



WaterSMART Aquatic Ecosystem Restoration Projects for FY 2023

NOFO No. R23AS00106

Grant Proposal

**Kawuneeche Valley Ecosystem Restoration
Project Planning & Design**

Task A: Study & Design

Category A Applicant & Project Manager:

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1. Technical Proposal

1.1 Executive Summary

Date: May 26, 2023

Applicant Name: Northern Water, Category A applicant

Project Location: Grand Lake, Grand County, Colorado

Task Area A: Study & Design

Project Summary:

The Kawuneeche Valley in Grand County, Colorado with the Colorado River flowing through it was one of the most significant wetlands in Colorado at more than 8 miles long and over a half-mile wide. Unfortunately, over the past 20-30 years, heavy browsing by elk and moose converted tall willow stands to short willows. Without suitable food and building material beavers have been absent for the past several decades. This led to the drying of the valley and the continued loss of tall willow stands, converting the valley from a beaver-willow ecosystem to an elk-moose grassland. This project will reverse this trend and restore the willow-beaver ecosystem. Over the next 10-20 years, the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC) intends to increase tall willow stands, creating habitat islands for beaver throughout the valley. Project activities aim to increase the water table, retain sediment, and inundate areas near the channels for the benefit of people, wildlife (primarily beaver, amphibians, and migratory birds), and the entire ecosystem. The first phase of the initiative included a condition assessment by Colorado State University, followed by project design and implementation at Beaver Creek. Project study, design, and planning is needed for the next phase at Upper Baker, Lower Baker, and Onahu Creeks. KVERC includes members from Grand County, the Town of Grand Lake, Northern Colorado Water Conservancy District, Colorado River Water Conservation District, The Nature Conservancy, the National Park Service – Rocky Mountain National Park (RMNP), and the United States Forest Service. The project supports the RMNP Elk and Vegetation Management Plan, Exotic Plant Management Plan, Ecological Restoration Management Plan, Fire Management Plan, and the Colorado Cutthroat Trout Recovery Plan.

Project Length: 24 months

Estimated Completion Date: December 2025

Federal Land Involvement: The aquatic ecosystem restoration will take place on federal land, both National Park Service and US Forest Service.

1.2 Project Location

The Kawuneeche Valley Ecosystem Restoration Project Planning & Design is located on the North Fork Colorado River in Grand County, Colorado, approximately seven miles north of the town of Grand Lake. North Fork Colorado River flows from the Continental Divide in the Never Summer Mountain Range in Rocky Mountain National Park (RMNP), downstream to Shadow Mountain Reservoir through the Kawuneeche Valley. The project sites listed below are on federal public lands in RMNP. Subsequent projects will restore additional federal public lands, while subsequent phases will expand to adjoining private lands through landowner collaboration.

Project Location Coordinates:

Project	Latitude (dd)	Longitude (dd)
Beaver Creek*	40.393090	-105.848448
Bowen Creek**	40.3265	-105.863
Baker Creek (Upper & Lower)	40.3341	-105.865
Onahu Creek	40.3030	-105.849

*Beaver Creek project is fully funded with implementation planned to begin in 2023.

**Bowen Creek project work will be pursued after Baker and Onahu Creek projects.

1.3 Project Description

The Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC) is undertaking a multi-phase ecosystem restoration initiative to benefit 464 acres of wetland and riparian habitats in the North Fork Colorado River basin. The restoration will help reverse historical impacts and restore ecological processes, retain sediment and nutrients, improve water quality and wildlife habitat, and reconnect streams to floodplains. The first phase of the project, located on Beaver Creek, has been designed and project implementation will begin in 2023.

This Task A: Study and Design WaterSMART AERP proposal for the design of restoration project activities at three additional locations (Lower Baker, Upper Baker, and Onahu Creeks) will support the design and engineering, permitting and compliance work, development of a project construction budget and plan, continued outreach, and the development of a post-project monitoring plan. The Steering Committee anticipates restoration activities to include process-based instream restoration structures, ungulate exclosure fencing, exotic plant removal, revegetation, and removal of abandoned infrastructure (ditches, levees, and a dam).

The first pilot project within the initiative, located on Beaver Creek, has already been designed with implementation set to begin in 2023. To get to this stage of the Beaver Creek project, extensive project outreach and design alternative analysis were completed for the entire project area, including the identification of the next project sites at Lower Baker, Upper Baker, and Onahu Creeks. The project at Beaver Creek serves as a pilot to learn and improve designs at the other sites. As we move from the pilot to proposing restoration at several sites across the

Kawuneeche Valley, an Environmental Assessment will need to be conducted to implement this work on federal land.

Task 1, Project Outreach

KVERC has established an Outreach Subcommittee to develop an outreach plan to raise community awareness for the project with the goal of engaging additional stakeholders. The Outreach Subcommittee is working with a marketing/public relations consulting firm to develop branded marketing and outreach materials. The Outreach Subcommittee will work with the consultant to identify and execute public outreach events and opportunities throughout the year such as invasive weed removal, the installation and maintenance of instream structures, and monitoring of ecological conditions.

The Outreach Subcommittee will continue to organize outreach activities, such as project site field tours for the public as well as field trips and educational resources for regional schools and water educators. Past events have been well attended and will continue to be offered.

Task 2, Restoration Project Preliminary Design Alternatives Analysis

KVERC worked with Colorado State University to recommend project design alternatives. The Technical Design Subcommittee, comprised of technical staff (scientists and engineers) from KVERC partner organizations, recommends ungulate exclosure fencing, process-based instream structures, exotic plant removal, revegetation, and removal of abandoned infrastructure. The process for recommendation of these alternatives is outlined below.

Exclosure Fencing: Fencing reduces browsing on willows by moose and elk, allowing willows to recover their height and structure which will improve habitat for beaver. The Technical Design Team considered two options for exclosure fencing. Each option varied in the number of gates, corners, and stream crossings, as well as in the overall linear footage of the fence. The recommended fence alternative has a minimum height of 8 feet to minimize moose and elk entry. The fence has a gap of 16" at the base to allow other animals to access the area. The grid will be 12" at the top of the fence and 6" maximum at the bottom of the fence to exclude ungulate calves. This alternative was recommended based upon past success in limiting ungulate access while allowing other wildlife to move freely.

Self-closing gates would be installed to allow human access into the exclosure, allowing visitors to continue to use the areas for fishing and birdwatching- both of which will be improved through restoration. The fence would be built using techniques and materials proven to withstand decades in a high-wind, high-UV environment.

Process-based Restoration: The instream structure design went through several iterations. Process-based restoration structures are recommended to be used instream and will capture sediment, aggrade the incised channel, reconnect the

streams to the floodplains, and raise the local water table to support willow growth until beaver habitat is established and beaver return to the area. The project alternatives for instream structures vary in the height, type, number, and spacing of structures. For example, for the Beaver Creek pilot site, one design included three structures that relied on dimensional lumber to build a solid simulated beaver dam face and 27 that depended solely on posts and woven willow and wood debris. All 30 structures in the second design were designed using posts, willows, and wood. The design including 27 beaver dam analogs (BDAs) and post-assisted log structures (PALS) in addition to three structures built with dimensional lumber and posts, was recommended because previous experience indicates the dimensional lumber structures will be more durable and better able to raise water levels sufficiently to engage areas of the floodplain during high flows supporting a higher near-stream water table. This will increase the likelihood of successful restoration of degraded ecological processes.

Exotic Plant Removal: Herbicide and potentially other measures are recommended to eradicate exotic species (predominately Canada thistle) as this method has proven to be the most successful in removing the species present.

Revegetation: Following the successful installation of the instream structures, KVERC recommends that willows be planted within the project areas where willow density is now low. This is the best method for revegetating areas where receding water tables have resulted in willow losses over the past 20 years.

Abandoned Infrastructure Mitigation: CSU conducted a preliminary analysis that mapped 5 miles of ditches, two levees, and an earthen dam in the Kawuneeche Valley. The team also preliminarily evaluated where mitigation of this infrastructure would be of high, medium, or low priority. Mitigation of ditches would either fill them and restore natural grade or use small earthen plugs to stop water flowing down them. Levees and the dam could be removed, pending further analysis. The goal is to return natural surface and groundwater flow to degraded wetland areas that have been dried out by alteration of flow due to this infrastructure.

Task 3, Project Compliance & Permitting

An Environmental Assessment (EA), remaining resource surveys, and consultation with Tribes and the Colorado State Historic Preservation Office (CO SHPO) will be completed and aligned with the project design process.

Environmental Assessment: The EA will point to existing compliance for components of the project, while adding new analysis for the in-stream structures. The following activities will be completed for NEPA:

- Pre-NEPA environmental planning services (civic engagement, information collection, and preliminary alternatives development and impact analysis);
- Preparation of the EA for internal and public review;

- Providing supporting documentation for compliance (National Historic Preservation Act, Endangered Species Act, Clean Water Act, and other related laws and regulations);
- Preparation of NEPA decision document (Finding of No Significant Impact or FONSI anticipated); and
- Preparation of decision documents and compilation of the decision file for the project.

Natural and cultural resource surveys: Survey work will include pre-project monitoring for compliance, such as: rare plant, invasive plant, wetland delineation, and archeology surveys.

Task 4, Site-specific Design & Engineering

Each of the remaining pilot sites will require a detailed site-specific restoration design. Restoration design will consider existing assessments, survey data, and project goals along with permitting and compliance requirements to develop a design and layout for ungulate exclosures, instream structures, exotic plant treatments, planting of native plants, and monitoring needs.

Topographic surveys will focus on the channel and selected meadow areas where in-channel structures are proposed. Survey data and hydraulic analysis will document existing conditions and model proposed restoration areas and hydraulic effects of proposed structures. Locations, types, and dimensions of in-channel structures, fence alignment, and vegetation restoration will be proposed in conceptual designs and discussed with KVERC and Rocky Mountain National Park. Feedback from the discussion will be integrated into the final site plan and construction drawings.

Task 5, Development of Project Budget & Construction Plan

Once the site-specific design is completed for each restoration project this information will be used to formulate a project budget and detailed construction plans and drawings. The budget and construction plans will lay out amount and type of each material needed, sourcing and cost options for each material type, and specifications for each installation included in the restoration. The construction plan (at least 60% design) will be used for competitive bidding and selection of contractors for project implementation.

