



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Boulder Mushroom
Name of Water Project	Advancing Biological Fire Mitigation & Soil Moisture Retention Technologies For Front Range Watershed Resiliency
Grant Request Amount	\$850,000.00
Primary Category	\$850,000.00
<i>Watershed Health & Recreation</i>	
Total Applicant Match	\$0.00
Applicant Cash Match	\$0.00
Applicant In-Kind Match	\$0.00
Total Other Sources of Funding	\$850,000.00
Larimer Conservation District	\$350,000.00
Jefferson Conservation District	\$250,000.00
Longmont & Boulder Valley Conservation Districts	\$250,000.00
Total Project Cost	\$1,700,000.00

Applicant & Grantee Information

Name of Grantee: Boulder Mushroom
Mailing Address: 4576 47th St. Boulder CO 80301

Organization Contact: Zach Hedstrom
Position/Title: Owner Email: boulder.mushrooms@gmail.com
Phone: 720-220-3874

Grant Management Contact: Zach Hedstrom
Position/Title: Owner Email: boulder.mushrooms@gmail.com
Phone: 720-220-3874

Description of Grantee/Applicant

Boulder Mushroom is a Boulder based organization focused on developing nature-based solutions and assets to local environmental stewardship projects. We partner with public entities, non-profit groups, and private landowners to implement solutions for wildfire resiliency, soil health, agricultural productivity and drought resiliency, and sustainable forestry.

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 40.057991
 Longitude -105.243203
 Lat Long Flag Default/Proponent headquarters: If the location cannot be defined with flags above, use location of project proponent headquarters
 Water Source
 Basins South Platte
 Counties Jefferson; Boulder; Larimer
 Districts

Water Project Overview

Major Water Use Type
 Type of Water Project Construction / Implementation
 Scheduled Start Date - Design
 Scheduled Start Date - Construction 10/20/2025
 Description
 This implementation project will demonstrate across 3 Colorado counties how bulk forest biomass produced from wildfire mitigation projects can be transformed from a logistically burdensome waste product into a resource for soil health, landscape-scale moisture retention, and erosion control by implementing fungal decomposition of forest biomass as a slash management strategy. For the project outlined in this request, the grantee will partner directly with Boulder Valley & Longmont Conservation Districts (BVLCD), Jefferson Conservation District (JCD), and Larimer Conservation District (LCD) to 1) treat approximately 200 acres of fire mitigated forest within high priority wildfire mitigation zones, and 2) establish offsite satellite biomass receiving & processing yards to transform forest biomass into a soil amendment at scale. The amendment generated from these yards will be

distributed for use in agricultural and environmental stewardship applications. The grantee will align project implementation with relevant plans such as WRAPS, Community Wildfire Protection Plans (CWPPs), and county-led Woody Biomass Utilization Studies. The grantee will incorporate a stakeholder engagement and educational programming component to contribute to WRAPs, synthesize information and data on these practices to provide to practitioners and generate interactive tools to assist with future planning and design.

Measurable Results

- 200
- 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
- Establishment of satellite forest biomass Receiving & Processing Yards in proximity to WRAP priority areas to process fire mitigation wood waste into a soil amendment.
 - Distribution of processed biomass soil amendment over agricultural acres and/or erosion mitigation projects including stream restoration & post-fire recovery and/or WUI wildfire-resilient landscaping materials, or other relevant applications identified by stakeholders.
 - Stakeholder engagement & outreach

Water Project Justification

The proposed project directly contributes to the following priority action areas outlined in the Colorado Water Plan:

1. Wise Water Use: Project optimizes soil moisture retention and water infiltration in forests and agricultural lands, ensuring efficient use of water resources, while creating greater drought, fire and flood resilience through nature-based forest & watershed restoration.
2. Thriving Watersheds: Project contributes to forest & watershed health by contributing to forest management plans and execution of WRAPs, providing assets to wildfire mitigation and erosion control efforts in order to protect upstream water quality and resources.
3. Healthy Lands: Support forest health treatments with solutions that promote drought, fire, and flood resilient watersheds, promote upstream storage of high-quality water supplies, and help stabilize and recycle forest carbon biomass, contributing to healthier forests and agricultural soils and assist preparation for a warmer and drier future.
4. Effective Engagement: Project incorporates community & stakeholder education to expand awareness and adoption of watershed restoration techniques, and advances innovation & collaborative land management by a multi-partner approach to project implementation. Project directly engages stakeholders to assist with the goals of the Wildfire Ready Watersheds program and participation in Wildfire Ready Action Plans.
5. Robust Agriculture: Project supports topsoil conservation, water storage & use efficiency, and local food production through carbon biomass cycling and soil amendment creation. Increase profitability, promote environmental stewardship, and enhance quality and output of products for agricultural producers.

The project activities align with the following South Platte Basin Implementation Plan (2022) goals:

Goal 1 – Encourage implementation of projects

Goal 5 – Maintain and improve irrigated agriculture

Goal 6 – Protect and enhance watershed function

Goal 7 – Protect and enhance environmental attributes

Goal 11 – Broaden South Platte communications, outreach, and education programs

Related Studies

The project is associated with the implementation of the following in-process Wildfire Ready Action Plans:

1. Boulder Watershed Collective WRAP
2. Cache LaPoudre WRAP
3. Jefferson Conservation District/ North Fork WRAP

Boulder County Community Wildfire Protection Plan:

<https://assets.bouldercounty.gov/wp-content/uploads/2024/10/boulder-county-community-wildfire-protection-plan-2024.pdf>

Related Studies:

Dreisbach, T. (2002, April). Importance of fungi in forest ecosystems. Importance of Fungi in Forest Ecosystems.

https://www.fs.usda.gov/eng/active_dev/views/fungi.html

Hedstrom, Z. (2024, December). Investigating Fungal Inoculation Techniques for the In Situ Decomposition of Masticated Woody Biomass.

(Attached as additional file)

Rhoades, C. C., J. Richardson, M., Fegel, T. S., & K. Kampf, S. (2025). Assessing the effects of woody mulch on post-fire soil and stream nitrogen at experimental and Operational Scales. Forest Ecology and Management, 578, 122490. <https://doi.org/10.1016/j.foreco.2024.122490>

Taxpayer Bill of Rights

NA