the laws of the state of Montana. I further certify that the resolution set forth above was adopted by the Board of Directors of the Jefferson River Watershed Council at a duly noted meeting on November 2, 2023, and that said resolution has not been modified or rescinded.

Executed in Whitehall, Montana the 2nd day of November 2023.



Tom Harrington Chairman



Montana Trout Unlimited Policy on Climate Change

Scope and Purpose

The mission of Montana Trout Unlimited (MTU) is to conserve, protect, and restore Montana's coldwater fisheries and their watersheds. Our pursuit of that mission includes promoting more climate resilient land and water management by maximizing habitat conservation and minimizing impacts. Specifically, we aim to help build healthier streams and floodplains where native riparian and aquatic ecosystems can continue to thrive well into a climate-impacted future. We also support more broad-reaching policy and systems changes that will help combat climate change such as the development, construction and operation of alternative energy projects or the decommissioning of outdated energy projects and facilities.

MTU is uniquely qualified to influence the formulation and implementation of an environmentally sound and responsible energy policy at the national, state, and local levels. Our efforts will complement those of TU's more than 150,000 members, most of whom are sportsmen, sportswomen and anglers, have detailed knowledge of local and regional conditions, and a long and successful history in planning and carrying out conservation projects. TU also has a highly qualified and capable professional conservation staff. And TU has a proven track record of science-based analysis using respected tools such as the Conservation Success Index (CSI) for evaluating and mitigating impacts on coldwater fisheries and their watersheds throughout North America. In addition, TU has completed an ecological footprint analysis that prioritizes areas suitable and unsuitable for future energy development activities. Similar work has been done to identify priority waters where investments in trout-friendly work will be sustainable based on future climate forecasts.

The purpose of this policy statement is to provide guidance for MTU's conservation activities as they relate to land and water use, management or protection associated with such things as energy development, production, transmission and transportation as they affect coldwater fisheries and their watersheds.

Policy Statement

1. Climate Change

Climate change poses a significant long-term threat to North America's coldwater fisheries and their watersheds, both by increasing water temperatures in critical habitat

areas and by contributing to the frequency and severity of adverse weather events. MTU recognizes the powerful connection between energy choices and climate change.

We understand that preventing the severe harmful effects on coldwater fisheries and their watersheds requires both a reduction in greenhouse gas emissions from existing industry as well as a shift from fossil fuels to low-carbon technologies and conservation. MTU supports policies and systemic changes that will reduce greenhouse gas emissions and hasten the shift to low-carbon energy sources.

However, the harmful effects of climate change on coldwater fisheries and their watersheds are already present. Because of this, MTU will also continue to advocate for policies and approaches that make communities and landscapes more resilient to the effects of climate change and to do so in a way that benefits wild and native coldwater fisheries and their watersheds.

2. Responsible Energy Development

It is TU and MTU's policy to encourage energy development in a way that meets the needs of people while eliminating, minimizing, or mitigating the impacts to coldwater fisheries and their watersheds.

Collaborative stewardship is MTU's preferred approach to achieving the organization's conservation goals. Accordingly, where there is potential for collaboratively developed solutions, consistent with MTU's goals, MTU will work with all stakeholders, including, federal, state, and local government officials, industry, other conservation organizations, the public and other interested parties, to ensure that all reasonable efforts are made to avoid or mitigate the impacts energy development may have on coldwater fisheries and their watersheds.

MTU will work constructively with interested industry leaders and energy project developers to encourage them to identify and implement best practices for the design, siting, construction, operation, and decommissioning of projects to eliminate, minimize or mitigate their impacts on coldwater fisheries and their watersheds. In pursuing potential collaboration, MTU will fully consider relevant scientific, social, political and economic factors and make informed decisions.

There may be cases in which proposed energy development cannot be reconciled with MTU's conservation goals. This could include proposed energy development in areas of critical coldwater fishery habitats, exceptional landscapes or the use of development methods that are unacceptable, owing to the likely primary and secondary deleterious effects of the development on coldwater fisheries and their watersheds. In such cases, MTU may oppose the proposed development.

MTU will work to help shape energy development legislation, regulations and policies at the federal, state, and local levels, and to influence the development, siting and operation of individual energy projects and related energy transportation projects, to eliminate,

minimize or mitigate adverse impacts on coldwater resources and their watersheds. MTU will also advocate for robust and effective regulation of energy resource development and use on both public and private lands at the federal, state, and local levels as appropriate, including the development of adequate regulatory frameworks and adequate resources to support permitting, oversight, and inspection and enforcement of regulatory requirements.