Task 6, Monitoring Plan Development

Monitoring strategies are being developed to include project-based, watershed-scale, and partnership effectiveness monitoring. Each strategy will describe objectives (including those tied to existing management plans), indicators, measurement frequency, and spatial extent. The monitoring plan will be developed so that results will inform adaptive management and contribute to growing research and implementation guidance needed for watershed-based ecological restoration. Similar baseline data to that being collected for the Beaver Creek project (previously funded) may be collected for Baker and Onahu Creeks. This may include the following:

- automated groundwater depth measurements

- stream cross-section transects and automated water stage recorders
- mapping of relic beaver ponds/channels
- mapping of exotic plant species and cover
- plot measurements of willow cover and height
- amphibian surveys
- snowmelt and baseflow discharge
- water quality measurements

Baseline data for watershed-scale monitoring may include the following:

- tall willow area
- pond surface area
- snowmelt and baseflow discharge
- water quality measurements along the Colorado River and tributaries
- beaver, river otter, and amphibian surveys

KVERC and partners will monitor these and potentially additional indicators.

1.4 Evaluation Criteria

Criterion A- Project Benefits (30 points)

Sub Criterion A.1. General Project Benefits

What are the critical issues of concern in the watershed? Provide documentation and support for how the critical issues were identified.

The Kawuneeche Valley ecosystem is functionally impaired due to historical and current land use. The Kawuneeche Valley, including the Colorado River, historically supported a dense stand of tall willows used by native beavers to dam the valley's streams. The valley was home to one of the most significant wetlands in Colorado, more than 8 miles long and over half a mile wide. However, over the past 20-30 years, heavy browsing by elk and moose reduced willow height from 3-4 meters to less than ½ meter tall. Without adequate tall willows, beaver populations declined, and resident beavers have been effectively absent for the last 18 years. Water diversions, abandoned irrigation ditches, and channel modifications dewatered extensive floodplain wetlands and drained areas previously classified as either riparian or wet meadows.

KVERC partnered with Colorado State University to develop a condition assessment of the Kawuneeche Valley and provide restoration recommendations. The results quantify the degraded nature of the valley, including:

- Widespread vegetation changes from wetlands dominated by native tall willows, sedges, and herbs to grasslands with an expanding community of exotic species.
- A 77% loss of tall willow acreage over the entire valley and a 96% loss within RMNP boundaries since 1999.
- A 94% loss of surface waters associated with beaver ponds since 1953.
- Incision of major tributaries of the Colorado River (including Beaver Creek, Baker Creek, Bowen Creek, and Onahu Creek).

- Elevated nitrogen and phosphorus concentrations in streamflow from eroding tributaries and drying beaver pond complexes.

These interacting ecological stressors have created a profound biome shift, from lush riparian wetlands dominated by tall willows with extensive beaver pond complexes to dry grasslands dissected by eroding channels. Habitat quality for wetland vegetation, migratory birds, waterfowl, and amphibians has declined while exotic and invasive plant species are increasing in number and abundance. The Kawuneeche Valley is increasingly unable to provide critical ecological functions and services, including clean water, flood control, wildlife habitat, and resilience to drought and wildfire, all of which is further compounded by a warming climate.

Funds are requested for three project areas: Lower Baker, Upper Baker, and Onahu Creeks, that would result in the restoration of 200 acres of high-value riparian ecosystem.

Explain how your project will benefit aquatic ecosystems, including benefits to plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems. For example, will your project create new habitat, improve water quality, improve stream or riparian conditions, restore fish passage and connectivity, or otherwise benefit aquatic ecosystems. Note: In your response to this criterion, A.1., please generally describe the expected benefits of your project to aquatic ecosystems; a quantitative explanation of project benefits is requested below in response to criterion A.2.

KVERC's initiative will reverse the shift to dry grasslands and eroded channels by restoring the willow-beaver ecosystem, including pond complexes that create aquatic habitat. In the next 10-20 years, KVERC aims to increase tall willow stand areas, creating habitat islands for beaver throughout the valley. Project activities, including exotic plant treatment, willow planting, construction of several types of simulated beaver structures, and removal of abandoned infrastructure, will increase the water table, retain sediment, and inundate areas near the channels to restore and enhance wetlands and re-create lost aquatic habitat.

Due to the nature of restoration and enhancement, the project outcomes will fully develop on varying time scales over the 20-year restoration timeline. For example, exclosure fencing will immediately and substantially reduce browsing on willow, but it will take 10-20 years for willow to reach mature height. In-stream structures will raise the water table and increase seasonal overbank flooding within the first 1-2 years. This relatively quick hydrologic improvement could speed the recovery of willow and other wetland plants. In-stream structures will trap sediment and aggrade the streambed. With a less incised stream, in-stream structures become more effective at facilitating overbank flooding. Exotic plant treatments will directly reduce the cover of invasive plants within two to three years. Still, the raised groundwater level and increased flooding habitat will reduce the survival of terrestrial exotic plant species. Reduction of invasive, exotic plants will allow native species to recover. Larger diameter and taller willow stems and the newly flooded habitat will attract beaver. Once beaver move into the restoration area, they will strengthen our in-stream structures, and build new dams, substantially increasing overbank flooding beyond that initially created by the in-stream structures. Willow will continue to grow larger, and the restored ecosystem will provide depositional areas for seeds to germinate and

seedlings to grow. Over time, other species dependent on wetlands and ponds will increase or return to the site, including amphibians, migratory birds, and waterfowl.

These activities address the degradation due to heavy ungulate browsing, particularly the precipitous decline in tall-statured willows and other wetland shrubs. Beaver returned during 2021 and 2022 in one area within an existing enclosure (built ~10 years ago), where willows are recovering, but whether they will persist is unknown. However, our goal is to re-establish ecological and hydrological conditions that can support sustainable beaver populations and the extensive wetland and pond complexes they create and maintain throughout the watershed where conditions are suitable. We anticipate that these projects will halt or reverse channel degradation in many areas, reactivate large areas of floodplain to raise water tables and restore wetlands, and reduce sediment and nutrient loads from eroding tributaries to improve water quality in the Colorado River and Three Lakes System that forms the basis for the Colorado-Big Thompson Water Management Project.

Does the project affect water resources management in 2 or more river basins (defined as a minimum HUC-10 level)? Explain how and identify the area benefitted (provide a map).

Although the initiative will restore a significant ecosystem in the headwaters of the Colorado River, the project does not affect water resources management in two or more river basins.

Does the project provide regional benefits, in addition to fish or habitat restoration, including:

- *Supporting water needs for multiple water uses (i.e., agricultural, municipal, Tribal, environmental, recreational)?*
- *Reducing water conflicts?*
- *Providing other regional benefits, such as job creation or public safety benefits?*

The watershed area encompasses properties of both public and private landowners, serving diverse ecological, recreational, and economic interests. The project restores ecosystem function that improves not only habitat, but water quality, recreation, and the regional economy.

Water Quality- The restoration activities accomplished through this initiative should halt or reverse channel degradation in the treated areas, reconnect large areas of the floodplain to raise water tables and restore wetlands. The initiative's activities will help to reduce sediment and nutrient loads from eroding tributaries, improving water quality in the Colorado River and Three Lakes System.

Recreation- Fishing, birdwatching, and waterfowl hunting opportunities will be enhanced by improved habitat. KVERC anticipates the wetland habitat improvements providing suitable conditions that will likely provide resting areas for waterfowl that are hunted on Shadow Mountain Reservoir. RMNP will provide undisturbed resting for huntable waterfowl, such as gadwall, mallard, northern pintail, American wigeon, blue-winged teal, green-winged teal, and Canada goose. Although hunting is prohibited in RMNP,

any waterfowl flying along the Colorado River corridor drawn to the improved habitat will undoubtedly also use and travel through areas where hunting is permitted.

Economy- Rocky Mountain National Park and the surrounding area attract 4.5 million visitors to the region annually. The restoration activities of the initiative will protect the regional tourism value and therefore the economy well into the future.

Is this project a component of a broader strategy or plan to replace aging facilities with alternate facilities providing similar benefits? Describe how this project fits within the strategy or plan and how it will continue to provide benefit.

This project is not a component of a plan to replace aging facilities.

Describe the status of the species and/or habitat that will benefit from the project:

- *Does the project contribute to the restoration of species listed under the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.)? Does the project contribute to the restoration of listed anadromous fish? Are the species subject to a recovery plan or conservation plan under the ESA? Has there been a designation of critical habitat? If so, how does the proposed action benefit such critical habitat?*
- *If the species are not listed under the ESA, please describe their status. For example, are they native species, game species, at-risk species, species of greatest conservation need, species of Tribal significance, or state listed?*

Colorado Parks & Wildlife lists beaver and boreal toads, both native species in the project area, as tier 1 wetland priority species. The boreal toad is also listed as an endangered species in Colorado with a pending petition for federal listing. The boreal toad is also a tier 1 species of greatest conservation need in Colorado. Wood frogs and river otters are listed as tier 2 wetland priority species by the Colorado Parks & Wildlife. Wood frogs have the designation of special concern, while river otters are listed as threatened in Colorado. Priority species listings do not deem the species subject to a recovery plan and there is not an associated designation of critical habitat. The boreal toad is subject to the Conservation Plan and Agreement for the Management and Recovery of the Southern Rocky Mountain Population of the Boreal Toad, revised in 2001. The State of Colorado River Otter Recovery Plan was last revised in 2003 and otters were later de-listed. None of the other species mentioned are subject to a recovery or conservation plan.

Additionally, huntable waterfowl, such as blue-winged teal, cinnamon teal, and American green-winged teal, have been documented in Rocky Mountain National Park, while their current abundance in the Kawuneeche Valley is virtually zero. However, the extreme decline in suitable habitat as outlined in this application, will be reversed by this initiative.

Ecosystem restoration in the valley will improve habitat for boreal toads, beaver, wood frogs, river otters, and waterfowl within a larger region of inhospitable, rocky, mountainous terrain. The importance of wetland and riparian habitat will only increase with climate change. The expected abundance post-restoration is unknown.

