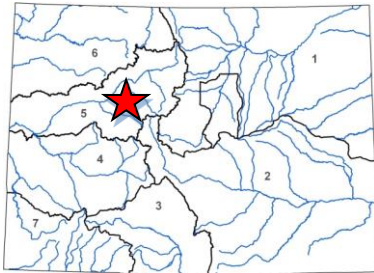




Three Mile Creek Confluence Restoration Project Garfield County

January 2022 Board Meeting

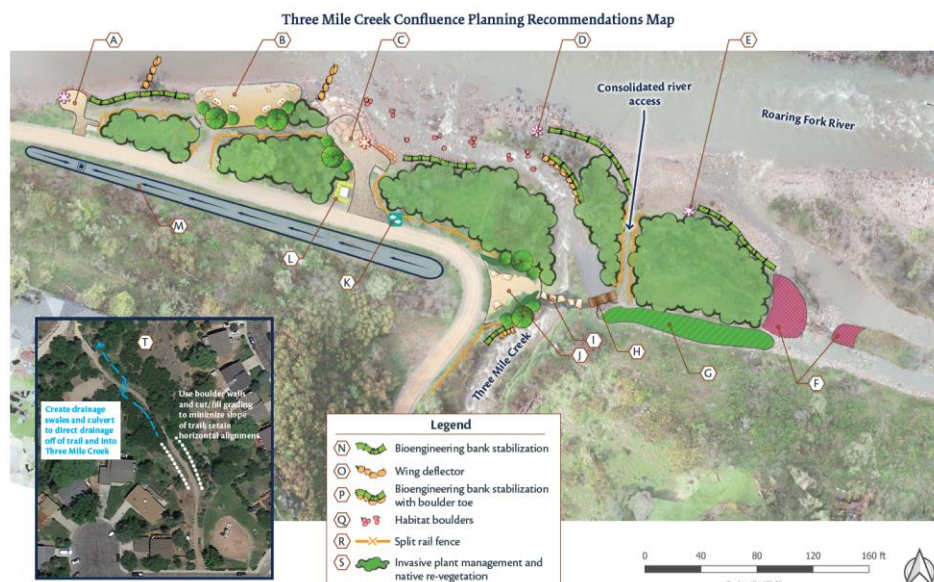
Colorado Watershed Restoration Program Application



L O C A T I O N	
County/Countries:	Garfield
Drainage Basin:	Colorado

D E T A I L S	
Total Project Cost:	\$316,000
Colorado Watershed Restoration Program Request:	\$158,000
Recommended amount:	\$130,000
Other CWCB Funding:	\$180,000
*(This funding is not being used as match for this grant request)	
Other Funding Amount:	\$150,000
Applicant Match:	\$8,000
Project Type(s):	Project
Project Category(Categories):	Stream Restoration
Measurable Result:	Streambank stabilization, enhanced riparian habitat, improved public access

The Three Mile Creek Confluence in southern Glenwood Springs is a heavily used natural area that has been degraded over time due to increasing recreational use and pedestrian traffic. The City of Glenwood Springs, in partnership and input from many local stakeholders has identified improvements that will allow the space to be enjoyed by visitors while also protecting the area's ecological diversity including the stabilization and ecological restoration of over 700 linear feet of bio-engineered bank stabilization (an increase of 200 linear feet above the former request), removal of approximately one acre of invasive species (an increase of 0.40 acres), reestablishing native riparian vegetation by planting over 30,000 square feet of trees and shrubs, installing more than 1,100 linear feet of fencing (an increase of 600 linear feet above the former request) to reduce the impact of pets and pedestrians, restoring over 8,000 square feet of wetland/riparian areas, and multiple new signs that will educate the public on the importance of a healthy riparian ecosystem and spawning restrictions associated with sensitive confluences. The proposed work represents full construction of the project per updated, 100 percent construction drawings and cost estimates, whereas the former request only identified a subset of the complete project due to funding limitations at the time. The overall intent of the grant funding is to stabilize banks and reestablish a healthy ecosystem at a sensitive stream confluence.





City of Glenwood Springs
Colorado Water Conservation Board
Watershed Restoration Program Grant Application
November 4, 2021



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources



Project Proposal Summary Sheet

Project Title: Three Mile Creek Confluence Restoration Project

Project Location: The project site is located at the confluence of Three Mile Creek and the Roaring Fork River in southern Glenwood Springs, Colorado. Glenwood Springs is located within Garfield County, approximately 120 miles west of Denver. Approximate coordinates of the project site are 39.5144604N, -107.317885W.

Grant Type: Colorado Watershed Restoration Program

Grant Request/Amount: \$158,000 (\$190,000 previously awarded by CWCB)

Cash Match Funding: \$150,000 (newly secured City of Glenwood Springs), \$35,000 (previously secured City of Glenwood Springs)

In-Kind Match Funding: \$8,000 (\$25,750 outlined in previous award by CWCB)

Project Sponsor(s): The Three Mile Creek Confluence Restoration Project is sponsored by the City of Glenwood Springs, Colorado.

Contact: Trent Hyatt, Long Range Senior Planner, trent.hyatt@cogs.us, (970) 384-6427 or Jennifer Ooton, Assistant City Manager, jenn.ooton@cogs.us, (970) 384-6404.

Brief Project Description: The Three Mile Creek Confluence in southern Glenwood Springs is a heavily used natural area that has been degraded over time due to increasing recreational use and pedestrian traffic. The City of Glenwood Springs, in partnership and input from many local stakeholders has identified improvements that will allow the space to be enjoyed by visitors while also protecting the area's ecological diversity including the stabilization and ecological restoration of over 700 linear feet of bio-engineered bank stabilization (an increase of 200 linear feet above the former request), removal of approximately one acre of invasive species (an increase of 0.40 acres), reestablishing native riparian vegetation by planting over 30,000 square feet of trees and shrubs, installing more than 1,100 linear feet of fencing (an increase of 600 linear feet above the former request) to reduce the impact of pets and pedestrians, restoring over 8,000 square feet of wetland/riparian areas, and multiple new signs that will educate the public on the importance of a healthy riparian ecosystem and spawning restrictions associated with sensitive confluences. The proposed work represents full construction of the project per updated, 100 percent construction drawings and cost estimates, whereas the former request only identified a subset of the complete project due to funding limitations at the time. The overall intent of the grant funding is to stabilize banks and reestablish a healthy ecosystem at a sensitive stream confluence.

