



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	University of Colorado Boulder
Name of Water Project	Role of water-wise landscaping in wildfire resilience
Grant Request Amount	\$281,241.27
Primary Category	\$281,241.27
<i>Conservation & Land Use Planning</i>	
Total Applicant Match	\$93,748.00
<i>Applicant Cash Match</i>	\$46,874.00
<i>Applicant In-Kind Match</i>	\$46,874.00
Total Other Sources of Funding	\$0.00
Total Project Cost	\$374,989.27

Applicant & Grantee Information

Name of Grantee: University of Colorado Boulder
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Description of Grantee/Applicant

State/Public-controlled Institute of Higher Education

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
- ☒

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 40.090000
 Longitude -105.360000
 Lat Long Flag Precise coordinates: Project coordinates are readily definable and precisely define the location of the project

Water Source
 Basins Metro; South Platte; Colorado
 Counties Boulder; Grand
 Districts 6-Boulder Creek; 51-Upper Colorado/Fraser Rivers

Water Project Overview

Major Water Use Type Municipal
 Type of Water Project Study
 Scheduled Start Date - Design 1/1/2026
 Scheduled Start Date - Construction

Description

This project seeks to identify the role of water-wise landscaping in wildfire resilience using an analysis of recent fires, residential landscape characteristics before the fire, and the relationship between these landscape characteristics and housing survival. The motivations for this work are questions from community members about the role that landscaping, and in particular water-wise landscaping, played in fire spread in recent fires such as the Marshall Fire in 2021 that burned over 1000 homes. Just under half of Colorado's population lives in the wildland-urban interface, so these questions are likely to continue in the face of other wildfires. Meanwhile, Colorado's communities are moving to remove non-functional turf and replace with water-wise landscaping to reduce outdoor water use. Water-wise landscaping is a type of transformative landscape change that Colorado Water Conservation Board is exploring to reduce outdoor municipal water demand while maintaining resilient, livable, and aesthetically-pleasing outdoor environments. Community uncertainty about the costs and benefits of

water-wise landscaping and its relationship to wildfire resilience could imperil water conservation goals in Colorado. This project will identify effective strategies for reducing urban water use while also improving wildfire resilience.

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)
Length of Stream Restored or Protected (linear feet)
Length of Pipe, Canal Built or Improved (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
Number of Coloradans Impacted by Engagement Activity

Other

Outcomes will lead to more effective water savings from turfgrass replacement by clarifying the role of turfgrass replacements in wildfire resilience, and therefore encouraging water-wise and simultaneously fire-wise landscaping.

Water Project Justification

This project directly helps support Action 1.7 in the Colorado Water Plan: Identify turf replacement options that support transformative landscape change. Action 1.7 states, “Understanding the best strategies for transformative landscape change to reduce water use while maintaining resilient, livable, and aesthetically pleasing outdoor environments will require the creation of a Colorado standard for landscapes. This will include removing nonfunctional turf, identifying turf replacement plant material options, and evaluating how to sustain long-term water savings.”

This project will seek to identify turf replacement plant material options that contribute to fire resilient outdoor environments. In particular, Action 1.7 states, “CWCB will also engage experts to evaluate alternative landscape plant material options that include medium to low-water-using native species and/or well-adapted plant species and analyze ways that a range of other landscape challenges such as stormwater management, heat impacts, defensible space from fire, and pollinator support might be addressed through a Colorado-specific landscape standard.” This project will specifically address the landscape challenge of defensible space from fire and what alternative landscape plant material options fit.

This project also directly helps support Action 3.3 in the Colorado Water Plan: Create a Wildfire Ready Watersheds framework. Action 3.3 states, “The mission of Wildfire Ready Watersheds is to assess the susceptibility of Colorado’s water resources, communities, and critical infrastructure to post-wildfire impacts and advance a framework for communities to plan and implement mitigation strategies to minimize these impacts—before wildfires occur.” The project will support Action 3.3 by identifying the role of urban landscaping in wildfire susceptibility.

Related Studies

1. CWCB's Turf Replacement Program originally funded by the Legislature as HB-22-1151. In 2022, the Colorado legislature passed this bill providing \$2 million for turfgrass replacement programs, which was distributed to 30+ water utilities in a single year.
2. CWCB's Urban Landscape Conservation Task Force that Governor Polis called for to help inform how Colorado can achieve transformative landscape change at scale.
3. In 2023, CWCB's Water Plan Grant to Resource Central (Resource Central - Building Statewide Capacity for Turf Removal) for \$1.5 million to accelerate transformative landscape change across the state through turf removal and replacement. The proposed project will help inform best practices for expanding turf removal programs.
4. University of Colorado Boulder's (PI Aditi Bhaskar) grant on "Effects of Landscape Transformations on Urban Heat and Water Quality". The proposed work would investigate another environmental impact of water-wise landscaping (wildfire resilience) which complements existing work by CU Boulder on impacts of water-wise landscaping on urban heat and nutrients in runoff.

Taxpayer Bill of Rights

Not applicable.