Sub Criterion A.2. Quantification of Specific Project Benefits

A.2.1. Task A: Study & Design Applicants

Species and Habitat Health

- *Provide information regarding the current status of species and habitat health in the planning area. Provide factual support for the status information, including citations to relevant studies, habitat or species health assessments, and statistical information to describe the critical species and habitat issues of concern in your planning area, including issues related to fish or wildlife health and habitat conditions.*
- *Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify the expected species and habitat benefits of the project you are studying and designing, please do so.*

Boreal toads have not been present in this area of RMNP since 2004, as much of the Kawuneeche Valley has incised and dried and no longer supports beaver or their ponds, which boreal toads utilize as their primary breeding habitat. Restoring this area and reconnecting the river corridor to the floodplain using process-based low-tech restoration techniques that mimic beaver dams would revive once utilized boreal toad habitat. Chytrid fungus (Bd) is present in four out of the five breeding sites in the RMNP and may limit successful reintroduction (natural or otherwise) in the project sites. Currently, amphibian monitoring plots in the Kawuneeche Valley have shown little or no boreal toad presence. In the northern most areas of the Colorado River, about one to two miles away from the project area, CPW, RMNP, Rocky Mountain Conservancy, USGS, Colorado State University, and Colorado Natural Heritage Program have been reintroducing boreal toads on an ongoing basis. This project released over 40,000 tadpoles, with a less than one percent success rate after two years. However, this population would be the closest source population of boreal toads to the site. Monitoring will continue in the valley as part of RMNP's regular species recovery monitoring.

Beaver once flourished in the Kawuneeche Valley, specifically the areas selected for projects (Beaver, Bowen, Baker, and Onahu Creeks). Since the early 2000s, this valley has experienced significant changes, including over-browsing of willow from large ungulates, which led to declines in beaver populations and subsequent incising of rivers and streams, disconnecting the channels from their adjacent floodplains. Previous research in the park denoted declines in beaver populations and a corresponding decline in tall willow over the same period (Baker et al., 2005). Mapping of historical beaver occupancy based upon research performed within the park's drainages denoted a decline in beaver (Figure 1; Theobald et al., 2010). In a 2009 study, beaver occupancy data was collected along 58 stream stretches within the park; however, beaver were discovered in only seven, or 12%, of the sites (Figure 2; Scherer et al., 2010). Two of those sites are in the Kawuneeche Valley. This study was repeated in 2010, where 73 stream stretches were sampled for beaver occupancy, but beaver presence was only found at four, or 5%, of the sites (Scherer et al. 2010; Figure 2). The nearest known beaver colony in the Kawuneeche Valley currently resides in the Holzwarth Ranch area, 1.25 miles downstream from the Beaver Creek project area. This beaver colony has been building dams along the Colorado River within a fenced enclosure that minimizes ungulate browse. Currently, no beavers reside in the Beaver Creek area due to the lack of willow for food and dam-building materials.

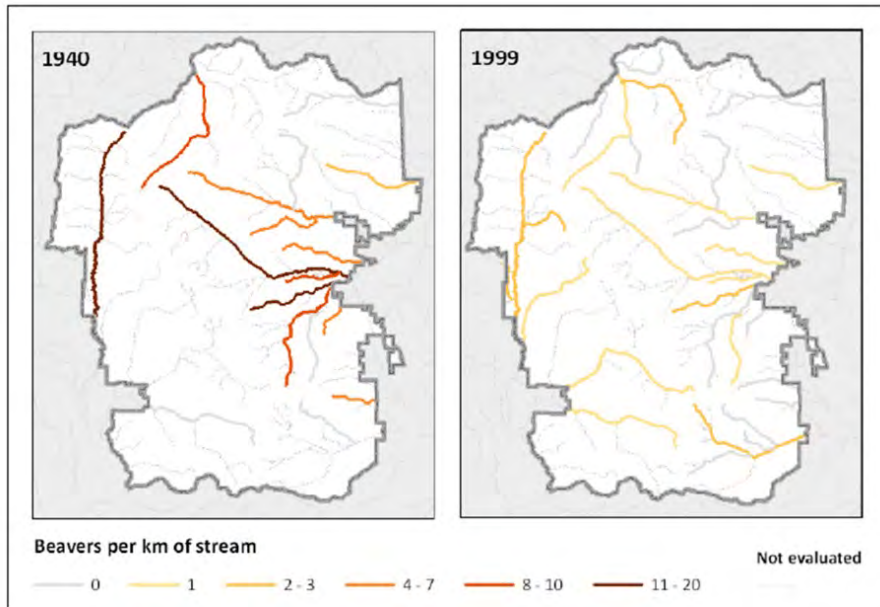


Figure 1. Beaver densities from surveys conducted in 1939-1940 (left) and 1999-2000 (right). The darker the drainage line, the more beavers were present. Figure from Theobald et al. (2010).

Wood frogs are present in the Kawuneeche Valley, but detections have declined over time. Suitable habitat for the species will increase through this project's restoration of beaver ponds and wetland habitat. Wood frog surveys were completed in the Beaver Creek project area and along the entire Kawuneeche Valley from 2004-2006 and again in 2021-2022. Researchers detected wood frogs in three sites within the Beaver Creek area between 2004 and 2006, one site in 2021, and one in 2022 (on the southern side of the project area). Seven sites in the area had no detection of wood frogs. Twenty-seven sites in the valley have wood frogs detected between these two sampling events within 1.5 miles of the project sites, meaning sources of wood frogs are present. (See Figure 3.) We believe the reduction of beaver pond and wetland habitat that began in the early 2000s is one reason for reduced detection in the most recent surveys. The proposed restoration treatments will enhance the project area's habitat for wood frogs. Several nearby populations could provide easy opportunities for populations to move back into this area.

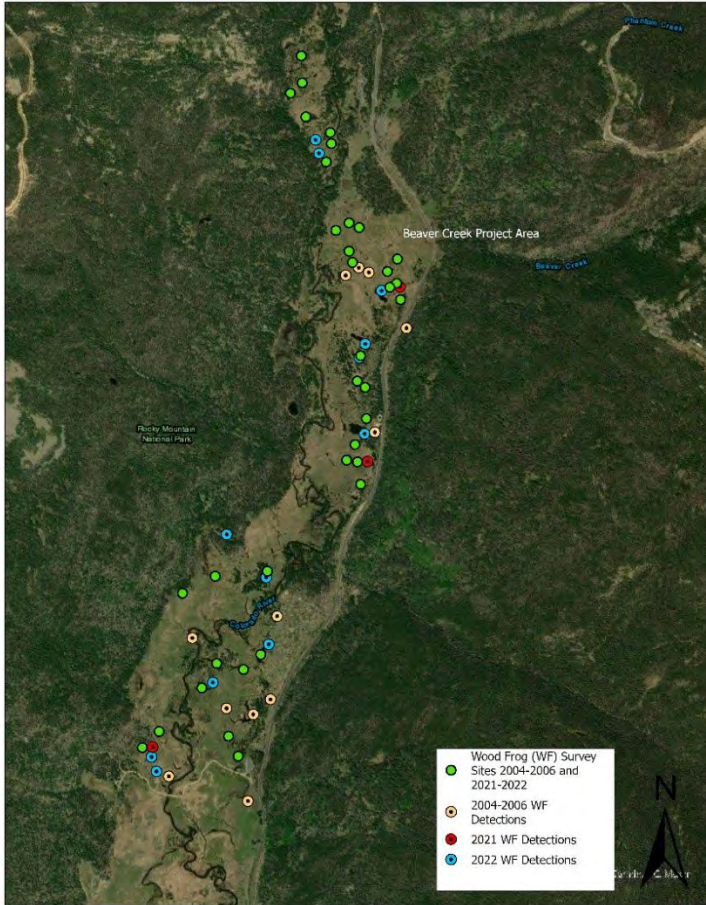


Figure 2. Wood frog survey results showing detections of wood frogs in surveys conducted from 2004-2006 (tan dots) and 2021-2022 (red and blue dots respectively), green dots show sites monitored in both 2004-2006 and 2021-22 without detecting wood frogs.

River otter surveys have been conducted throughout the Colorado River corridor for many years by RMNP. These surveys look for presence/absence occupancy data and any previous signs of otter presence. Three signs of otter presence in the Beaver Creek area occurred between 1989 and 2000. Park staff made one observation in 1989 and another in 2022. Figure 4 includes observations and the presence of river otter signs in the Kawuneeche Valley's Beaver Creek area. Restoration of the beaver pond complex along Beaver Creek would provide additional habitat for otters. The river otter surveys will continue to occur yearly.

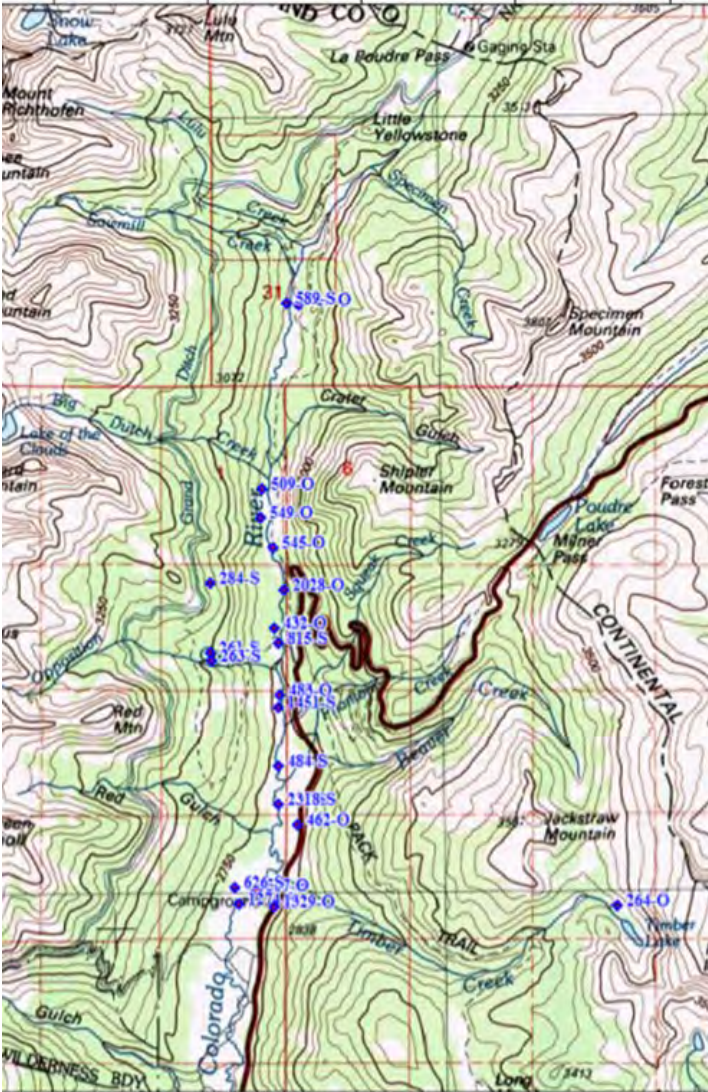


Figure 3. River otter observations and signs. O indicates an observation whereas S indicates sign present.