One Drive Links to Public Outreach Documents and Plan Set:

[Three Mile Creek Public Education/Outreach and Concepts](#)

[Three Mile Creek Confluence Designs](#)



Application Evaluation Criteria

Qualifications Evaluation

Identify the lead project sponsor and describe the other stakeholders' level of participation and involvement: The lead project sponsor is the City of Glenwood Springs, Colorado. The project plan and design were informed by input from Colorado Parks and Wildlife to determine the most appropriate course of action for this sensitive and environmentally important area. The project plan and design were additionally informed by two public meetings and two community surveys. Dozens of people participated in the two public meetings and the City collected more than 100 responses to its two surveys. Additionally, multiple local organizations support the project, including the City of Glenwood Springs River Commission who initiated and has guided the process, the Middle Colorado Watershed Council, Pitkin County Healthy Rivers, Trout Unlimited, Colorado Parks and Wildlife, the Colorado River District, and the Roaring Fork Conservancy.

Specify in-kind services and cash contributions (match) amount for the proposed activities. See section B.2. of the grant program guidance to determine match funding requirements. Discuss whether other funding sources are secured or pending: The City of Glenwood Springs has committed an additional \$150,000 in cash match to the \$35,000 already committed to the project. The City intends to further support the project through in-kind grant administration, construction oversight, and post-project monitoring in the amount of \$8,000. This in addition to the \$25,750 of in-kind support already committed by the City, its River Commission and project design consultants Wright Water Engineers, Ramboll Group, and Chinook Landscape Architecture.

Organizational Capability

What is the applicant organization's history of accomplishments in the watershed? Provide several past project or planning examples. List partner organizations and agencies with whom applicant worked to implement past projects or planning efforts: The City of Glenwood Springs has an extensive, successful history in watershed projects and plans. The Three Mile Creek Confluence Planning and Design Project, to create the plans for this application, was supported by two separate grant awards from Pitkin County Healthy Rivers in addition to matching funds from the City of Glenwood Springs. The project was completed with help and coordination from the City, the River Commission, the Parks and Recreation Commission, and letters of support from the River Commission, the Colorado Basin Roundtable, Middle Colorado Watershed Council, Roaring Fork Conservancy, Roaring Fork Fishing Guide Alliance, Ruedi Water and Power Authority, and Colorado Parks and Wildlife. In the Three Mile Creek area, the City also completed successful emergency streambank protection in the fall of 2018.

Outside of the Three Mile Creek area, the City of Glenwood Springs completed the Two Rivers Park Shoreline Restoration project in the winter of 2020, in conjunction with the Parks and Recreation Commission and the River Commission. This project improved the experience for recreational and family users of the park through excavation of the in-river railroad abutment and industrial debris along the park's shoreline, the installation of a river walk trail, the protection of beach areas, improved boat ramp and staging area, Americans with Disabilities Act (ADA)

connectivity, restrooms, and riverfront landscaping.

The City of Glenwood Springs has also completed streambank protection at Veltus Park in the fall of 2018, as well as riparian restoration in the fall of 2018 and again on November 1, 2020. This included the installation of educational signage and was supported by the City, the Parks and Recreation Commission, and the River Commission.

The City Council of Glenwood Springs adopted a riparian setback ordinance, which establishes acceptable distances from bodies of water to areas where building and other soil disturbing activities are taking place, on September 17, 2020. This ordinance was adopted after a more than two-year effort by the City, the River Commission, and the Roaring Fork Conservancy, alongside letters of support from the Middle Colorado Watershed Council, the Roaring Fork Conservancy, the Roaring Fork Fishing Guide Alliance, Ruedi Water and Power Authority, and Colorado Parks and Wildlife. Additional activities conducted by City's River Commission include annual volunteer river cleanups since 2000, annual riparian restoration plantings, and bi-annual public outreach webinars supporting topics related to the importance of the health of riparian ecosystems.

What level of staffing will be directed toward the implementation of the proposed project/planning effort? Discuss the number of staff and amount of time dedicated for the project. Will volunteers be utilized, and if so, how? Include brief resumes for each member of the active project team: The active project team consists of the Jennifer Ooton and Trent Hyatt from the City of Glenwood Springs and Scott Schreiber from Wright Water Engineers. Jennifer, Trent, and Scott have completed the project planning effort, incorporating input from local stakeholders to influence the final project design. During project implementation, Jennifer will dedicate 5% of her time, Trent will dedicate 25% of his time, and Scott will dedicate 15% of his time to the Three Mile Creek Confluence Restoration project.

Jennifer Ooton, Assistant City Manager and director of Community and Economic Development for the City of Glenwood Springs, will serve as co-project manager. Jennifer has extensive experience in both city government and grants management, including project management for a U.S. Environmental Protection Agency (EPA) grant award to create a development master plan for several brownfield properties within Glenwood Springs. Jennifer holds a bachelor's degree from the University of Colorado at Boulder and a master's degree in public administration from the University of Colorado at Denver.

Trent Hyatt, Long Range Senior Planner for Community and Economic Development for the City of Glenwood Springs, will serve as co-project manager. Trent has an impressive track record in grants management, including three Colorado Division of Local Affairs (DOLA) grants including the evaluation and prioritization of historic cultural resources in Clear Creek County, a grant to study various planning scenarios and related economic impacts for potential redevelopment of the City's municipal airport, and a current grant application to update the City's comprehensive plan. Additionally, he has managed a Colorado Water Conservation Board Public Education, Participation, and Outreach grant for the development of a riparian guide for riverfront property owner and landscapers and two Pitkin County Healthy Rivers Board grants for the development of the comprehensive planning effort related to this specific grant



request. Trent holds a bachelor's degree in community and regional planning from Appalachian State University.

Scott Schreiber, Water Resource Engineer for Wright Water Engineers, will serve as the senior engineer. Scott has over a decade of experience in stream restoration, water budget analysis, Clean Water Act permitting, corridor planning studies, groundwater studies, and more. He has served as a lead on numerous comparable projects, including the development of conceptual designs for fish passage in Canyon Creek in Colorado, and implementing stream restoration measures at Coal Creek in Fremont County, Colorado. Scott holds a bachelor's degree in civil engineering from Virginia Polytechnic Institute and State University (Virginia Tech) and a master's degree in water resource engineering and management from the Georgia Institute of Technology (Georgia Tech).

