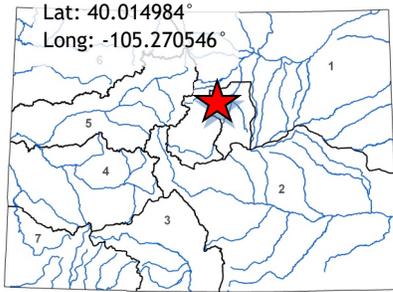




Water Plan Grant Application



L O C A T I O N	
County/Countries:	Boulder, Gilpin
Drainage Basin:	South Platte

D E T A I L S	
Total Project Cost:	\$57,522
Water Plan Grant Request:	\$27,081
Recommended Amount:	\$0
Other CWCB Funding:	\$0
Other Funding Amount:	\$0
Applicant Match:	\$30,441
Project Type:	Other
Project Category:	Engagement & Innovation
Measurable Result:	1,500 Coloradans Impacted by Engagement Activity

The applicant, the Boulder Watershed Collective, is a 501c3 organization that has recently been awarded several CWCB grants through the Water Plan Grant Program, Watershed Restoration Program and the Water Supply Reserve Fund program to support their work on various watershed health and wildfire risk mitigation projects.

This proposed project would build upon the applicant's ongoing community engagement within Boulder Creek watershed communities and would help support the applicants' Strategic Plan. The applicant states it approaches engagement from the perspective that multiple types of engagement, with varying goals and strategies is a much more "fruitful" endeavor to shift perspectives, increase engagement and empower positive change. This project intentionally engages audiences in multifaceted ways.

Approximately 1,500 Boulder Creek Watershed users and residents would be the targeted audience and it is proposed they would be engaged in a well-informed discourse, and lead community initiatives and decision making around critical watershed challenges at "multiple scales of impact".

The goals of the proposed programs and within our community engagement plan use a similar framework and are closely aligned with Water Education Colorado's 'Statewide Water Education Action Plan' (SWEAP). The specific education programs proposed would include a Forest Forensics program, and a regular watershed podcast and webinar series. Each of these proposed programs will support awareness, learning and stewardship related to forest and wildfire ecology and watershed resilience.

Funding Recommendation: Though this application scored well compared with other proposals, the applicant currently has several ongoing CWCB grants underway or in the contracting phase. Staff is not recommending funding for this project due to the high demand this round and due to the review committee deciding to be more equitable to other organizations who have not previously received CWCB funding. Staff would encourage the applicant to reapply in future rounds.



Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Boulder Watershed Collective
Name of Water Project	Project-01883 Forested Watershed Community Education
Grant Request Amount	\$27,081.00
Primary Category	\$27,081.00
<i>Engagement & Innovation Activities</i>	
Total Applicant Match	\$30,441.00
<i>Applicant Cash Match</i>	\$27,081.00
<i>Applicant In-Kind Match</i>	\$3,360.00
Total Other Sources of Funding	\$30,441.00
<i>AEC Trust Grants</i>	\$27,081.00
<i>University of Colorado Intern</i>	\$3,360.00
Total Project Cost	\$87,963.00

Applicant & Grantee Information

Name of Grantee: Boulder Watershed Collective
 Mailing Address: 1740 Fourmile Canyon Dr. Boulder CO 80302
 FEIN: 842,674,914

Organization Contact: Maya MacHamer
 Position/Title: Email: maya@boulderwatershedcollective.org
 Phone: 303-817-2261

Organization Contact - Alternate: Catherine Price
 Position/Title: Program Manager Email: cat@boulderwatershedcollective.org
 Phone: 303-449-3333

Grant Management Contact: Maya MacHamer
 Position/Title: Email: maya@boulderwatershedcollective.org
 Phone: 303-817-2261

Grant Management Contact - Alternate: Maya MacHamer
 Position/Title: Email: maya@boulderwatershedcollective.org
 Phone: 303-817-2261

Description of Grantee/Applicant

Watershed Group in Boulder/Gilpin counties.