Responsible energy development most often occurs when full information concerning the proposed development is available to the public. MTU will work to ensure the availability of adequate information and individual project details to help identify potential adverse impacts on coldwater fisheries and their watersheds and to support effective regulation of energy technologies and projects.

MTU will encourage opportunities for effective and meaningful participation by the public and other interested parties in the energy project development, siting, permitting, approval, distribution and decommissioning process. MTU will also work to ensure effective enforcement and mitigation measures where needed to correct energy project failures, and violations of regulatory requirements or project specific commitments, and to mitigate and remediate any damage to coldwater fisheries and their watersheds.

MTU will continue to resource TU members in Montana with current scientific and legislative information. Under the Biden Administration's Infrastructure Law and Inflation Reduction Act the United States has made the largest investment in clean energy and climate action in an attempt to meet climate mitigation goals and strengthen energy security. MTU will raise our level of involvement in keeping the public aware of the federal and state programs they can use to take individual steps to make themselves and their communities become more resilient and protect coldwater fisheries and their watersheds from the impacts of climate change.

3. Climate Equity

Not only does climate change threaten coldwater fisheries and their watersheds, but it also poses current and increasing threats to human health. The effects can worsen existing differences in health outcomes for communities in the United States and does not affect all people equally.

MTU is committed to supporting communities, particularly those facing disproportionate impacts made worse by climate change. MTU recognizes and will continue to address the unequal burdens by developing and implementing equitable solutions to build a resilient community. Achieving equity means all people – regardless of race, color, gender, age, sexuality, national origin, ability or income – have a right to live in safe, healthy, fair communities.

MTU believes a well-rounded approach to climate protection should include benefits to the coldwater fisheries, their watersheds and be shared by all people.



Strategic Action Plan

Priority Water: Upper Missouri River Basin

Five-year Vision Statement: Take action to ensure that the legendary wild trout fisheries across the Missouri headwaters will be healthier and more resilient by reconnecting habitats, restoring stream flows and improving fish passage where appropriate. Improve the stability and resilience of watershed conditions to ensure sustainable, thriving populations of native fish, particularly Westslope cutthroat trout and Arctic grayling in their native range.

Five-year Conservation Goals

1. Make measurable progress to restore native Westslope cutthroat trout and Arctic grayling populations in their native range through habitat protection and improvement.
2. Improve instream flow and water temperatures in mainstem habitat and key tributaries including the Jefferson, Madison, Gallatin, Smith, Ruby, Big Hole, Beaverhead, Red Rock, Boulder, and Middle Fork Judith Rivers.
3. Restore and reconnect habitats and water quality impaired by historical land use changes such as mining, agriculture and development.
4. Protect quality riparian and aquatic habitats, and watersheds.
5. Support effective wild and native trout management, natural resource stewardship, and policy.

Primary Conservation Strategies

- Habitat Restoration
 - Restore and protect riparian habitat and reconnect floodplains.
 - Work with private landowners and public land managers to restore aquatic habitats in priority watersheds.
 - Work with private landowners and agency partners to restore priority abandoned mine sites.
- Fish Passage
 - Reconnect migratory corridors by removing or replacing dams, culverts, and other barriers to fish passage where possible. Secure native trout habitat through non-native removal and barrier installation where necessary.
 - Restore year-round streamflows in dewatered tributaries for spawning migrations, juvenile rearing, and access to thermal refugia.
 - Install and maintain fish screens on diversion sites where entrainment loss is limiting migratory populations.
- Instream Flow
 - Negotiate water leases and management agreements that contribute to meeting instream flow targets in tributaries and mainstems.
 - Work with irrigators to conserve water and create innovative solutions that support agriculture and fisheries.
 - Seek opportunities to utilize or improve natural or hardened existing headwaters storage, and groundwater recharge areas.
 - Build Gallatin Water Trust mitigation bank to protect instream flow in face of growth in Gallatin Valley.

-
- Advocacy
 - Support and defend wild trout management as the basis for Southwest Montana native and wild trout fisheries.
 - Identify and pursue funding opportunities for implementation of these goals.
 - Protect intact headwaters habitats around the basin.
 - Protect Smith River and tributaries from risky new mine development.