As outlined in the previous grant award, volunteers will participate in the planting of trees and shrubs to reestablish native riparian vegetation, prevent erosion, and continue public education and outreach efforts. A minimum of 200 volunteers are expected to participate.

Demonstrate that the project budget and schedule are realistic. Please use the budget/timeline spreadsheet attached to the application. Please note that the start date will take place after funding awards are announced and grant awards are contracted: Please see the attached Budget & Timeline Table. The project budget and schedule have been informed by Wright Water Engineers and previous comparable projects and are realistic.

Proposal Effectiveness

What information is the project sponsor using to develop the proposed plan or project? Include any relevant information regarding existing watershed plans, stream management plans, geomorphic assessments, flood studies, fire protection plans, riparian conditions assessments, aquatic/terrestrial habitat conditions, wildlife studies, and/or river restoration reports: In addition to being informed by the Roaring Fork Watershed Plan, which the City of Glenwood Springs adopted in 2012, the Three Mile Creek Confluence Restoration project is a direct result of community outreach efforts that culminated in the Three Mile Creek Confluence Planning Project Conceptual Design Report.

[Roaring Fork Watershed Plan](#)

The Three Mile Creek Confluence Planning Project Conceptual Design Report was a result of the City of Glenwood Springs, in conjunction with Wright Water Engineers, Chinook Landscape Architecture, and Ramboll Group, and with grant funding provided by Pitkin County Rivers. The project team conducted two public meetings and two public surveys to incorporate community voices into the report. Ultimately, the report identified 20 site improvement recommendations.

These consisted of revegetating multiple locations within the Three Mile Creek Confluence area to reestablish the native riparian ecosystem, installing signage detailing the extents and importance of fish spawning areas at and around the Confluence, stabilizing the riverbank with boulders to reduce erosion, additional bio-engineering measures to stabilize the riverbank, installing boulders within the creek to increase aquatic habitat and diversity, adding split rail fencing to protect native vegetation from pedestrian traffic, and performing invasive weed

management across the site. These site improvement recommendations, fully influenced and approved by local stakeholders, have informed the final project design.

The Three Mile Creek Confluence Planning Project was also informed by the Roaring Fork Watershed Plan. Two “Urgent Action” items of the plan include planning and implementing key riparian and instream protection and restoration projects, a category this project falls into, and increasing the awareness of the importance of riparian areas, which this project will do by installing educational signage. Additionally, the project aligns with the Watershed Plan’s broad objectives to improve public education and understanding concerning complex federal and state water policies and programs affecting management of rivers and streams, ensure coordination of local land use actions to prevent or mitigate water resource impacts throughout the watershed, improve public awareness and support of water quality protection and improve public engagement in water quality protection activities, assess the condition of riparian and instream habitat for all major streams in the watershed, enhance and preserve native riparian and instream flora and fauna, minimize the impact of development and other activities in riparian and instream areas, improve understanding of the importance of riparian and instream areas, and eradicate or control invasive species in riparian and instream areas.

Discuss the multiple objective aspects of the project and how they relate to each other. Describe similar activities in the watershed and how this project or plan complements but does not duplicate those activities: Located in southern Glenwood Springs, Colorado, along the Roaring Fork River, the Three Mile Creek Confluence area is a popular natural space that is widely enjoyed by pedestrians, anglers, boaters, beachgoers, and other community members and visitors. With increasing use from these populations, the Three Mile Creek Confluence area has become debris-ridden and degraded over time, with problems including bank destabilization, increased soil and land loss, reduced nutrient filtering, poor moderation of water temperature, and the depletion of terrestrial wildlife habitat and corridors of movement. The City of Glenwood Springs identified the need for a comprehensive restoration plan that includes necessary improvements to accommodate the heavy, multi-recreational use while limiting ecological disturbances.

The City of Glenwood Springs and partner Wright Water Engineers have identified a number of important project activities that need to be undertaken to address these concerns. Please see the scope of work below for specific information related to each proposed construction task.

Describe the proposed monitoring or implementation plan. How will the project or plan measure success of its objectives?: The project team will monitor objectives at six month and yearly intervals. The installation of boulders, bio-engineered bank stabilization, trees, shrubs, and fencing will be measured both at the beginning to establish a baseline and following its conclusion to calculate the exact area that has been improved. The natural moderation of water temperature will be monitored monthly to evaluate fish health. Additionally, the City will monitor the prevalence of native fish and animal species to determine the success of reestablishing habitat, areas of refugia, and corridors of movement necessary for ecological improvements. Lastly, the project team will count participating volunteers to measure the reach of community education efforts.



It can be difficult to measure the presence of native fish, animal, and plant species in the Three Mile Creek Confluence area to a precise number. The City of Glenwood Springs will make every effort to conduct a complete count to the best of its abilities. Additionally, while community education can be challenging to measure, the City will conduct periodic surveys at the Three Mile Creek Confluence area to evaluate community perceptions and the depth of knowledge among users of the space.



Scope of Work

Grantee: The City of Glenwood Springs, Colorado

Primary Contact: Trent Hyatt

Address: 101 W 8th Street, Glenwood Springs, CO 81601

Phone: (970) 384-6427

Project Name: Three Mile Creek Confluence Restoration Project

Grant Amount: \$158,000

Introduction and Background: The Three Mile Creek Confluence in southern Glenwood Springs is a heavily used natural area that has been degraded over time due to increasing recreational use and pedestrian traffic. The City of Glenwood Springs, in partnership and input from many local stakeholders has identified improvements that will allow the space to be enjoyed by visitors while also protecting the area's ecological diversity.

Prior to the development of the constructions plans to be implemented through this grant, an intensive public education and outreach campaign was developed. This outreach included two physical meetings to discuss the intent of the project, educate the public on certain ecological values and also gain insights on what the public wanted to see at the confluence area. The first public outreach meeting was completed on site to allow for the public to understand the various deficiencies at the site and educate the public on ecological restoration. The second public outreach held at a local school allowed participants to provide input on the proposed design features. Along with physical meetings online surveys were also developed to gather additional feedback. Outreach documents can be found at the link below.