The Kawuneeche Valley falls within the current breeding range for cinnamon and blue-winged teals and is within the range for use in all seasons for American green-winged teals (Kaufman, n.d.). Given the valley's location, we would expect these species to use its beaver ponds, and adjacent wetland areas once restored. The valley could also serve as a stop-over-location for teals migrating from locations farther north in their breeding range. Cinnamon teal, in particular, is a western species for which a restored habitat in the Kawuneeche Valley would be ideal. Audubon's climate change study, *Survival by Degrees* (National Audubon Society, n.d.), identified a mostly stable summer range in the valley for cinnamon teal under all warming scenarios. The study also identified an expanded winter range in the valley under more extreme warming scenarios. Blue-winged teal's range in the Kawuneeche Valley is projected as stable or increasing under warming scenarios. At the same time, models show other areas to the east as stable or shrinking. Models predict the valley to be primarily stable for American green-winged teal's summer range under warming scenarios and part of its expanded range during the winter under more extreme warming scenarios. These models reflect vegetation mapping that

occurred before the degradation of the Kawuneeche Valley ecosystem, however. Without restoration, the Valley is unlikely to provide the modeled outcomes.

While monitoring these species and other waterfowl does not routinely occur in the project area, establishing such monitoring through community science collaborations and documentation is a goal of KVERC’s monitoring strategy. The development of a monitoring plan is included in this grant request.

Watershed Benefits

- Provide information regarding the current status of water quality, ecological function, and ecological resiliency in the planning area. Provide factual support, citations to relevant studies, and statistical information to describe the critical issues in your planning area related to water quality, ecological function, ecosystem resiliency conditions.
- Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify the expected watershed benefits of the project you are studying and designing, please do so.

The restoration activities accomplished through this initiative should halt or reverse channel degradation in many areas, reactivate large areas of the floodplain to raise water tables and restore wetlands. The North Fork Colorado River is the largest contributor of sediment (Table 1) and one of the largest contributors of phosphorus (Table 2) and nitrogen (Table 3) to Shadow Mountain Reservoir (Tables 1, 2, 3; adapted from Hydros Consulting, 2020). The initiative's activities will help to reduce elevated sediment and nutrient loads from eroding tributaries (Cooper et, in prep), improving water quality in the Colorado River and Three Lakes System.

Inflow Source	Minimum	Average	Maximum	2020
North Fork	1.42	16.21	63.46	7.84
From Granby	1.43	3.03	4.80	1.45
From Grand	0.04	1.28	2.66	0.28
Gains	0.27	4.82	14.21	0.63
Precipitation	0.01	0.02	0.02	0.01
Total	4.78	25.36	84.95	10.21

Table 1. Total Suspended Solids Loading (10⁵ kg/year) to Shadow Mountain Reservoir in 2020 Compared to a Summary of Data from 2007-2019.

Inflow Source	Minimum	Average	Maximum	2020
North Fork	457	2,990	6,582	1,730
From Granby	2,735	4,370	6,060	2,582
From Grand	22	770	1,482	244
Gains	104	796	2,220	139
Precipitation	134	173	234	111
Internal Load	650	933	1,137	400
Total	6,991	10,031	14,725	5,206

Table 2. Total Phosphorus Loading (kg/year) to Shadow Mountain Reservoir in 2020 Compared to a Summary of Data from 2007-2019.

Inflow Source	Minimum	Average	Maximum	2020
North Fork	5,512	28,295	65,021	18,485
From Granby	33,801	51,855	68,385	39,285
From Grand	334	15,532	31,948	5,403
Gains	870	7,463	17,820	1,463
Precipitation	673	874	1,181	562
Internal Load	4,611	6,629	8,307	3,105
Total	82,763	110,648	168,619	68,302

Table 3. Total Nitrogen Loading (kg/year) to Shadow Mountain Reservoir in 2020 Compared to a Summary of Data from 2007-2019.

Additionally, this area was once an active beaver complex with intact riparian and wetland vegetation which has now converted to a pasture grass system, the area has lost valuable ecosystem function and services such as water retention, nutrient removal, and sediment retention. A study that is being completed by Cooper et al. (in prep) notes over 90% of tall-statured willow cover and open water loss in the Kawuneeche Valley of Rocky Mountain National Park (RMNP). Beaver, which once dominated the landscape, have only been observed in one small area of the valley in the past 20 years. The National Park Service Inventory and Monitoring Division, who monitors wetland ecological integrity throughout RMNP has shown about 50% of the parks wetlands, including many in the Kawuneeche Valley, to be in reference (i.e., functioning) condition (Schweiger 2015).

Water Supply Benefits

- *Provide information regarding the current status of water availability for aquatic ecosystems. Are there issues with sufficient water availability for ecosystems seasonally or year-round? Provide factual support, including hydrographs, citations to relevant studies, and stream flow information to describe the critical issues in your planning area related to water availability for aquatic ecosystems.*
- *Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify the expected water supply benefits of the project you are studying and designing, please do so.*

This Study & Design Project is not intended to have water supply benefits.

Other Quantifiable Benefits

- *Provide information regarding the other critical issues of concern in your project planning area. Are there issues related to human safety (significant flood risk/ damaged infrastructure), significant long term management costs, limited economic opportunity or a lack of jobs, lack of recreational access including access to safe recreational spaces or fishing access? Provide factual support, including citations to relevant data or studies, and information to describe the other critical issues in your planning area.*
- *Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify other expected benefits of the project you are studying and designing, please do so.*

Biodiversity- By restoring the beaver pond and wetland habitat, the project will benefit many species beyond those listed as SWAP Tier 1 or 2. These include migratory songbirds, other waterfowl, and aquatic insects.

Education & Outreach- We reach a broad audience, including local community members, visitors and tourists to the region, and K-12 students from area schools through educational tables and presentations at the Kawuneeche Visitor Center located at the western entrance of RMNP, Town Square Park in the gateway town of Grand Lake, and trailheads near specific restoration sites. Every sixth-grade classroom from the East Grand School District participates in a science-based field trip hosted by KVERC, which focuses on “a day as a scientist,” where students collect data about water quality and wetland/riparian conditions.

Criterion B- Prior Restoration Planning & Stakeholder Involvement & Support (40 points)

Sub Criterion B.1. Task A: Stakeholder Involvement & Support & Restoration Planning

Describe any prior planning efforts related to your proposed project, i.e., planning that took place before you submitted your proposal.

- *Describe the specific planning, strategy, study, and any design document(s) (plan(s)) that support your project. Explain when the plan was prepared and for what purpose.*
- *What was the scope of the planning effort that supports your project? Describe the geographic extent and types of issues (e.g., water quantity, water quality, and/or issues related to ecosystem health or the health of species and habitat within the watershed).*
- *Was the plan developed collaboratively? If the referenced plan was not developed collaboratively, please explain why, for e.g., the planning effort is focused on a very small area or concerns internal to the applicant.*
- *Explain how any prior planning effort relates to your current proposal and how your current proposal adds value and builds on any prior planning efforts.*

KVERC worked with Colorado State University to complete a condition assessment, which described current ecological conditions within the watershed and how they have changed in the last century. Assessment was watershed scale, with a focus on KV proper due to a greater availability of data indicating degradation or loss of ecosystem function relative to historical conditions. Issues assessed included water quality (nutrients, sediment), surface water/wetland extent, Riparian vegetation, changes in historical land use and wildlife management.

Four sites were identified as highly suitable for ecosystem restoration were identified based on their degraded ecological condition, cost-effectiveness, the likelihood of successful implementation, and the acreage improved by the restoration activities. These sites include Beaver Creek, Baker Gulch, Bowen Gulch, and Onahu Creek, all located within RMNP. The condition assessment identified the potential restoration methods as ungulate enclosure fencing, process-based channel restoration (PBR), vegetation planting, and pre-and post-restoration monitoring.

Beaver Creek was selected as the first project site due to ease of access and its location as the most upstream project site therefore improving water quality at the highest point in the watershed first. Cultural and environmental resource surveys were completed. The KVERC Technical Design Team presented the draft Beaver Creek project design to the KVERC Steering Committee in March 2023, and Rocky Mountain National Park leadership in April 2023. It will be finalized by Fall 2023 with project implementation expected to begin in Fall 2023. The work at Beaver Creek will guide and support the project planning and design at Onahu and Baker Creeks.

Additionally, during the condition assessment, over five miles of abandoned ditches, levees, and a dam were documented within the Kawuneeche Valley. These abandoned features contribute to ongoing hydrological and ecological degradation by dewatering floodplain wetlands and channel segments. The major ditches have been mapped and prioritized for restoration based on their impacts to the Kawuneeche Valley. KVERC will evaluate filling or blocking the ditches and removing levees and a dam in the project activities. The cultural and environmental compliance work for the abandoned infrastructure will be completed along with the surveys at Baker and Onahu Creeks. Mitigating these hydrologic alterations will increase the extent, diversity, and functionality of wetlands and aquatic habitats.

The condition assessment was reviewed by the KVERC Technical Design Team and utilized in project design and planning for Beaver Creek. The design was also reviewed by KVERC Steering Committee in a collaborative process to collect their feedback, which is currently being incorporated into the final design. This process has been very effective and will be repeated for the Baker & Onahu Creek project planning and design.

Describe what sector(s) the participating stakeholders represent and how they will engage in this effort, e.g., will they contribute funding or in-kind services, or otherwise engage in the study and design process? Provide documentation of the commitment by stakeholders to participate in the study and design process. This could include letters from stakeholders committing to be involved in the study and design process; such letters should explain what their specific interest is and how they plan to participate. Are any stakeholders contributing to the cost-share?