Current Partners

- Montana Trout Unlimited, Madison Gallatin Chapter TU, George Grant Chapter TU, Chuck Robbins Chapter TU, Pat Barnes Chapter TU, Missouri River Fly Fishers, Snowy Mountain Chapter TU (Goals 1,2,3,4,5)
- Gallatin Watershed Council, Gallatin River Task Force, Montana Freshwater Partners, Big Hole Watershed Committee, Jefferson River Watershed Council, Big Hole River Foundation, Ruby Valley Strategic Alliance, Sun River Watershed Group (Goals 3,4,5)
- Warriors and Quiet Waters (Goal 3)
- Big Hole Candidate Conservation Agreement with Assurances (Goal 1,3)
- Arctic Grayling Recovery Program (Goal 1)
- Madison Conservation District, Jefferson Valley Conservation District, Ruby Valley Conservation District and Watershed Council, Beaverhead Conservation District and Watershed Committee (Goals 3,4,5)
- Beaverhead-Deerlodge Working Group, Beaverhead County Collaborative (Goal 5)
- Barrick Gold-Golden Sunlight Mine (Goals 3, 4)
- Fishing Outfitters Association of Montana (Goal 5)
- Montana Fish, Wildlife, and Parks (Goals 1,2,3,4,5)
- USFWS – Red Rock Lakes NWR (Goal 1)
- Four Corners Foundation (Goal 2)

Potential Partners and Affected Communities

- Beaverhead County, Madison County, Jefferson County, Butte-Silver Bow County
- University of Montana, University of Montana Western, Montana Tech
- Montana Bureau of Mines and Geology
- The Nature Conservancy, Centennial Valley Association, Missouri Headwaters Partnership, Montana Backcountry Hunters and Anglers, Youth Employment Program, Heart of the Rockies, Beaverhead Trails Coalition

Decisionmakers

- MT Department of Environmental Quality
- MT Department of Natural Resources and Conservation
- MT Fish, Wildlife & Parks
- US Forest Service, Beaverhead-Deerlodge National Forest
- US Fish and Wildlife Service, Red Rock Lakes National Wildlife Refuge
- US Bureau of Land Management
- US Bureau of Reclamation
- Natural Resources Conservation Service

December 1, 2023

Golden Sunlight Mine
453 MT Hwy 2 East
Whitehall, MT. 59714

Department of the Interior
Bureau of Reclamation
Water Resources and Planning Office

RE: Support for Funding Opportunity No. R23AS00362

To Whom It May Concern:

Golden Sunlight Mine (GSM) has supported and partnered with the Jefferson River Watershed Council (JRWC) for over two decades. GSM has provided financial support for their drought management plan and several habitat projects. The JRWC provides a critical conduit, connecting our community with stewardship.

We were pleased to learn that the JRWC is pursuing a Bureau of Reclamation grant to build on their existing foundation. After more than two decades of effort, it is time for the JRWC to begin new planning efforts with irrigators, landowners, local residents, and agencies to build watershed resilience.

GSM fully supports the Jefferson River Watershed Council's application for the Bureau of Reclamation - Cooperative Watershed Management Program proposal for FY 2023. Preparation of a Watershed Restoration Plan is an overdue step for attracting funding resources to implement projects to improve the health of the watershed and the economy tied to the resources.

Thank you for your consideration of financial support for the Jefferson Watershed.

Sincerely,



Chuck Buus
Sustainability Manager
Golden Sunlight Mine

George Grant TU
PO Box 563
Butte, MT 59703
Cold Clean Fishable Water



Department of the Interior
Bureau of Reclamation
Water Resources and Planning Office

RE: Support for Funding Opportunity No. R23AS00362

Dear BOR-CWMP Review Panel:

The members of George Grant Chapter of Trout Unlimited (GGTU) would like to express our unified support for the Jefferson River Watershed Council's (JRWC) and Montana Trout Unlimited's (MTU) Bureau of Reclamation (BOR) FY 2023 - Cooperative Watershed Management Program proposal. We have been stewards of the Upper Missouri Headwaters ecosystem for more than 50 years. The Jefferson Watershed relies on the JRWC to manage the drought management plan, develop habitat improvement projects, and to be a steady voice for the river.

The mission of the GGTU is to preserve, protect and restore the wild trout fisheries of Southwest Montana. We are proud to call the Big Hole, Beaverhead, Jefferson, and Boulder River our home waters. Headquartered in Butte, Montana, we pride ourselves on being a conservation organization representing the interests of anglers. We work closely with local Montana Fish, Wildlife & Parks Fisheries' Biologists and TU Project Managers to improve fisheries throughout our area by supporting and funding project opportunities.