[Three Mile Creek Public Education/Outreach and Concepts](#)

From the public outreach as well as in-depth field investigations by the design team many site features were developed not only to provide ecological uplift to the system, but also allow for a resilient ecosystem that can be enjoyed by the many visitors that venture to the site on a daily basis. The overall project includes bank stabilization and ecological restoration of over 700 linear feet through bio-engineered bank stabilization, reestablishing native riparian vegetation by planting over 30,000 square feet of trees, shrubs, and grasses, installing more than 500 linear feet of fencing to reduce the impact from public use, placement of habitat boulder clusters, removing a large number of invasive species, restoring over 8,000 square feet of wetland/riparian areas, installation multiple signs that will educate the public on the importance of a healthy riparian ecosystem and spawning restrictions associated with sensitive confluences, and inclusion of hardscaped features such as trails, benches, boulder seats, etc. The overall intent of the grant funding will be to stabilize banks and reestablish a healthy ecosystem at a sensitive stream confluence. The construction plan sets are now at a 100% level and the City plans to bid the project in late January/early February 2022.



[Three Mile Creek Confluence Designs](#)

Objectives: The overarching objectives of this project are to provide ecological uplift to a sensitive confluence area, while also providing user access and enjoyment at the site and educational opportunities to inform people about sensitive riparian confluences.

Tasks: The following pages contain a detailed breakdown of the proposed tasks associated with the project. The individuals task items do overlap due to the fact this is an implementation project. The costs associated for each task are based on approximations and combination of items from the engineer's construction estimate. Below is a link to the engineers estimate used to developed scope and costs for the tasks below.

[Engineers Estimate](#)

Task 1 – Debris and Pipe Removal

Description of Task: Throughout the project area there are instances of debris and large trash items that have been acquired over time. These aspects are too large for volunteer activities to remove and will need heavy equipment. The debris is composed of concrete debris, concrete footers, and dilapidated split rail fencing.

Method/Procedure: The project team will use CWCB funding to remove accumulated debris and haul to offsite disposal location.

Deliverable: Removal of debris from project area.

Task 2 – Invasive Species Removal

Description of Task: The project team has developed a plan sheet that details the process of invasive species removal, including photos and best management practices, and will remove many invasive species throughout the project area.

Method/Procedure: The project team will use matching funds to complete the removal of approximately one acre of invasive species in the Three Mile Creek Confluence area. The work will be supervised by design ecologist. Procedures in the construction plan set as well as direction from the design team will be followed.

Deliverable: The deliverable of this task is the removal of over once acre of invasive species. The deliverable will also include training of River Commissioner on invasive species removal that can be additional completed on site or at other areas throughout the watershed.

Task 3 – Bio-Engineering Bank Stabilization

Description of Task: Approximately 700 linear feet of bio-engineered bank stabilization will be provided through the installation buried boulders with native stream substrate revetment and intensive revegetation. The boulders will be buried to provide structural stability for the park area, but buried and covered with native stream substrate to limit increased velocities due to boulders and also reduce visual appearance of lined boulder wall. This installation will not only prevent erosion that is damaging the creek's ecosystem, but also provide habitat and refugia for

native animal species. Further, the stabilization will keep existing overflow channels activated to prevent avulsions.

Method/Procedure: The project team will use CWCB funds to purchase and install larger native stream substrate, rounded boulders, harvest willows and install fascines. Onsite materials will be utilized as possible. Work will include installing boulders to be buried with stream substrate and then revegetated with mature willow plantings, wetland plugs, willow cuttings (trenched and untrenched), and fascines. Bio-engineering bank stabilization features will also be stabilized with KoirMat 400 and 1000 as appropriate depending on locations. Procedures in the construction plan set as well as direction from the design team will be followed. Additionally, the revised project budget provides for construction contingency and adaptive management for years following the work.

Deliverable: The deliverables of this task are 700 linear feet of bio-engineered bank stabilization. Based on available funding bank stabilization length could be increased to provide stabilization less prioritized areas.

Task 4 –Reestablishment of Native Riparian Vegetation and Wetland Plantings

Description of Task: As part of a previous task the project team will install approximately 700 linear feet of bio-engineered bank stabilization that will include planting of native riparian vegetation. Additionally, over 30,000 square feet of native wetland/riparian vegetation will be reestablished through the planting of large trees, small trees, shrubs, and grasses in different ecological zones. Volunteers will assist the project team in completing this task over multiple days of planting.

Method/Procedure: The project team will use CWCB funding for on-site earthwork to provide stabilization and assist in reestablishing native vegetation. The revegetation will include 592 forbs and graminoids, 23 #15 trees, 3,520 48-inch willow cuttings, 341 D60 shrubs/perennials, 290 willow waddles/fascines, 10,932 square feet of upland seeding, 13,071 square feet of wetland and riparian seeding. The funding will also include the use of 23 plant cages, 2,450 square yards of KoirMat 400, and 500 square yards of KoirMat 1000. The funding will also provide for more than 2 years of irrigation at the site. Irrigation will also be supplement by volunteers.

Deliverable: The deliverables of this task are a fully revegetated site.

Task 5 – Site Work/Drainage

Description of Task: The project team will repair existing flagstones, install new flagstones, enclose the area's porta-pottie, install boulders for both seating and boat tie-offs, create a designated foot trail using crusher fines, and install a picnic table for users of the area. Re-stabilization of existing boulder wall and inclusion of smaller steps will allow greater use at the site. The purpose of this tasks is to provide the public designated areas where they can enjoy the confluence without impact sensitive riparian corridors associated with the confluence. The site work will also provide an enclosure for an existing porta-pottie and boulder boat tie-offs to limit ecological deterioration from recreational use. The site work aspects will also support the educational signage discussed in a later task.



Method/Procedure: The project team will purchase and install 200 square feet of new flagstones, repair 100 feet of existing flagstone, provide a porta-pottie enclosure, 250 linear feet of foot trails, 3 boulder seats, 4 boulder boat tie offs and a picnic table. Approximately 25 linear feet of boulder steps will also be included that will allow greater access to the site by younger children or people with disabilities. Procedures in the construction plan set as well as direction from the design team will be followed.