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	40.014984
Longitude	-105.270546
Lat Long Flag	County centroid: Coordinates based on centroid of county boundary
Water Source	The project will occur within the Boulder Creek watershed.
Basins	South Platte
Counties	Gilpin; Boulder
Districts	6-Boulder Creek

Water Project Overview

Major Water Use Type	Education
Subcategory	Planning (e.g. watershed)
Scheduled Start Date - Design	4/1/2022
Scheduled Start Date - Construction	

Description

The Forested Watershed Community Education project builds upon the BWC's foundation of community engagement within communities and supports the new BWC Strategic Plan. BWC approaches engagement from the perspective that multiple types of engagement, with varying goals and strategies is a much more fruitful endeavor to shift perspectives, increase engagement and empower positive change. This project intentionally engages audiences in multifaceted ways. Boulder Creek Watershed users and residents will engage in well-informed discourse, and lead community initiatives and decision making around critical watershed challenges at multiple scales of impact. The goals of the proposed programs and within our community

engagement plan use a similar framework and are closely aligned with the ‘Statewide Water Education Action Plan’ (SWEAP). The specific education programs proposed here include a Forest Forensics program, and a regular watershed podcast and webinar series. Each of these programs will support awareness, learning and actionable stewardship related to forest and wildfire ecology and watershed 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)
	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
1,500	Number of Coloradans Impacted by Engagement Activity

Water Project Justification

Chapter 7 of the Colorado Water Plan states that, “watershed health is a measure of ecosystem structure and function,” and refers to the importance of headwater streams to downstream water users. Education and outreach contribute to long-term protection and improvement of watershed health and work to create a conservation ethic in those who live and recreate within the watershed. 7-4 states that “sediment is the most concerning non-point source pollutant our forested lands contribute.” Forested watersheds are overly dense due to 100 years of fire suppression. Overly dense forests can cause more severe fire behavior and post-fire sediment yields cause significant impacts to drinking water quality and infrastructure for many years after a fire. Education and engagement programs created by this project will work to decrease the likelihood of catastrophic wildfire by enabling the public and private landowners to have a deeper understanding of forest and wildfire ecology and empowering them to take stewardship actions on their own land and support forest restoration at scale.

The Colorado Water Plan Analysis & Technical Update provides numerous data, modeling and tool additions and integrates climate change into planning models. While the Executive Summary repeatedly highlights the potential increase of drought and flooding, it does not explicitly discuss wildfire. It can be assumed that increased drought will lead to more high intensity wildfire which will lead to increased flooding. These cascading disasters lead to increased stress to water supply systems and water quality.

The BWC strives to realize goals of collective stewardship and responsibility. Experiential learning and variable engagement methods as proposed in this project provide the greatest opportunity to reach larger portions of the population and affect real change. The Colorado Water Plan Analysis & Technical Update provides numerous data, modeling and tool additions and integrates climate change into planning models. While the Executive Summary repeatedly highlights the potential increase of drought and flooding, it does not explicitly discuss wildfire. It can be assumed that increased drought will lead to more high intensity wildfire which will lead to increased flooding. These cascading disasters will lead to increased stress to water supply infrastructure and water quality.

Realize these goals of collective stewardship and responsibility. Robust communication strategies that prioritize visual storytelling and experiential learning support the continued development of participatory communities that

value stewardship and shared responsibility as critical mechanisms of watershed protection.