In the model of George Grant, our patriarch, we pride ourselves on taking on tough, sometimes controversial issues that are in the interests of trout and our members. Our chapter has taken leadership roles on many of Montana's most important laws including: the Montana Streambed Preservation Act, often known as the 310-law. Our diverse board of 17 directors prefer to work collaboratively, and frequently do with organizations such as the JRWC.

After frequent and intense drought conditions throughout Southwest Montana, our waterways and the fisheries and socioeconomic values they support are in decline. We are pleased to know the JRWC and MTU are taking on strategic watershed planning to build their capacity to carry out restoration efforts. To that end, we are asking that the BOR support the proposal from JRWC with funding to complete a Watershed Restoration Plan, develop low-tech restoration projects, and complete a riparian habitat assessment. These efforts will write a new chapter of collaboration to build watershed resilience in the watershed.

Thank you for your consideration of financial support for the JRWC and MTU.

Sincerely,

A handwritten signature in cursive script that reads "Forrest C. Jay". The signature is written in black ink and is positioned below the word "Sincerely,".

Forrest Jay

GGTU President)



P.O. Box 890
Whitehall, MT 59759
406-287-7875
jvmh57@outlook.com

Mark Gornick, Vice-Chair
John Heide, Supervisor

Tom Carey, Jr., Chair

Vincent Keogh, Supervisor
Jack Dawson, Supervisor

November 21, 2023

Department of the Interior
Bureau of Reclamation
Water Resources and Planning Office

RE: Support for Funding Opportunity No. R23AS00362

Dear CWRP Review Committee,

The Jefferson Valley Conservation District (JVCD) supports the Jefferson River Watershed Council (JRWC) and Montana Trout Unlimited's proposal to fund planning efforts within the Jefferson Watershed. The Jefferson Drought Plan and many other efforts of the JRWC have been significant for promoting resource conservation.

The JVCD urges BOR to support the JRWC grant application that funds development of a Watershed Restoration Plan and a completes a riparian habitat assessment. This effort will guide JRWC to enhance the health of the watershed and create resiliency during recurring drought conditions.

Sincerely,


Tom Carey, Jr., Chair
Jefferson Valley Conservation District

December 1, 2023

Department of the Interior
Bureau of Reclamation
Water Resources and Planning Office

RE: Support for Funding Opportunity No. R23AS00362

To Whom It May Concern:

The Jefferson River irrigators who represent the four primary canal groups (Creeoklyn, Parrot, Jefferson, and Fish Creek) would like to express our support for the Jefferson River Watershed Council's (JRWC) Bureau of Reclamation FY 2023 - Cooperative Watershed Management Program proposal.

Our canal groups were instrumental in the formation of the JRWC in the late-1990s. The group was formed out of concern of the impacts of drought on the river and our livelihoods. We have made great strides as water users to maintain emergency minimum flows at the Waterloo USGS gage, even during the most difficult years. For example, in 2021, there was less water availability in the system than during the river-drying event of 1988, yet, collectively, we were able to keep the river wet and prevented a catastrophic collapse of the fishery. It is a daunting task, when all of us rely on irrigation water to make ends meet. We have made immense sacrifices.

To that end, we are asking that the BOR support the JRWC with funding to complete a Watershed Restoration Plan, develop low-tech restoration projects, and complete a riparian habitat assessment. This effort will help soften the sharp edge of drought conditions.

This watershed relies on the JRWC to manage the drought management plan, develop habitat improvement projects, and to be a steady voice for the river.

Thank you for your consideration of financial support for the JRWC,

Tracy, President, Creeoklyn Ditch

John Merkel President Jefferson Canal JP

John Patritti vic president Jefferson Canal, Holt-Baker Ranch

Jo Nelson - President Parrot Ditch

Rubben Sandra Ranch

November 30, 2023

To: US Bureau of Reclamation

Re: JRWC/TU Proposal: Upper Jefferson River Watershed Restoration Plan Development Project

The Ground Water Investigation Program (GWIP) of the Montana Bureau of Mines and Geology (MBMG) has conducted groundwater investigations in the Boulder River and Upper Jefferson River areas. This includes developing groundwater flow models in some areas. These studies focused on the potential effects from increased groundwater use for new residential developments, and on the effects of changing irrigation practices. One objective for these projects was to develop a more detailed understanding of the groundwater flow systems in these areas, which could be used to guide future water management activities.