[KVERC](#) is comprised of the National Park Service - RMNP, the United States Forest Service, Grand County, the Town of Grand Lake, Northern Colorado Water Conservancy District, Colorado River Water Conservation District, and The Nature Conservancy. The Collaborative formed in early 2020 to restore aquatic and riparian habitats and improve water quality in the Kawuneeche Valley and the North Fork Colorado River watershed. The watershed area encompasses properties of both public and private landowners, serving diverse ecological, recreational, and economic interests. No one organization can achieve a healthy watershed in this region on its own; the combined resources and expertise of KVERC make it possible to accomplish more through collaboration.

KVERC has held over 60 meetings since the inception of the group in mid-2020. The steering committee participates in monthly update meetings, and many KVERC members participate in the outreach, fundraising, design, and monitoring subcommittees. In addition to the time commitment from participating members many provide financial contributions to the project, including:

Rocky Mountain Conservancy	Ecologist and Outdoor Recreation Planner time managing the project, serving as NPS support for contractor-conducted compliance surveys and the Environmental Assessment, and conducting restoration effectiveness monitoring.	\$80,000
Northern Colorado Water Conservancy District	NEPA- Environmental Assessment work, natural/cultural resource surveys, outreach planning.	\$160,000
The Nature Conservancy	NEPA- Environmental Assessment work.	\$44,000

Describe stakeholders in the project area who have expressed their support for the study and design process, whether or not they have committed to participate. Supporting documentation for this sub-criterion could include letters of support from stakeholders or a description of feedback from interested stakeholders.

KVERC has reached out to over 20 stakeholder groups and begun nation-to-nation consultation with nine associated Tribal Nations. As relationships with stakeholders develop, their participation in the sub-committees will be integral to this community-driven initiative. KVERC’s stakeholders include several local organizations representing community and regional interests, with whom we have built relationships for communicating KVERC activities, soliciting stakeholder input, and involving stakeholder participation. These groups include the Upper Colorado River Watershed Group, Headwater Trails Alliance, Middle Park Stockgrowers Association, and various homeowners’ associations. In addition, we have relationships with local chapters of larger organizations such as Ducks Unlimited, Trout Unlimited, and the Audubon Society.

What will the applicant do during the study and design process to ensure participation by a diverse array of stakeholders? If some sectors are not yet represented, explain how this will be accomplished. Support could include a description of stakeholder interests in the project area, and what you will do to engage them (e.g., workshops, public meetings, or outreach tools such as using local media, outreach to known stakeholder groups, web-based outreach, social media, or other kinds of announcements, etc.).

KVERC has worked to engage diverse stakeholders in the project design process and the development of an outreach plan will further raise community awareness for the project, potentially engaging additional stakeholders. The outreach subcommittee is finalizing the outreach plan, which calls for the hiring of a marketing consultant that will develop marketing materials and an outreach coordinator to plan and execute events. The coordinator will arrange opportunities throughout the year for the public to participate in restoration activities (e.g., invasive weed removal, installation, and maintenance of instream structures), citizen science opportunities (e.g., monitoring of ecological conditions), and collaborative trainings. The coordinator will work with the consultant and outreach subcommittee to develop interpretive signs for high-traffic areas within the restoration areas, such as Beaver Creek, which is conveniently located along Trail Ridge Road.

The outreach coordinator will also coordinate the already existing and ongoing outreach activities of KVERC. Annual site visits where local stakeholders can provide feedback and learn about the initiative's progress and any new findings have been well attended and will continue to be offered.

Is there opposition to the proposed project effort? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.

The project proponents are not aware of any opposition to the proposed project.

Criterion C- Project Implementation & Readiness to Proceed (15 points)

Sub-Criterion C1: Task A: Study and Design Project Implementation

Describe the implementation plan for the proposed study and design project. Please include an estimated project schedule that shows the stages and duration of the proposed study and design work, including major tasks, milestones, and dates.

- *Describe the plan to conduct project specific outreach during your award period. What regional stakeholders will you target and how will you connect and engage with them and incorporate their feedback?*
- *Describe the plan to carry out any relevant studies (e.g., Project-Specific Study and Analysis, Restoration Project Opportunities and Alternatives Analysis, Benefits Analysis, or Legal and Institutional Requirements Research).*
- *Describe the current design status of the project and describe the design activities will need to be completed to advance the project to 60% design?*

Task 1, Project Outreach

Subtask 1.1- The Outreach Subcommittee will develop an outreach plan to raise awareness for the project and engage additional stakeholders.

Anticipated start date: January 2023. Anticipated end date: January 2024.

Subtask 1.2- A marketing consultant has been hired with a contract expiring in May 2024.

Anticipated start date: April 2023. Anticipated end date: May 2024.

Subtask 1.3- The marketing consultant will work with the outreach subcommittee to develop marketing materials, interpretive signage, etc.

Anticipated start date: May 2023. Anticipated end date: January 2024.

Subtask 1.4- The outreach subcommittee along with the marketing consultant will develop a schedule and plan for public outreach events and collaborative trainings.

Anticipated start date: May 2023. Anticipated end date: December 2025.

Task2, Restoration Project Preliminary Design Alternatives Analysis

The analysis of design alternatives was completed during the pilot project planning process at Beaver Creek.

Task 3, Project Compliance & Permitting

A 404 permit application, an Environmental Assessment (EA), remaining resource surveys, and consultation with Tribes and CO SHPO will be completed, aligned with the project design process. The EA will point to existing compliance for components of the project, while adding new analysis for the in-stream structures.

Anticipated start date: January 2024. Anticipated end date: October 2025.

Task 4, Site-Specific Design & Engineering

Subtask 4.1- Topographic surveys will focus on the channel and selected meadow areas where in-channel structures are proposed. Primary structure locations and the remainder of the channel will be surveyed in 2024.

Anticipated start date: June 2024. Anticipated end date: October 2024.

Subtask 4.2- Survey data and hydraulic analysis. Existing conditions will be documented, final structure designs and dimensions will be developed, and proposed restoration areas and hydraulic effects of proposed structures will be modeled.

Anticipated start date: August 2024. Anticipated end date: January 2025.

Subtask 4.3- Conceptual design. Locations, types, and dimensions of in-channel structures, fence alignment, and vegetation restoration will be proposed and discussed with KVERC and Rocky Mountain National Park.

Anticipated start date: October 2024. Anticipated end date: April 2025.

Subtask 4.4- Final design. Feedback from discussion with KVERC and Rocky Mountain National Park will be integrated. The site plan and construction drawings will be developed.

Anticipated start date: January 2025. Anticipated end date: May 2025.

Task 5, Development of a project budget & construction plan

The construction logistics, materials sourcing, budget finalization, and contractor selection will be completed.

Anticipated start date: January 2025. Anticipated end date: May 2025.

Task 6, Monitoring Plan Development

A written monitoring plan will be developed to track restoration efficacy and ensure long-term project goal attainment. The plan will outline operations and maintenance for future project phases and will be used to inform adaptive management and contribute to growing research for watershed-based ecological restoration.

Anticipated start date: January 2024. Anticipated end date: May 2025.

Proposals with a budget and budget narrative that provide a reasonable explanation of study and design project costs will be prioritized.

A budget and budget narrative are attached.

If the applicant intends to do any on-site investigation or monitoring work, please provide documentation of permission and detail any permits or easements that may be required for access.

The project areas for this phase of the project are on public land managed by the National Park Service. The National Park Service (NPS) is engaged as a member of the Steering Committee. An agreement will be written to allow Northern Water's contractors to work on NPS land. NPS research permits allow monitoring activities led by non-NPS staff.

Monitoring of water quality, hydrology, geomorphology, and vegetation will form the basis for adaptive management. Monitoring started for the Beaver Creek Project in FY22, using other funds, and will be expanded to include three additional projects and watershed scale in FY24. A Monitoring Strategy, which includes indicators and standards, will be completed in FY23 using other funds. Monitoring of wildlife will be funded with other sources.

Monitoring, outreach, and maintenance will continue through FY30 with requested funds. Additional funds for planting wetland shrubs will be raised by KVERC should planting be needed to reach project standards.

Evaluation Criterion D—Presidential and Department of the Interior Priorities (15 points)

Climate Change: *E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity.*

If applicable, describe how the project addresses climate change and increases resiliency. For example, does the project help communities respond to or recover from drought or reduce flood risk?

One of the goals of the KVERC initiative is to “strengthen the Kawuneeche Valley’s resilience to the impacts of climate change.” The initiative will work to accomplish this by restoring the natural function of the wetland and riparian habitat in Kawuneeche Valley which will mitigate wildfire, drought, and flooding risk (Fairfax, 2022a).

Additionally, the initiative will restore and conserve biodiversity and riparian and wetland habitat and improve water quality which will protect public health.

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits? Please estimate the extent to which the project will build resilience to drought and provide support for your estimate.

Wetlands, riparian areas, and beaver complexes buffer or provide resilience to drought allowing plants to remain lush in high temperatures and without precipitation (Fairfax, 2020). Recent research also shows that beaver-wetland landscapes reduce wildfire spread (Fairfax, 2022b). By restoring large areas of wetland, riparian, and beaver habitat this project would build long-term resilience to drought as these systems attenuate flow, increase water volumes, and wet currently dry and eroding sites. The project team expects these benefits to persist long into the future and get better as time passes. Each of these project areas will directly restore about 50+ acres of habitat. However, due to their important location in the North Fork of the Colorado River indirect benefits are anticipated across an even larger area.

Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation? Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution? Does the proposed project contribute to climate change resiliency in other ways not described above?

In restoring the natural habitat of the Kawuneeche Valley, the wetlands and riparian areas will support the natural vegetation, which will contribute to carbon sequestration. Wetlands are known carbon sinks and will hold large amounts of carbon in both vegetation and soils. This project is also expected to reduce suspended and mobilized sediments in the water column and wetland/riparian areas are known to improve overall water quality by filtering pollutants and metals from waterways.

Disadvantaged or Underserved Communities: E.O. 14008 and E.O. 13985 affirm the advancement of environmental justice and equity for all through the development and funding of programs to invest in disadvantaged or underserved communities.

Please use the Council on Environmental Quality’s interactive Climate and Economic Justice Screening Tool, available online at Explore the map – Climate & Economic Justice Screening Tool (<https://screeningtool.geoplatform.gov>) to identify any disadvantaged communities that will benefit from your project.

The project occurs in Census Tract 08049000201; while this rural community does not meet the criteria of disadvantaged, two-thirds of its elementary schools and half of its middle schools are supported by Title 1. Additionally, the project is adjacent to Census Tract 08069002803 which is identified as disadvantaged in the Climate and Economic Justice Screening Tool.