Deliverable: The deliverable of this task will be a robust site that allows the public to safely use the confluence area, while also limiting ecological deterioration from this use. The overall intent of the site work will be to work with nature by provide environmentally aesthetic features the fit the landscape.

Task 6 –Fencing

Description of Task: The project team will install approximately 1000 linear feet of fencing to reduce the impact of people and pets on the Three Mile Creek Confluence area and to allow for revegetation efforts and native plants to be successful in their growth. Additional fencing could be utilized if funding allows.

Method/Procedure: The project team will purchase 1000 linear feet of split rail fencing.

Deliverable: The deliverable of this task is the installation of 1000 linear feet of split rail fencing.

Task 7 – Public Education

Description of Task: The project team will install an educational interpretive sign detailing the importance of wetland and riparian vegetation efforts for ecosystem improvements, an educational sign explaining the importance of area closures during sensitive fish spawning periods, an informational boating sign, and wayfinding signage. The City as well as design team will support this task with cash and in-kind match.

Method/Procedure: The project team will use previously awarded funds to design, purchase, and install signage. However, no additional funds are requested for this task at this time.

Deliverable: The deliverable of this task is the installation of four signs in the Three Mile Creek Confluence area.

Task 8 – Front End Cost and Construction Services

Description of Task: The project team has completed the final design and will is in process of obtaining necessary permitting for the project. The current request includes additional funding for construction costs of mobilization, dewatering, surveying, and pedestrian control, as well as for final construction services. City staff will aid the design team will support this task with an in-kind match.

Method/Procedure: The project team will use matching funds to complete final permitting of the project, mobilization, dewatering, surveying, pedestrian control, and construction services.

Deliverable: The deliverables of this task are the project team bringing the final permitting, providing for necessary construction cost, and construction oversight services to complete all project tasks.

Task 9 – Contingency and Adaptive Management

Description of Task: The team has set aside additional funds to assure project constructability in anticipation of variable construction material and labor costs and a long term adaptive monitoring and management to account for unforeseen changes to the riparian area after completion. The new application does not request an additional CWCB funding for this task.

Method/Procedure: The project team will allocate in kind funds to complete the additional contingency and adaptive management.

Deliverable: The deliverable of this task is additional funding for project contingency and adaptive management.

Reporting and Final Deliverable

The City will provide CWCB a progress report at least every 6 months, from the date of the executed contract which will describe the completion or partial completion of the tasks identified above which will include a description of any major issues that have occurred and any corrective action taken to address these issues, if applicable.

At completion of the project, the City will provide the CWCB a final report that summarizes the project and documents how the project was completed which will include photographs, summaries of construction activities, and final engineering designs.

Budget & Timeline Table

Please find the updated project budget and timeline (table titled “Three Mile Creek Confluence Funding Summary” attached and via the link below. The table is located in the sheet titled “WRP – November 2021 Update.” The cost estimate and budget related to the previous grant award are also provided for reference.

[Engineers Estimate](#)

Letters of Support Project

Please find six project letters of support attached below.

Site Photos

Please find related site photos attached below.