The Jefferson River Watershed Council and Trout Unlimited (JRWC/TU) are proposing to plan and design low-tech restoration projects to increase the amount of groundwater flowing to streams. The proposed project areas are in and near the GWIP Boulder and Upper Jefferson study areas. There is relatively detailed information on the groundwater flow systems in these areas. The proposal includes consulting with MBMG to assure that information gained through the GWIP studies is properly taken into consideration for these projects. MBMG welcomes this use of our studies, and supports the JRWC/TU proposal.

Sincerely,



Andrew L. Bobst
Hydrogeologist
Ground Water Investigation Program
Montana Bureau of Mines and Geology
abobst@mtech.edu
406-496-4409





Department of the Interior
Bureau of Reclamation
Water Resources and Planning Office

November 7, 2023

RE: Support for Funding Opportunity No. R23AS00362

To Whom It May Concern:

Funding support for the Jefferson River Watershed Council (JRWC) is important to maintain progress with the existing efforts, and to begin forging new work to protect this valuable watershed. In concert with major irrigation districts, JRWC and Montana Trout Unlimited provided support to assist with many fish habitat improvement projects and were key for implementing a drought management plan to prevent dewatering of the river. Montana Fish, Wildlife & Parks (FWP) provided technical assistance and cost match for many projects from 2000-2023.

FWP fully supports the Jefferson River Watershed Council's application for the Bureau of Reclamation Cooperative Watershed Management Program proposal for FY 2023. Preparation of a Watershed Restoration Plan is an overdue step for attracting funding resources to implement projects to improve the health of the river.

This watershed relies on the JRWC to manage the drought management plan, develop habitat improvement projects, and provide steady voice for the river. This work will continue. In addition, new water projects that maintain agricultural water rights while increasing instream flow for aquatic life will require new funding sources to assist JRWC.

Thank you for your consideration of financial support for the Jefferson Watershed,

Sincerely,

Ron Spoon
Fishery Biologist
rspoon@mt.gov



December 1, 2023

Montana Trout Unlimited
PO Box 7186
Missoula, MT. 59807

Department of the Interior
United States Bureau of Reclamation
Water Resources and Planning Office

RE: Commitment of Support for Funding Opportunity No. R23AS00362

Dear Review Committee,

Since 1964, Montana Trout Unlimited (MTU) has been the only statewide organization whose primary focus is on fisheries management, impacts, and recovery. MTU works with hundreds of partners to fulfill our mission to conserve, protect, and restore Montana's coldwater fisheries and their watersheds. We have a strong commitment and presence in the Jefferson River Watershed. We have supported the Jefferson River Watershed Council (JRWC) since its inception in 1999.

For decades, MTU and JRWC have collaborated to improve watershed health; management of a drought plan that normalized minimum instream flows, and multiple restoration projects. While great strides have been made, there is still a lot of work to accomplish to protect this watershed against recurring drought conditions, which have been exacerbated by climate change. MTU's Board of Directors fully supports their Jefferson River Watershed Project Manager, Chris Edgington, to assist JRWC by providing capacity for them through the US Bureau of Reclamations Cooperative Watershed Management Program grant, funding opportunity, R23AS00362. The purpose of the grant is to rejuvenate planning efforts in the watershed.

Since JRWC's watershed coordinator is retiring in March 2024, MTU's role in the watershed is more critical than ever. The synergy that Chris has brought to the watershed since 2019 has been crucial in bringing diverse interests together to address longstanding watershed issues. He deftly manages JRWC's drought management plan, which had its most challenging (water-limited) year in 2021. After another difficult drought year in 2022, the partners brought regional stakeholders together to identify concerns and opportunities in writing the next chapter of locally-driven, watershed conservation.

To create a long-term vision of restoration and watershed resiliency, the top priority of the partners is to develop a long-overdue Watershed Restoration Plan (WRP). WRPs naturally rely on stakeholder input, creating buy-in from agencies, NGOs, agricultural interests, and landowners. The kind of collaboration that JRWC has been building for decades. To strengthen the usability of the WRP, two other planning areas have been identified for this funding opportunity.

The partners will complete a riparian assessment on approximately 45 miles of the upper Jefferson and 15 miles of the lower Boulder River. This will be completed by an FAA-certified drone pilot. Imagery collected

will be georeferenced to create a superior GIS for the WRP, project identification, project development, and stakeholder outreach.

Due to the large landownership, topography, and geology, the Jefferson Watershed has the components to build drought resiliency through low-tech process-based restoration (LTPBR) projects such as conifer removal and beaver dam analogs. Identifying and designing one or more medium to large LTPBR projects in at least one of the four investigation areas will create opportunities to improve range conditions, riparian corridors, and Jefferson-Boulder River base flows.

