

**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan**Water Project Summary**

Name of Applicant	Colorado State University
Name of Water Project	Recovery and resilience of the Cache la Poudre River fish community and habitat following a wildfire-related fish kill
Grant Request Amount	\$472,520.00
Primary Category	\$472,520.00
<i>Watershed Health & Recreation</i>	
Total Applicant Match	\$0.00
<i>Applicant Cash Match</i>	
<i>Applicant In-Kind Match</i>	
Total Other Sources of Funding	\$323,659.00
<i>Colorado Parks and Wildlife</i>	\$52,500.00
<i>Colorado Parks and Wildlife</i>	\$33,826.00
<i>Colorado State University</i>	\$68,800.00
<i>Colorado State University</i>	\$168,533.00
Total Project Cost	\$796,179.00

Applicant & Grantee Information

Name of Grantee: Colorado State University
Mailing Address: 2002 Campus Delivery Fort Collins CO 80523
FEIN: 846,000,545

Organization Contact: Kevin Bestgen
Position/Title: Email: kbestgen@colostate.edu
Phone: (970) 491-1848

Organization Contact - Alternate: Matthew Haworth
Position/Title: Research Associate III Email: matt.haworth@colostate.edu
Phone: 19704911848

Grant Management Contact: Kevin Bestgen
Position/Title: Email: kbestgen@colostate.edu
Phone: (970) 491-1848

Description of Grantee/Applicant

No description provided

Type of Eligible Entity

- ☒ Public (Government)
☐ Public (District)
☐

- ☐ Public (Municipality)
- ☐ Ditch Company
- ☐ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ☐ Non-governmental Organization
- ☐ Covered Entity
- ☐ Other

Category of Water Project

- ☐ Agricultural Projects
Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ☐ Conservation & Land Use Planning
Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ☒ Watershed Restoration & Recreation
Projects that promote watershed health, environmental health, and recreation.
- ☐ Water Storage & Supply
Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	40.000000
Longitude	105.000000
Lat Long Flag	Stream location: Coordinates based on general location on stream
Water Source	Cache la Poudre River
Basins	South Platte
Counties	Weld; Larimer
Districts	3-Cache La Poudre River

Water Project Overview

Major Water Use Type	Environmental
Type of Water Project	Planning (e.g. watershed)
Scheduled Start Date - Design	10/1/2022
Scheduled Start Date - Construction	
Description	<p>The extensive Cameron Peak wildfire in 2020 and monsoonal rain in summer 2021 resulted in an ash and sediment flow that caused destruction of life and property and destroyed recreational and native fish communities and altered habitat in the Cache la Poudre River. Our study will assess the level of fish community and habitat destruction, compared with recently collected historical information, and will measure the recovery and resilience of fish populations and habitat in the watershed. Fish population abundances and sediment mapping and monitoring will guide managers interested in restoring aquatic resources, and improving habitat and water quality. Our information will be useful to formulate strategies to mitigate against future debris flows that may alter fish</p>

communities, habitat, and water quality in the Poudre River watershed. We will share our information at intervals with our many stakeholders and interested parties via written materials and oral presentations, which will aid restoration managers in the Poudre River basin, the State of Colorado, and the western United States, where wildfire impacts increasingly alter aquatic communities and habitat.

Measurable Results

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
	Existing Storage Preserved or Enhanced (acre-feet)
	New Storage Created (acre-feet)
290,400	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (dollars/year)
	Efficiency Savings (acre-feet/year)
	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
500,000	Number of Coloradans Impacted by Engagement Activity

Other

Study will provide information on damage to aquatic ecosystems in the Poudre River watershed, and strategies to mitigate against further damage from wildfire related ash and sediment flows. The river reach under study is 55 miles long.

Water Project Justification

The extensive Cameron Peak wildfire in 2020 and monsoonal rain in summer 2021 resulted in an ash and sediment flow that caused destruction of life and property and destroyed recreational and native fish communities and altered habitat in the Cache la Poudre River watershed. Our study will assess the level of fish community and habitat destruction, compared with recently collected historical information, and will measure the recovery and resilience of fish populations and habitat in the watershed. Fish population abundances and sediment mapping and monitoring will guide managers interested in restoring aquatic resources, and improving habitat and water quality. This information will inform post-wildfire mitigation planning to protect and enhance the Poudre River watershed, including the health and resilience of aquatic communities, aquatic habitat, recreation and angler interests, water quality, and sediment transport and deposition dynamics, especially as ongoing climate change affects precipitation patterns and water supply characteristics. We will share our information at intervals with our many stakeholders and interested parties via written materials and oral presentations, which will aid restoration managers in the Poudre River basin, the State of Colorado, and the western United States, where wildfire impacts increasingly alter aquatic communities and habitat.

Related Studies

Our project proposal follows up on the prior study referenced below, which was funded by CWCB and the City of Fort Collins. The proposed work is relevant to the watershed and other programs of CWCB by illuminating fire effects in watersheds, future risks from same, and how they may be mitigated.

Haworth, M. R., and K. R. Bestgen. 2022 report. Fish community composition and movement in the Cache la Poudre River in Fort Collins, Colorado. Final report to the City of Fort Collins Natural Areas Department, Fort Collins, CO, and the Colorado Water Conservation Board, Denver, CO. Larval Fish Laboratory Contribution 226.

Taxpayer Bill of Rights

NA