Three Mile Creek Confluence Funding Summary																					
Task	Description	2020 Grant Quantity	2021 Grant Quantity	Total Quantity	Units	Unit Cost	2020 Grant Cost	2021 Grant Cost	Total Cost	Target Start Date	Target Completion Date	2020 Grant Request					2021 Grant Request				Comments on Update to Grant Request
												Approximate Material Cost	WRP (CW CB) (\$85,000 Total)	WSRF (CW CB) (\$95,000 Total)	Other Funding Cash (\$35,000 Total)	Other Funding In Kind (\$25,750 Total)	Approximate Material Cost	WRP (CW CB) (\$158,000 Total)	Other Funding Cash (\$150,000 Total)	Other Funding In-Kind (\$8,000 Total)	
1	Debris and Pipe Removal						\$5,000	\$11,644	\$16,644	July 1, 2022	October 1, 2022	\$3,750	\$1,000	\$3,000	\$1,000	\$0	\$8,733	\$7,644	\$4,000	\$0	
	Remove 3 Concrete Supports	1		1	LS	\$2,000	\$2,000		\$2,000												
	Remove Concrete and Metal Debris	1		1	LS	\$2,000	\$2,000		\$2,000												
	Remove Split Rail Fencing	1		1	LS	\$1,000	\$1,000		\$1,000												
	Abandon 18" CMP Culvert		48	48	LF	\$50		\$2,394	\$2,394												
	Remove 36" RCP Culvert And Concrete Encasement	1	1	2	LS	\$4,000	\$4,000	\$4,000	\$4,000												
	Remove Diversion Structure	1	1	2	LS	\$5,000	\$5,000	\$5,000	\$5,000												
	Remove 18" CMP		5	5	LF	\$50		\$250	\$250												
2	Invasive Species Removal						\$7,360	\$2,640	\$10,000	July 1, 2022	October 1, 2022	\$5,520	\$3,180	\$3,180	\$1,000	\$0	\$1,980	\$140	\$2,500	\$0	
	Remove Tree	4		4	EA	\$1,000	\$4,000		\$4,000												
	Invasive Species Management	0.6	0.4	1	AC	\$6,000	\$3,360	\$2,640	\$6,000												
3	Bio-Engineering / Bank Stabilization						\$38,227	\$116,759	\$154,985	July 1, 2022	October 1, 2022	\$28,670	\$15,113	\$15,113	\$8,000	\$0	\$87,569	\$76,759	\$40,000	\$0	
	Stream Substrate (D50 = 12") With Native Upland Soil	100	235	335	CY	\$90	\$9,000	\$21,150	\$30,150												Updated item name
	Stream Substrate (D50 = 6") (Bedding And Chinking)	78	78	156	CY	\$75	\$5,850	\$5,850	\$5,850												
	Stream Substrate (D50 = 12")	100	143	243	CY	\$100	\$10,000	\$14,266	\$24,266												
	B30 Boulder (D50 = 30")		203	203	CY	\$250		\$50,781	\$50,781												
	B36 Boulder (D50 = 36")	19		19	CY	\$300	\$5,700		\$5,700												Original grant quantity reduced from 60 cy and unit cost increased
	Native Upland Soil		272	272	CY	\$10		\$2,718	\$2,718												
	Three Mile Creek Earthwork	46		46	CY	\$50	\$2,306		\$2,306												Original grant quantity reduced from 100 cy and unit price increased from \$20
	Koimat 700 Erosion Control Blanket	449		449	SY	\$25	\$11,221		\$11,221												Item changed from Koimat 1000 and quantity reduced
	Willow Cutting		2,714	2,714	EA	\$7		\$18,998	\$18,998												
	Willow Fascines		150	150	LF	\$20		\$3,000	\$3,000												
	Willow/Mockes/Fascines																				Item removed from original grant
4	Reestablishment Vegetation						\$60,035	\$53,920	\$113,955	July 1, 2022	October 1, 2022	\$45,027	\$22,518	\$22,518	\$15,000	\$0	\$40,440	\$28,920	\$25,000	\$0	
	Wetland Plugs	592	250	842	EA	\$5	\$2,960	\$1,250	\$4,210												Item changed from 10 C1 Forbs and Graminoids
	Trees	23		23	EA	\$500	\$11,500		\$11,500												
	Cutting 48"																				Item removed from original grant
	Small Trees And Shrubs	341	49	390	EA	\$17	\$5,797	\$833	\$6,630												
	Irrigation	1		2	LS	\$20,000	\$20,000	\$20,000	\$40,000												Original unit cost updated
	S4008 Erosion Control Blanket	1,000	1,825	2,825	SY	\$15	\$15,000	\$27,375	\$42,375												Item changed from Koimat 400 and unit cost increased
	Straw		2,825	2,825	SY	\$1		\$2,825	\$2,825												
	Protection Fencing	23		23	EA	\$45	\$1,035		\$1,035												Item name updated
	42" Soil Ripping For Seeded Areas																				Item removed from original grant
	Zone 3: Upland Seeding	10,932		10,932	SF	\$0	\$1,093		\$1,093												Original grant unit cost changed from \$0.20
	Zone 1 & 2: Wetland And Riparian Seed	13,071		13,071	SF	\$0	\$1,569		\$1,569												Original grant unit cost changed from \$0.17
	Suale Seeding	4,327	233	4,560	SF	\$0	\$1,082	\$58	\$1,140												Original grant unit cost changed from \$0.25
	Compost		20	20	CY	\$60		\$1,200	\$1,200												
	Mulch		5	5	CY	\$75		\$375	\$375												
5	Site Work / Drainage						\$21,575	\$22,350	\$43,925	July 1, 2022	October 1, 2022	\$16,181	\$8,288	\$8,288	\$5,000	\$0	\$16,763	\$12,350	\$10,000	\$0	
	Flagstone Repair	100		100	SF	\$10	\$1,000		\$1,000												
	New Flagstone Paving	200		200	SF	\$15	\$3,000		\$3,000												
	Restroom Enclosure	35		35	LF	\$150	\$5,250		\$5,250												
	Foot Trail	250		250	LF	\$5	\$1,250		\$1,250												
	Boulder Seat	3	2	5	EA	\$400	\$1,200	\$800	\$2,000												
	Boulder Boat Tie Off	4	7	11	EA	\$1,000	\$4,000	\$7,000	\$11,000												Quantity increased from original grant
	Picnic Table	1		1	EA	\$1,500	\$1,500		\$1,500												Quantity increased from original grant
	Crusher Fines	35		35	CY	\$125	\$4,375		\$4,375												
	18" Hdpe Flared End Section		1	1	EA	\$250		\$250	\$250												
	18" Hdpe Pipe		41	41	LF	\$100		\$4,100	\$4,100												
	Cdot Type C Inlet		1	1	EA	\$5,000		\$5,000	\$5,000												
	Underdrain		260	260	LF	\$20		\$5,200	\$5,200												
6	Fencing						\$10,200	\$27,200	\$37,400	July 1, 2022	October 1, 2022	\$7,650	\$2,600	\$2,600	\$5,000	\$0	\$20,400	\$17,200	\$10,000	\$0	
	Split Rail Fence	300	800	1,100	LF	\$34	\$10,200	\$27,200	\$37,400												
7	Public Education						\$16,250	\$0	\$16,250	July 1, 2022	October 1, 2022	\$12,188	\$2,500	\$2,500	\$0	\$11,250	\$0	\$0	\$0	\$0	
	Educational Interpretive Sign	2		2	EA	\$5,000	\$10,000		\$10,000												Unit cost increased from \$2,500
	Boating Sign	1		1	EA	\$750	\$750		\$750												
	Spawning Info Sign	1		1	EA	\$500	\$500		\$500												
	Wayfinding Signage	1		1	EA	\$5,000	\$5,000		\$5,000												
8	Front End Costs and Construction Services						\$41,500	\$103,500	\$145,000	July 1, 2022	October 1, 2022	\$0	\$13,500	\$13,500	\$0	\$14,500	\$0	\$14,988	\$30,000	\$8,000	
	Mobilization	1		1	LS	N/A	\$8,000	\$32,000	\$40,000												
	Dewatering	1		1	LS	N/A	\$2,000	\$8,000	\$10,000												Updated to 10% of project costs
	Surveying	1		1	LS	N/A	\$5,000	\$5,000	\$10,000												Updated to 2.5% of project costs
	Traffic and Pedestrian Control	1		1	LS	N/A	\$4,000	\$1,000	\$5,000												Included Traffic Control
	Erosion and Sediment Control	1		1	LS	N/A		\$5,000	\$5,000												Removed from original grant
	Final Design And Bidding																				
	Engineering Services During Construction	1		1	LS	N/A	\$7,500	\$17,500	\$25,000												
	Ecological Services During Construction	1		1	LS	N/A	\$7,500	\$17,500	\$25,000												
	Site Planning Services During Construction	1		1	LS	N/A	\$7,500	\$17,500	\$25,000												
9	Contingency/ Adaptive Management						\$40,603	\$89,397	\$130,000	July 1, 2022	October 1, 2023	\$30,452	\$16,302	\$24,302	\$0	\$0	\$67,048	\$0	\$28,500	\$0	
	Contingency (~20%)	1		1	LS	N/A	\$30,000	\$50,000	\$80,000												
	Adaptive Management (~10%)	1		1	LS	N/A	\$10,603	\$39,397	\$50,000												
Totals							\$240,750	\$427,409	\$668,159			\$149,438	\$85,000	\$95,000	\$35,000	\$25,750	\$242,932	\$158,000	\$150,000	\$8,000	

Schedule is dependent on weather and spring runoff. Work planned after spring runoff.