If applicable, describe how the project benefits those disadvantaged or underserved communities identified using the tool. For example, does the project improve water quality, provide economic growth opportunities, improve or expand public access to nature, or provide other benefits in a disadvantaged or underserved community?

The project will have limited benefit to the underserved communities in the area. However, the project's outreach activities provide educational opportunities to the local schools that would not otherwise be available to them.

Tribal Benefits: *The Department of the Interior is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. The President's memorandum, Tribal Consultation and Strengthening Nation-to Nation Relationships, asserts the importance of honoring the Federal government's commitments to Tribal Nations.*

If applicable, describe how the project directly serves and/or benefits a Tribe, supports Tribally led conservation and restoration priorities, and/or if the project incorporates or benefits Indigenous Traditional Knowledge and practices.

RMNP has conducted nation-to-nation consultations with nine associated Tribes through formal letters and telephone calls. The Northern Arapahoe Tribe invited the park to participate in an in-person consultation trip to the Wind River Reservation where Tribal representatives and Park staff discussed the KVERC projects. Tribal representatives expressed concern about degradation to their homeland, the importance of beaver to their culture, and support for the KVERC project. The Park is planning an in-person Tribal consultation this summer including a field trip and discussion about the KVERC initiative. KVERC would like to plan collaborative activities with Tribes, depending on Tribal interest.

Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

There are no known Tribal Trust assets associated with Reclamation projects in the area (e.g., Colorado-Big Thompson Project), however, any time Reclamation has a ground disturbing undertaking, or an action that would change water levels beyond historic averages, the Eastern Colorado Area Office archaeologist conducts a consultation with all Tribal Nations that have any ancestral ties to the area.

References

- Baker, B., Peinetti, H.R., & Coughenour, M.B. (2005). Resilience of willow stems after release from intense elk browsing. *Rangeland Ecology and Management*, 58:575-581.
- Colorado Division of Wildlife, State of Colorado river otter recovery plan: revision of 1980, 1984, and 1988 Draft Plans (2003). Denver, Colorado.
- Fairfax, E. (2020, September 6). *Beavers and drought*. Emily Fairfax, Ph.D. <https://emilyfairfaxscience.com/research/droughtbeavers/>
- Fairfax, E. (2022a, September 13). *Beavers as climate mitigation and adaptation*. Emily Fairfax, Ph.D. <https://emilyfairfaxscience.com/research/beavers-climate/>
- Fairfax, E. (2022b, December 14). *Beavers and wildfire*. Emily Fairfax, Ph.D. <https://emilyfairfaxscience.com/research/firebeavers/>
- Hydros Consulting Inc. (2020). Operational and Water-Quality Summary Report for the Three Lakes. <https://www.co.grand.co.us/documentcenter/view/18018>
- Kaufman, K. (n.d.). Cinnamon Teal. Guide to North American Birds. <https://www.audubon.org/field-guide/bird/cinnamon-teal>
- Loeffler, C., Conservation plan and agreement: For the management and recovery of the southern Rocky Mountain population of the boreal toad (*bufo boreas boreas*) (2001). Denver, CO; Boreal Toad Recovery Team.
- National Audubon Society. (n.d.). Survival by Degrees: 389 Bird Species on the Brink. <https://www.audubon.org/climate/survivalbydegrees>
- Scherer, R.D., Baldwin, B., Connor, J., Noon, B.R. (2010). Occupancy of beaver (*Castor canadensis*) in Rocky Mountain National Park: the second field season. Report to Rocky Mountain National Park. https://files.cfc.umt.edu/cesu/NPS/CSU/2009/09_10Noon_ROMO_beaver_habitat_fnl%20rpt.pdf
- Schweiger, E. William & Gage, Edward & Driver, K. & Cooper, D. & O'Gan, L. & Britten, Michael. (2015). Rocky Mountain Network Wetland Ecological Integrity Monitoring Protocol Narrative, Version 1.0. 10.13140/RG.2.1.4750.7680.
- Theobald, D. M., Baron, J.S., Newman, P., Noon, B., Norman III, J.B., Leinwand, I., Linn, S.E., Sherer, R., Williams, K.E., and Hartman, M. (2010). A natural resource condition assessment for Rocky Mountain National Park. Natural Resource Report NPS/NRPC/WRD/NRR—2010/228. National Park Service, Fort Collins, Colorado. <http://npshistory.com/publications/romo/nrr-2010-228.pdf>

2. Budget

Table 1. Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Rocky Mountain Conservancy	\$86,401
2. Northern Colorado Water Conservancy District	\$160,000
3. The Nature Conservancy	\$44,000
4. Colorado Parks & Wildlife	\$142,000
Non-Federal Subtotal	\$432,401
REQUESTED RECLAMATION FUNDING	\$ 761,000

A budget narrative and the SF-424A Budget Information Form are both attached.

3. Environmental & Cultural Resources Compliance

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

There are no impacts to air, water, soil, and animal habitat from the Study and Design Project.

When projects are eventually implemented, there will be minimal to no negative impact to air, water, and animal habitat from this project. This project will benefit water quality and animal habitat. Ground disturbing activities will be limited to installing fence posts and instream structures.

Potential negative impacts to the environment will be thoroughly assessed by the Environmental Assessment that is part of the Study and Design Proposal.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

There is a pending petition for federal listing of the boreal toad as an endangered species. Boreal toads are not currently present in the project areas and therefore future construction activities will have no negative effect on them. The project is anticipated to ultimately improve habitat for boreal toads.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States”? If so, please describe and estimate any impacts the proposed project may have.

Yes. The KVERC team is working with the Army Corp of Engineers to describe potential impacts and get a permit for the projects. The project team anticipates that a nationwide permit will be granted for these projects. The project will benefit wetlands and surface waters.

When was the water delivery system constructed?

There are currently no formal water delivery systems within the project area. Ditches, now abandoned, were constructed to drain or irrigate areas in the Kawuneeche Valley historically.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No. Only abandoned ditches will be evaluated for mitigation.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

The potential Baker and Bowen Creek project areas include the National Register-listed, Little Buckaroo Ranch Barn (5GA.3895). Other structures that are eligible for listing on the National Register include Little Buckaroo Ranch Road (5GA4465.1), Bowen Gulch Road (5GA.1978.2), and Baker Creek Submerged Bridge (5GA.5036).

The north end of the potential Onahu Creek project area extends to the National Register-listed Trail Ridge Road (5GA.307) on the north end. The boundary for this cultural landscape extends 100' from both sides of the roadway centerline. This site otherwise does not contain any built environment historic properties.

Several of the areas identified for abandoned infrastructure mitigation at least partially overlay Trail Ridge Road (5GA.307). They also partially overlay the Green Mountain-Onahu Ranch area (5GA.4762). The former ranches were previously determined National Register-eligible. The National Park Service recently submitted a site form to the Colorado State Historic Preservation Office recommending the property as not eligible, which is currently under review.

Are there any known archeological sites in the proposed project area?

Cultural resource surveys will be completed through this project and will help to determine if archeological sites exist in the proposed project areas and if they are eligible for federal listing.

It is likely that archeological sites will be found, although the survey for the Beaver Creek project area did not find any sites. The National Park Service has already begun the National Historic Preservation Act Section 106 process for KVERC projects.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

The applicant is not aware of any aspect of the project that will have a disproportionately high or adverse effect on low income or minority populations.

Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on tribal lands?

The project will not limit access to or use of Indian sacred sites or result in any other impacts on tribal lands. There are no known Indian sacred sites in the proposed project area.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

The project aims to significantly reduce noxious weeds and revegetate with native species in an effort to avoid the spread of invasive vegetation. Precautions, such as cleaning equipment, will be taken to reduce the opportunity for weed seeds to be carried into the site on equipment and materials.

KVERC follows standard park disinfection procedures to reduce the spread of chytrid fungus. Additionally, KVERC will monitor the results of nearby boreal toad and woodfrog survey sites to track the disease status of nearby sites.

The project will not contribute to the introduction of non-native invasive animal species.

4. Required Permits & Approvals

A Clean Water Act- Section 404 permit is required from the U.S. Army Corps of Engineers for the discharge of dredged or fill material into Waters of the U.S. A delineation of aquatic resources is being finalized. The preliminary project and permitting needs were discussed with the Army Corps on September 1, 2022, and KVERC intends to submit an application during project planning and design.

National Environmental Policy Act (NEPA) must be considered for any action on federal lands. An Environmental Assessment will be completed through this planning & design project.

A National Historic Preservation Act (NHPA) Class III cultural resource survey will be undertaken with this planning & design project. The Class III survey results, once finalized, will inform NPS

regarding NHPA requirements, including consultations with the SHPO and Tribal Partners, which will help guide any changes to final restoration designs.

National Park Service (NPS) Research Permit- Proposed research activities and material collections were submitted to the NPS Research Permit and Reporting System. The research and collections were reviewed and approved for scientific integrity and adverse impacts. Additional research permit applications will be reviewed by NPS as needed for this project.

5. Overlap or Duplication of Effort Statement

There are no known overlaps between the Kawuneeche Valley Ecosystem Restoration initiative and any other active or anticipated proposals or projects in terms of activities, costs or commitment of key personnel. The Kawuneeche Valley Ecosystem Restoration Collaborative carefully reviews proposals and federal funding opportunities to avoid overlap or duplication of efforts.

The proposed project does not in any way duplicate any proposal or project that has been or will be submitted for funding consideration to any other potential funding source.

6. Conflict of Interest Disclosure Statement

No actual or potential conflict of interest exists at the time of submission.

7. Uniform Audit Reporting Statement

Northern Colorado Water Conservancy District's (EIN 84-6000204) most recently completed audit for fiscal year-end September 30, 2021, was received by the Federal Audit Clearinghouse on April 27, 2022. It is available on the Federal Audit Clearinghouse website with the file name 25304620211.

8. SF-LLL: Disclosure of Lobbying Activities

N/A- There is no lobbying activity in connection with a covered Federal action to disclose.

9. Letters of Support

Letters of support are attached from:

- Colorado River Water Conservation District
- Colorado State University
- Grand County
- Rocky Mountain National Park
- Town of Grand Lake

10. Official Resolution

An official resolution adopted by Northern Water's Board of Directors is attached.