Perhaps most importantly, these planning efforts will reengage previous partners, strengthening existing relationships, while building new relationships. Strong relationships and developing common ground are the most important assets in watershed resiliency. All of these efforts will build on the decades of work MTU has invested in improving the Jefferson fishery, mostly by working with landowners and water users. We look forward to continuing and greatly expanding those efforts in collaboration with JRWC with the technical data, prioritization and additional stakeholder input that a WRP funded through this grant opportunity will provide.

Please contact me with any questions you may have about our support.

A handwritten signature in blue ink, appearing to read "David Brooks".

David Brooks
Executive Director
Montana Trout Unlimited
david@montanatu.org

DATE: 11/22/2023

TO: Bureau of Reclamation

RE: Support for the Cooperative Watershed Management Program Grant Application
Jefferson River Watershed Council & Montana Trout Unlimited

Dear BOR Program Administrators:

On behalf of National Wildlife Federation (NWF), I am writing in full support of Cooperative Watershed Management Program grant proposal submitted through the Jefferson River Watershed Council and Montana Trout Unlimited (MTU). This proposal will expand the Jefferson Watershed planning and restoration efforts to include new partners and opportunities and bring new private lands capacity to a tributary of the Jefferson Watershed with high restoration potential. This work will also facilitate re-energizing the collaborative nature of cross-boundary conservation with the potential to engage the US Forest Service and Bureau of Land Management. National Wildlife Federation and the MTU have a shared vision of watershed restoration and stewardship and we look forward to building on this partnership and further collaboration.

The conservation activities supported by this grant will complement a variety of ongoing conservation initiatives that we and other partners are currently implementing throughout Montana. The conservation incentive efforts, additional technical assistance, and networking and outreach offered by this proposal help to provide a full suite of coordinated resources to accelerate watershed restoration throughout the Jefferson Watershed.

National Wildlife Federation, Montana Fish, Wildlife & Parks, Jefferson Watershed Council, and Montana Trout Unlimited met with a landowner in September to investigate the feasibility of such projects on a large ranch with several small tributaries to the Jefferson, west of Silver Star. We found high restoration potential in this area with particular partner interest in implementing process-based low-tech restoration techniques. The proposed project area would be an excellent candidate for this type of work due to its biologic, hydrologic, and geologic features in addition to the partner driven approach and historic context of the area. NWF is excited to support this proposal and subsequent restoration efforts in the area.

Sincerely,

Shelby Weigand



Shelby Weigand

Senior Coordinator, Riparian Connectivity

National Wildlife Federation

weigands@nwf.org



402 S. Main Street (PO Box 295)
Sheridan, MT 59749
406.842.5741
RVCD.org

Department of the Interior
Bureau of Reclamation
Water Resources and Planning Office

November 16, 2023

Re: Support for Funding Opportunity No. R23AS00362

Dear CWRP Review Committee,

The Ruby Valley Conservation District (RVCD) is writing in support of Jefferson River Watershed Council (JRWC) and Montana Trout Unlimited's (MTU) proposal to secure funding for planning efforts within the Jefferson Watershed. RVCD has a long-standing working relationship with MTU their local affiliates.

With the recent focus on the state of the Missouri headwaters tributaries, it is crucial for focused conservation efforts to be planned and implemented within the Jefferson Watershed. Southwest Montana has been faced with adverse drought condition over the past few years in combination with increased fishing pressure in these areas. Aquatic life has diminished in this region. The JRWC, MTU, and irrigators have done a phenomenal job of implementing the voluntary drought plan to maintain minimum flows throughout the watershed, however it is time to be proactive instead of reactive. The proposal for planning and capacity within the Jefferson watershed will dictate how resilient the watershed will become while faced with changing climate conditions.

As a watershed coordinator for an adjacent watershed, I have experienced the importance of strategic planning for project planning and implementation to improve overall watershed health. RVCD sees an immense benefit for the work that will be completed under this proposal for all water users, recreationalists, and downstream communities.

To that end, we are asking that the BOR fund the JRWC's proposal to complete a Watershed Restoration Plan, develop low-tech restoration projects, and complete a riparian habitat assessment. This effort will guide JRWC to enhance the health of the watershed, creating resiliency during recurring drought conditions.

Thank you,

Audra Bell

Audra Bell,
Stewardship Director
Ruby Valley Conservation District