Approximate material cost assumed to be 75% of total costs which are based on engineer's estimate unit costs.

Total CWCB funding requests includes \$10,000 from WSRF Basin Request, \$85,000 from WSRF Statewide Request, and \$85,000 from Watershed Restoration Funding

Match (Cash and In Kind)			
	2020 Grant	2021 Grant	Total
City Cash	\$35,000	\$150,000	\$185,000
City In Kind	\$0	\$8,000	\$8,000
In Kind Match River Commission*	\$5,000	\$0	\$5,000
In Kind Match - Signs	\$11,250	\$0	\$11,250
Wright Water Engineers In Kind	\$7,500	\$0	\$7,500
Ramboll In Kind	\$1,000	\$0	\$1,000
Chinook In Kind	\$1,000	\$0	\$1,000
In Kind Subtotal	\$25,750	\$8,000	\$33,750
Subtotal	\$60,750	\$158,000	\$218,750

*City staff to provide administrative and construction support on project.

*Will support volunteer planting, monitoring and adaptive management.

*Will provide and install educational signage.

*Will provide support during final design, construction, monitoring, and adaptive management.

*Will provide support during construction and adaptive management.

*Will provide support for sign development and during construction.

Grants			
	2020 Grant	2021 Grant	Total
CWCB WSRF Basin Request*	\$10,000	\$0	\$10,000
CWCB WSRF Statewide Request*	\$85,000	\$0	\$85,000
Subtotal	\$95,000	\$0	\$95,000
CWCB Watershed Restoration Program (WRP)	\$85,000	\$158,000	\$243,000
CW CB Funding Subtotal	\$180,000	\$158,000	\$338,000

Totals			
	2020	2021	Total
Match (Cash and In Kind)	\$60,750	\$158,000	\$218,750
Grants	\$180,000	\$158,000	\$338,000
Total	\$240,750	\$316,000	\$556,750



COLORADO

Parks and Wildlife

Department of Natural Resources

Glenwood Springs Area Wildlife Office
88 Wildlife Way
Glenwood Springs, CO 81601
P 970.947.2920 | F 970.947.2936

November 4, 2020

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

RE: City of Glenwood Springs' Threemile Creek Shoreline Restoration Project

Dear Mr. Sturm,

Colorado Parks and Wildlife (CPW) is writing in support of the City of Glenwood Springs' Threemile Creek Shoreline Restoration project. Glenwood Springs is proposing a shoreline restoration project along the confluence of Threemile Creek and the Roaring Fork River to restore riparian habitat, address shoreline erosion, restore water quality for aquatic habitats, remove invasive species, and improve stormwater management. The project goals strongly align with CPW's statutory 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 strategic stewards of Colorado's natural resources.

Threemile Creek and the confluence with the Roaring Fork River is an ecologically important area utilized by local fishes and terrestrial wildlife. Aggregations of native suckers are often observed in the river around the confluence with Threemile Creek. Trout from the river have been documented utilizing the creek to spawn – thus, providing critical recruitment to the Gold Medal fishery in the Roaring Fork River. Riparian habitats further support a multitude of terrestrial wildlife species including a wide variety of birds, game, and small mammals. The project intends to bring awareness to these resource values and proposes thoughtful development that reduces user impacts and accommodates the needs of the local fishery resource.

Furthermore, the Threemile Creek confluence is currently a popular location for river users and local residents to connect with the Roaring Fork River. However, this relatively primitive area is severely degraded by increasingly heavy use. Glenwood Springs' proposed restoration project takes an approach that balances user demands on the area with the desire to support the ecological functions and natural feel of this streamside area. Thus, it will provide an example of thoughtful development to inspire stewardship of resources while meeting needs of the community and resource users.

Local CPW Staff have served as resource advisors for this project and we look forward to our continued involvement in project development around Threemile Creek that balances community needs and while providing meaningful protections to the important ecological functions inherent to the area. We support the City of Glenwood Springs as they seek funding to enhance and restore aquatic and terrestrial habitats through the Threemile Creek Shoreline Restoration project. If there are any questions or needs for additional information, please contact Aquatic Biologist Kendall Bakich at 970.947.2924 or District Wildlife Manager Dan Cacho at 970.947.2934.

Sincerely,

Kendall Bakich, Aquatic Biologist

Cc: Matt Yamashita, Area Wildlife Manager; Dan Cacho, District Wildlife Manager; Lori Martin, Senior Aquatic Biologist; File





COLORADO RIVER DISTRICT

PROTECTING WESTERN COLORADO WATER SINCE 1937

November 5, 2020

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

RE: Strong Support for the City of Glenwood Springs' Three Mile Creek Shoreline Restoration Project

Dear Mr. Sturm,

On behalf of the Colorado River District, I write to convey our full support for the City of Glenwood Springs' Watershed Restoration Program grant application for the Three Mile Creek Shoreline Restoration project. This project includes riparian restoration at the Three Mile Creek Confluence area with the Roaring Fork River to address shoreline erosion, restore water quality for aquatic habitats, remove invasive species, and improve stormwater management.

The River District supports the Three Mile Creek Shoreline Restoration project, because the area is currently severely degraded and debris-ridden from heavy use. The proposed restoration of this popular outdoor space will accommodate both human users and advance a multi-jurisdictional ecological partnership to protect fish and wildlife both of which are critical to our region's tourism economy.

We are pleased to support the City of Glenwood Springs as they seek funding to enhance and restore aquatic and terrestrial habitats through the Three Mile Creek Shoreline Restoration project.

Sincerely,

Andrew A. Mueller
General Manager



11/05/2020

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

RE: Strong Support for the City of Glenwood Springs' Three Mile Creek Shoreline Restoration Project

Dear Mr. Sturm,

On behalf of the Ferdinand Hayden Chapter of Trout Unlimited (FHTU), I write to convey our full support for the City of Glenwood Springs' Watershed Restoration Program grant application for the Three Mile Creek Shoreline Restoration project. This project includes riparian restoration at the Three Mile Creek Confluence area with the Roaring Fork River to address shoreline erosion, restore water quality for aquatic habitats, remove invasive species, and improve stormwater management.