11. Letters of Funding Commitment

Letters of funding commitment are attached from:

- Colorado Parks & Wildlife
- Northern Colorado Water Conservancy District
- Rocky Mountain Conservancy
- The Nature Conservancy



COLORADO RIVER DISTRICT
PROTECTING WESTERN COLORADO WATER SINCE 1937

May 17, 2023

Via electronic mail

Bureau of Reclamation
ATTN: Ms. Avra Morgan
PO Box 25007
Denver Federal Center
Denver, CO 80225-0007

RE: Letter of Funding Commitment for Kawuneeche Valley Ecosystem Restoration Collaborative

Dear Ms. Morgan:

The Colorado River Water Conservation District (“River District”) is pleased to support Kawuneeche Valley Ecosystem Restoration Collaborative’s WaterSMART Aquatic Ecosystem Restoration Projects (“AERP”) application for Fiscal Year 2023.

KVERC is comprised of the National Park Service - RMNP, US Forest Service, Grand County, Town of Grand Lake, Northern Colorado Water Conservancy District, The River District, and The Nature Conservancy. The Collaborative was formed in early 2020 to restore aquatic and riparian habitats and improve water quality in the Kawuneeche Valley and North Fork Colorado River watershed. The watershed area encompasses both public and private landowners, serving diverse ecological, recreational, and economic interests.

The Kawuneeche Valley ecosystems are currently degraded and need restoration to improve their biodiversity and overall health. The River District participates in and financially supports KVERC to support the ecological health of the region’s watershed, which aligns with the River District’s goals to protect and sustain West Slope water. Funding from the WaterSMART AERP grant would further support important restoration at the North Fork of the Colorado River Watershed.

In June 2022, the River District launched an Accelerator Grant program to provide grant-writing, feasibility, design, preliminary environmental review, benefits analysis, and engineering to support federal funding applications made available through the Bipartisan Infrastructure Law. This program is made possible through the River District’s Community Funding Partnership Program (“CFP”), which was created in 2021 to fund multi-purpose water projects on the Western Slope. In September 2022, the River District awarded Kawuneeche Valley Ecosystem Restoration Collaborative a \$48,500 Accelerator Grant to support pre-application design and assessment for restoration projects on the North Fork of the Colorado River Watershed.

May 17, 2023

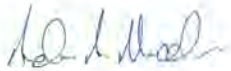
Page 2



The River District promotes, encourages, and supports the wise and efficient use of all of Colorado's water resources. We strongly support the Kawuneeche Valley Ecosystem Restoration Collaborative and the coalition of partners working together to restore the Colorado River headwaters.

Thank you for your consideration.

Sincerely,



Andrew A. Mueller
General Manager

Colorado State

University

Department of Forest and Rangeland Stewardship
Fort Collins, Colorado USA 80523

May 25, 2023

Bureau of Reclamation, Water Resources and Planning Office
Attn: Ms. Avra Morgan, Mail Code: 86-63000
PO Box 25007, Denver, CO 80225-0007

Dear Ms. Morgan:

Colorado State University is pleased to support Rocky Mountain Conservancy's grant application for Northern Water's WaterSMART Aquatic Ecosystem Restoration Projects (AERP) for fiscal year 2023 (Notice of Funding Opportunity No. R23AS00106).

Northern Water's Task A application is for the Kawuneeche Valley Ecosystem Restoration Project Planning & Design being undertaken as the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC). KVERC is comprised of the National Park Service - RMNP, US Forest Service, Grand County, Town of Grand Lake, Northern Colorado Water Conservancy District, Colorado River Water Conservation District, and The Nature Conservancy. The Collaborative was formed in 2020 to restore aquatic and riparian habitats and improve water quality in the Kawuneeche Valley and North Fork Colorado River watershed. The watershed area encompasses both public and private land and provides diverse ecological, recreational, and economic interests.

CSU has collaborated as technical science consultants for KVERC. This project is important because it lays the foundation for restoring the highly degraded wetland and riparian Colorado River headwaters ecosystems that we have studied for nearly 4 decades. This is one of the most important wetland complexes in northern Colorado visited by millions of people each year and could support one of the largest stands of tall willows in the region and create habitat for beavers to continue building floodplains, creating ponds, and supporting amphibians and birds.

We hope the Bureau of Reclamation can support this restoration planning and design project. It closely aligns with WaterSMART AERP's objective of supporting collaborative projects with widespread regional benefits and improving the health of wildlife and aquatic habitat through restoration. This multi-benefit, multi-phased project will reverse historical impacts, restore habitat, retain sediment and nutrients, improve water quality, and reconnect streams to floodplains.

Sincerely,



David J. Cooper, Ph.D. Senior Research Scientist/Professor Emeritus
Sara Rathburn, Ph.D. Associate Professor, Geosciences
Jeremy Shaw, Ph.D. Research Scientist, Forest and Rangeland Stewardship



GRAND COUNTY BOARD OF COMMISSIONERS

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District III, Kremmling 80459

E-Mail: grndctv1@co.grand.co.us
PHONE: 970/725-3100
Fax: 970/725-0565
EDWARD MOYER
County Manager
MAXINE LABARRE-KROSTUE
County Attorney

May 25, 2023

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Avra Morgan
Mail Code: 86-63000
PO Box 25007
Denver, CO 80225-0007

RE: Letter of Support for Northern Water's AERP Grant Application

Dear Ms. Morgan:

I am pleased to provide this letter of support on behalf of Grand County for Northern Water's WaterSMART Aquatic Ecosystem Restoration Projects (AERP) grant application for Fiscal Year 2023 (Notice of Funding Opportunity No. R23AS00106).

Northern Water's Task A application is for the Kawuneeche Valley Ecosystem Restoration Project Planning & Design, which was undertaken as a collaborative effort known as the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC). KVERC is comprised of the National Park Service - RMNP, the United States Forest Service, Grand County, the Town of Grand Lake, the Northern Colorado Water Conservancy District, the Colorado River Water Conservation District, and The Nature Conservancy.

The Collaborative was formed in early 2020 to restore aquatic and riparian habitats and improve water quality in the Kawuneeche Valley and the North Fork Colorado River watershed. The watershed area encompasses properties of both public and

private landowners, serving diverse ecological, recreational, and economic interests.

Grand County is a key partner in the Collaborative and believes this is a critical component for this organization and the community to ensure the sustainability of the headwaters of the Colorado River. We are committed to assisting KVERC by dedicating staff time, helping with project coordination, access to maps and imagery, property ownership, local communication and outreach, access within easements, and other means, as appropriate.

Grand County strongly encourages the Bureau of Reclamation to support the Kawuneeche Valley Ecosystem Restoration Project Planning & Design as it aligns with WaterSMART AERP's objective of supporting projects that are collaborative, have widespread regional benefits, and improve the health of wildlife and aquatic habitat through restoration. This is a multi-benefit, multi-phased project that will reverse historical impacts, restore habitat, retain sediment and nutrients, improve water quality, and reconnect streams to floodplains. Thank you for your consideration.

Sincerely,



Edward Moyer
Grand County Manager



United States Department of the Interior

NATIONAL PARK SERVICE
Rocky Mountain National Park
Estes Park, Colorado 80517



IN REPLY REFER TO:

May 12, 2023

Bureau of Reclamation, Water Resources and Planning Office
Attn: Ms. Avra Morgan
Mail Code: 86-63000, PO Box 25007
Denver, CO 80225-0007

Dear Ms. Morgan,

I am pleased to provide this letter of support on behalf of Rocky Mountain National Park (RMNP) for Northern Water's WaterSMART Aquatic Ecosystem Restoration Projects (AERP) grant application for Fiscal Year 2023 (Notice of Funding Opportunity No. R23AS00106).

Northern Water's Task A application is for the Kawuneeche Valley Ecosystem Restoration Project (KVERP) Planning & Design, which was undertaken as a collaborative effort known as the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC). KVERC is comprised of the National Park Service - RMNP, US Forest Service, Grand County, Town of Grand Lake, Northern Colorado Water Conservancy District, Colorado River Water Conservation District, and The Nature Conservancy. The Collaborative was formed in early 2020 to restore aquatic and riparian habitats and improve water quality in the Kawuneeche Valley and North Fork Colorado River watershed. The watershed area encompasses both public and private landowners, serving diverse ecological, recreational, and economic interests.

RMNP's purpose is to "preserve the high-elevation ecosystems and wilderness characters of the southern Rocky Mountains within its borders and to provide the freest recreational use of and access to the park's scenic beauties, wildlife, natural features and processes, and cultural objects". This project is important to RMNP because the Kawuneeche Valley's ecosystems are degraded and no longer support the native biodiversity or functions characteristic of healthy riparian ecosystems. Participating in KVERC and restoring these ecosystems are priorities included in the park's Strategic Plan.

I encourage the Bureau of Reclamation to support the KVERP Planning & Design as it aligns with WaterSMART AERP's objective of supporting projects that are collaborative, have widespread regional benefits, and improve the health of wildlife and aquatic habitat through restoration. This is a multi-benefit, multi-phased project that will reverse historical impacts, restore habitat, retain sediment and nutrients, improve water quality, and reconnect streams to floodplains.

Sincerely,

Koren Nydick
Resource Stewardship Division Manager



1026 Park Ave · PO Box 99
Grand Lake, CO 80447
970-627-3435
www.townofgrandlake.com

May 25, 2023

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Avra Morgan
Mail Code: 86-63000
PO Box 25007
Denver, CO 80225-0007
aomorgan@usbr.gov

Dear Ms. Morgan:

I am pleased to provide this letter of support on behalf of the Town of Grand Lake for Northern Water's WaterSMART Aquatic Ecosystem Restoration Projects (AERP) grant application for Fiscal Year 2023 (Notice of Funding Opportunity No. R23AS00106).

Northern Water's Task A application is for the Kawuneeche Valley Ecosystem Restoration Project Planning & Design, which was undertaken as a collaborative effort known as the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC). KVERC is comprised of the National Park Service - RMNP, the United States Forest Service, Grand County, the Town of Grand Lake, the Northern Colorado Water Conservancy District, the Colorado River Water Conservation District, and The Nature Conservancy. The Collaborative was formed in early 2020 to restore aquatic and riparian habitats and improve water quality in the Kawuneeche Valley and the North Fork Colorado River watershed. The watershed area encompasses properties of both public and private landowners, serving diverse ecological, recreational, and economic interests.

The Town of Grand Lake's mission is to protect its natural environment, preserve its history, and enhance its economic vitality to ensure quality of life for its residents, businesses, and visitors. This project is important to the Town of Grand Lake, because by restoring these habitats, we are able to improve our ecosystem, replenish water systems, and ensure the quality of life for all.

I encourage the Bureau of Reclamation to support the Kawuneeche Valley Ecosystem Restoration Project Planning & Design as it aligns with WaterSMART AERP's objective of supporting projects that are collaborative, have widespread regional benefits, and improve the health of wildlife and aquatic habitat through restoration. This is a multi-benefit, multi-phased project that will reverse historical impacts, restore habitat, retain sediment and nutrients, improve water quality, and reconnect streams to floodplains.

Sincerely,

Steve Kudron
Mayor

NORTHERN COLORADO WATER CONSERVANCY DISTRICT

RESOLUTION

D-1389-05-23

**AUTHORIZING AND APPROVING THE APPLICATION FOR GRANT FUNDS FOR
THE KAWUNEECHE VALLEY ECOSYSTEM RESTORATION PROJECT PLANNING
AND DESIGN**

WHEREAS, the President of the United States and the United States Department of the Interior have provided funds for the WaterSMART Program; and

WHEREAS, the Bureau of Reclamation has been delegated the responsibility for the administration of this grant program, establishing necessary procedures; and

WHEREAS, said procedures established by the Bureau of Reclamation require a resolution certifying the approval of application(s) by the applicant's governing board before submission of said application(s); and

WHEREAS, the applicant, if selected, will enter into an agreement with the Bureau of Reclamation to carry out the activities as described in the proposal.

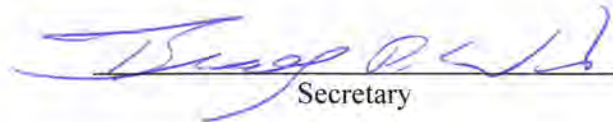
NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS THAT:

1. Approves the filing of an application for the WaterSMART Aquatic Ecosystem Restoration Projects for Fiscal Year 2023 by Northern Water, requesting funding support for Planning & Design associated with the Kawuneeche Valley Ecosystem Restoration Project; and
2. Appoints Kimberly Mihelich, Source Water Protection Specialist, or her designee, to act as agent with legal authority to enter into the grant agreement, conduct all negotiations, execute and submit all documents including, but not limited to, applications, agreements, payment requests and any other grant required correspondence which may be necessary for the completion of the grant program; and
3. Certifies that Northern Water has sufficient funds available to provide 35-percent of the total project costs as matching funds/in-kind contributions; and
4. Certifies that the Board of Directors for Northern Water has reviewed and supports the proposed application; and

5. Certifies that Northern Water will work with the Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement; and
6. This Resolution shall take effect immediately from and after its passage and publication as required by law.

CERTIFICATE

I, Bradley D. Wind, do hereby certify that the above is a true and correct copy of a Resolution adopted by the Board of Directors of Northern Colorado Water Conservancy District at a Board meeting of said Board held in Berthoud, Colorado, on May 11, 2023.


Secretary



COLORADO
Parks and Wildlife
Department of Natural Resources

Habitat Conservation Unit
Terrestrial Section
317 W. Prospect Rd.
Fort Collins, CO 80526

May 12, 2023

Bureau of Reclamation
Water Resources and Planning Office
Attn: Avra Morgan
Mail Code: 86-63000
PO Box 25007
Denver, CO 80225-0007

RE: Letter of Funding Commitment for Kawuneeche Valley Ecosystem Restoration Collaborative

Dear Ms. Morgan:

Colorado Parks and Wildlife (CPW) recently selected the Kawuneeche Valley Ecosystem Restoration (KVER) initiative for \$216,700 in grant funding through CPW's Wetlands for Wildlife Program. The project was well-received by our review teams. The scale of the restoration work is significant and, as proposed, will meet one of the goals of the funding program, which is to improve the status of declining or at-risk species. KVER activities will restore significant habitat critical to boreal toads, beavers, wood frogs, river otters, and numerous waterfowl species.

CPW is a state agency with a mission to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. The Wetlands for Wildlife grant program is managed by CPW's Wetland Wildlife Conservation Program, which was created to protect wetlands and wetland-dependent wildlife on public and private land.

The funds will be available by July 1, 2023 and must be expended by June 30, 2026. CPW is currently drafting the State Contract for this grant and anticipates the contracting to be completed in the next few months. On behalf of CPW, I encourage the Bureau of Reclamation to join us in funding this worthy initiative.

Sincerely,

Brian Sullivan
CPW Wetlands Program Coordinator
970.472.4306
brian.sullivan@state.co.us





May 25, 2023

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Avra Morgan
Mail Code: 86-63000
PO Box 25007
Denver, CO 80225-0007
aomorgan@usbr.gov

Re: Notice of Funding Opportunity No. R23AS00106

Dear Ms. Morgan:

I am pleased to provide this funding commitment for Northern Water's grant application in response to the Notice of Funding Opportunity No. R23AS00106 - WaterSMART Aquatic Ecosystem Restoration Projects for Fiscal Year 2023. Northern Water is submitting a Task A Application for the Kawuneeche Valley Ecosystem Restoration Project Planning & Design, which is a multi-benefit, phased project that aims to reverse ecological degradation, restore wetland and riparian habitats, retain sediment and nutrients, improve water quality, and reconnect streams to floodplains.

Northern Water has been involved with the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC) since its inception in 2020. KVERC is a notable example of collaborative environmental stewardship that brings multiple governmental agencies and nonprofits together with the shared objective of ecosystem restoration in the headwaters of the Colorado River. The work of KVERC supports Northern Water's mission to provide a reliable and high-quality source for the one million people who depend on it for their drinking water.

Northern Water has committed funding in the amount of \$99,980 in 2023 for planning and design support, and outreach. Northern Water intends to commit an additional \$70,000 in 2024 for planning and design support, pending approval by the Northern Water Board of Directors.

Thank you in advance for your consideration to fund this project. Your support will continue to advance the critical work that KVERC is undertaking.

Sincerely,
DocuSigned by:

58ACE068ACEE4F7...
Esther Vincent

Environmental Services Division Director



Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Avra Morgan
Mail Code: 86-63000
PO Box 25007
Denver, CO 80225-0007

May 30, 2023

Dear Ms. Morgan:

I am pleased to provide this letter of support on behalf of Rocky Mountain Conservancy for Northern Water's WaterSMART Aquatic Ecosystem Restoration Projects (AERP) grant application for Fiscal Year 2023 (Notice of Funding Opportunity No. R23AS00106).

Northern Water's Task A application is for the Kawuneeche Valley Ecosystem Restoration Project Planning & Design, which was undertaken as a collaborative effort known as the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC). KVERC is comprised of the National Park Service - RMNP, the United States Forest Service, Grand County, the Town of Grand Lake, the Northern Colorado Water Conservancy District, the Colorado River Water Conservation District, and The Nature Conservancy. The Collaborative was formed in early 2020 to restore aquatic and riparian habitats and improve water quality in the Kawuneeche Valley and the North Fork Colorado River watershed. The watershed area encompasses properties of both public and private landowners, serving diverse ecological, recreational, and economic interests.

The Rocky Mountain Conservancy's mission is to promote stewardship of Rocky Mountain National Park and similar lands through education and philanthropy. This project is important to the Rocky Mountain Conservancy because the Kawuneeche Valley resides within Rocky Mountain National Park. As a phase 1 funder, the Rocky Mountain Conservancy commits to \$87,000 of funding for this project in 2024 and encourages you to partner with us in supporting this initiative.

I encourage the Bureau of Reclamation to support the Kawuneeche Valley Ecosystem Restoration Project Planning & Design as it aligns with WaterSMART AERP's objective of supporting projects that are collaborative, have widespread regional benefits, and improve the health of wildlife and aquatic habitat through restoration. This is a multi-benefit, multi-phased project that will reverse historical impacts, restore habitat, retain sediment and nutrients, improve water quality, and reconnect streams to floodplains.

Sincerely,

Estee Rivera Murdock, Executive Director

Nature. Pass it on.

P.O Box 3100 ■ Estes Park, Colorado ■ 80517 ■ Phone: 970-586-0108 ■ [rmconservancy.org](https://www.rmconservancy.org)



The Nature Conservancy in Colorado
2424 Spruce Street
Boulder, CO 80302

tel (303) 444-2950
fax (303) 444-2985
nature.org/colorado

May 17, 2023

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Avra Morgan
Mail Code: 86-63000
PO Box 25007
Denver, CO 80225-0007

Dear Ms. Morgan:

The Nature Conservancy is grateful for the opportunity to provide a letter of support and funding commitment for Northern Water's grant application for a WaterSMART Aquatic Ecosystem Restoration Project. TNC is a core member of the Kawuneeche Valley Ecosystem Restoration Collaborative (KVERC) and supports Northern Water's application for Planning & Design of a multi-benefit, phased project that will remedy historical impacts, restore wetland and riparian habitats, retain sediment and nutrients, improve water quality, and reconnect streams to floodplains in the Upper Colorado River watershed.

TNC has been involved with KVERC since its inception and considers this project an essential demonstration of multi-agency collaboration of headwaters restoration using process-based techniques and innovative design. This project is crucial to implementation of riparian restoration in the Upper Colorado River Basin and serves to prove the value of interdisciplinary, community-driven conservation. Our partnership with Northern Water, the National Park Service, the Colorado River District, the US Forest Service, Colorado State University, and others is an excellent example of true cooperation and synergy of multi-agency priorities.

The Nature Conservancy will commit funding in the amount of \$44,000 to support planning and design of low-tech restoration and stakeholder outreach for the project. These funds will be awarded to Northern Water by June 2023 and utilized by June 2024 to further project implementation. If this proposal is selected for funding, KVERC will advance its impactful work to improve watershed resilience and restore wetland habitats in one of Colorado's most iconic mountainous regions. We appreciate the Bureau of Reclamation's support for this and other wonderful aquatic ecosystem restoration projects.

Sincerely,

A handwritten signature in black ink, appearing to read "Carlos E. Fernandez", with a horizontal line underneath.

Carlos E. Fernandez, State Director
The Nature Conservancy in Colorado