FHTU supports the Three Mile Creek Shoreline Restoration project because it is one of the most heavily used (and abused) sections of riparian habitat in the Roaring Fork Watershed. This is a great place for wading anglers, boaters to catch their breath after Cemetery Rapid, and for valley residents and visitors to enjoy the natural beauty of where we call home. In addition to its recreational value, ecologically the confluence of Three Mile Creek and the Roaring Fork River is vital spawning habitat for local fish and any improvements will surely help the vitality of our local ecosystems.

FHTU commits to helping in any way that we can. This means trying to provide volunteers for any on the ground activities such as assisting with restoration, stream clean ups, community outreach etc. We would also provide \$425 in cash donation to further help get this project off the ground.

We are pleased to support the City of Glenwood Springs as they seek funding to enhance and restore aquatic and terrestrial habitats through the Three Mile Creek Shoreline Restoration project.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Kelsic".

Matt Kelsic, FHTU President



October 22, 2020

Director Chris West
Rocky Mountain Regional Office, National Fish and Wildlife Foundation
1875 Lawrence St., Suite 320
Denver, CO 80202

RE: Support for the City of Glenwood Springs' Three Mile Creek Shoreline Restoration Project

Dear Director West,

On behalf of the Middle Colorado Watershed Council (MCWC), I write to convey full support for the City of Glenwood Springs' RESTORE Colorado application for the Three Mile Creek Shoreline Restoration project. This project includes riparian restoration at the Three Mile Creek Confluence area with the Roaring Fork River to address shoreline erosion, restore water quality for aquatic habitats, remove invasive species, and improve stormwater management.

MCWC supports the Three Mile Creek Shoreline Restoration project because it addresses critical needs related to increased recreation use of our local waterways. The demand for recreational river access and associated amenities is increasing at an unprecedented rate as people seek opportunities to connect with nature and open spaces. Pressure is being brought to bear on the river, demanding a more thoughtful approach to design, operation, and maintenance of access points and amenities. The Three Mile Restoration project seeks to integrate and balance recreational demands with restoration needs and, importantly, public education on ecosystem services and the need for stewardship and protection.

MCWC commits to working with our partner watershed organization, Roaring Fork Outdoor Volunteers, to assist with outreach and public engagement as the project proceeds.

We are pleased to support the City of Glenwood Springs as they seek funding to enhance and restore aquatic and terrestrial habitats through the Three Mile Creek Shoreline Restoration project.

Sincerely,

A handwritten signature in dark ink that reads "Laurie Rink".

Laurie Rink
Project Manager



Pitkin County Healthy Rivers
530 East Main Street Suite 301
Aspen Colorado 81611
970 920 5191
pitkincountyrivers.com

November 11, 2020

Colorado Water Conservation Board
Water Supply Planning Section
WSRF Application
1313 Sherman Street, Room 718
Denver, CO 80203

RE: Strong Support for the City of Glenwood Springs' Three Mile Creek Shoreline Restoration Project

Dear Mr. Stein and Mr. Wade,

On behalf of Pitkin County's Healthy Rivers Program and Board, I write to convey our full support for the City of Glenwood Springs' Water Supply Reserve Fund grant application for the Three Mile Creek Shoreline Restoration project. This project includes riparian restoration at the Three Mile Creek Confluence area with the Roaring Fork River to address shoreline erosion, restore water quality for aquatic habitats, remove invasive species, and improve stormwater management.

In 2008, Pitkin County voters authorized a dedicated sales tax to establish a healthy rivers and streams fund. The River Board assists the Commissioners in administering the fund program and in furthering the objectives of the program. Objectives for the fund include maintaining and improving water quality and quantity within the Roaring Fork Watershed as well as working with other entities to ensure ecological health, recreational opportunities, and wildlife and riparian habitat.

Over the past two years, the River Board has recommended to the Board of County Commissioners grant awards totaling \$55,000 to the City of Glenwood Springs' Three Mile Creek Shoreline Restoration Project through our grant program.

The Three Mile Creek Shoreline Restoration project meets the goals and mission of our Program as it will improve a severely degraded and debris-ridden area on the river, it joins multi-jurisdictional ecological partnership to protect fish and wildlife and accommodates both human users and the ecological needs of a popular outdoor space.

We are pleased to support the City of Glenwood Springs as they seek funding to enhance and restore aquatic and terrestrial habitats through the Three Mile Creek Shoreline Restoration project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Lisa MacDonald', is written over a light blue horizontal line.

Lisa MacDonald
Director

THE COLORADO BASIN ROUNDTABLE
C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO 81602

November 25, 2020

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

RE: Support for the City of Glenwood Springs' Three Mile Creek Shoreline Restoration Project

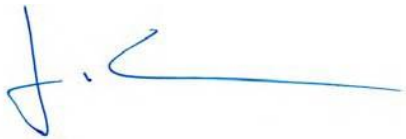
Dear Ben,

The Colorado Basin Roundtable voted unanimously at its November 23rd meeting to grant the City of Glenwood Springs' WSRF Basin Account Grant request in the amount of \$10,000. The roundtable also supports the City's request for \$85,000 in Watershed Restoration Program funding.

This project includes riparian restoration at the Three Mile Creek confluence area with the Roaring Fork River to address shoreline erosion, restore water quality for aquatic habitats, remove invasive species, and improve stormwater management. The Roundtable supports the Three Mile Creek Shoreline Restoration project, because the area is currently severely degraded and debris-ridden from heavy use. The proposed restoration of this popular outdoor space will accommodate both human users and advance a multi-jurisdictional ecological partnership to protect fish and wildlife both of which are critical to our region's tourism economy. The Project furthers the Roundtable's stated objective in its Basin Implementation Plan of protecting and restoring healthy streams, rivers, lakes, and riparian areas.

We are pleased to support the City of Glenwood Springs as they seek funding to enhance and restore aquatic and terrestrial habitats through the Three Mile Creek Shoreline Restoration project.

Regards,

A handwritten signature in blue ink, appearing to read 'J. Turner', with a long horizontal stroke extending to the right.

Jason V. Turner, Chair

Site Photos



