The Basin Implementation Plans outline long-term goals and strategies for cultivating a supportive and engaged citizenry. Some of these include:

- 1) Work closely with organizations that specialize in the facilitation of public education and outreach programs in order to leverage existing resources within each basin and increase overall impact (9-59 #6).
 - a. One of the primary roles of the BWC is to engage with communities in the watershed. Ongoing engagement activities include webinars, field visits and community workshops. These activities engage between 15 and 300 people and BWC has seen increasing interest and attendance. This indicates that the public desires more opportunities for dialogue, learning and hands-on watershed related opportunities.
 - b. This project will work with subject matter experts like the Ember Alliance and Rocky Mountain Tree Ring Research to provide in-depth learning in the field. Continuation of the podcast and webinars are aspects of developing varied outreach methods that are inclusive and accessible to multiple types of public stakeholders.
- 2) Enhance coordination and financial support that enable watershed groups and other grassroots organizations to effectively engage the public and increase participation (9-59 #7).
 - a. The BWC approach takes the perspective that increased knowledge and understanding of forest and watershed function correlate with increased stewardship. Continued public engagement will enhance the understanding of watershed function and the connection between forests, water resources and climate change. These efforts, coupled with BWC's administrative capacity to partner with landowners and communities for project implementation increases opportunities for stewardship.

The South Platte Basin Implementation Plan (SPBIP) states that, "focused attention is needed to address threats associated with extensive tree mortality in the basin... [and] increased fire hazards." (S-5-5)

- The Boulder Creek watershed is a drinking water source for numerous Front Range municipalities. Multiple sub-watersheds are ranked highest priority for the composite values of watershed protection, forest conditions and living with fire in Colorado State Forest Service's Forest Action Plan. This education project will work with communities within these high hazard areas.

The Environmental and Recreational goals and measurable outcome in the SPBIP (1-9-7) are all supported by reducing wildfire severity in forested watersheds. Briefly, these goals include protecting and enhancing riparian, wetland and stream resources and many of the economic and recreational attributes associated with them. The ability to restore and protect these values first begin with robust community support. Education and engagement are one path toward the development of that community support. The SPBIP also states that an, "intensive education, participation and outreach program designed to generate a lasting baseline of public awareness and support (6-18)" is needed.

- The Forest Forensics program, podcast and webinars all work to create a lasting baseline of public awareness. Beyond awareness, BWC programs also work to increase knowledge and behavior change.

The Colorado Water Plan states that, "existing programs need to improve coordination to maximize their effectiveness. Collaboration creates new opportunities for water education, outreach, and public engagement activities." (9-57)

- The BWC is coordinating with numerous partners by facilitating the Boulder County Forest Collaborative and with a wider Front Range network through the Northern Colorado Fireshed Collaborative. Additional partners for Forest Forensics include the Ember Alliance and Rocky Mountain Tree Ring Research. The Wild Watershed Podcast and webinars work with partners to develop presentations that are current and relevant for multiple partners.
- The BWC continually works to amplify the work of other partner organizations. The education and engagement proposed here will compliment the forest treatment project development of numerous partners including the Boulder Valley and Longmont Conservation District, Colorado State Forest Service, NRCS and local fire districts.

The former Statewide Water Supply Initiative executive summary highlighted multiple areas supported by this project. These concepts still hold true and are integrated into the Water Plan.

- Colorado has a growing population which has drastic impacts on water supply demands. Increasing populations in the Wildland Urban Interface (WUI) increase potential incidences of human caused wildfire and can threaten clean water supplies for tens of thousands of downstream users. Educating landowners and recreators about wildfire risk and empowering them to take actions to prevent unwanted wildfire while also supporting prescribed fire as an ecological restoration tool is a critical strategy in protecting forested watersheds. Healthy forests replenish groundwater supplies and support non-consumptive uses which are critical components of Colorado's economy.
- Collaboration is a critical component of addressing water quality and quantity issues. Effective collaboration is often a direct result of successful education and engagement.
- Costs related to water supply infrastructure are high and increasing. Wildfire and post-fire sediment yields have significant impacts on water supply infrastructure including dredging reservoirs, exposed pipelines, damaged intakes and increased water treatment costs. Preventing large scale, high intensity wildfire is the best way to mitigate sediment related costs cost increases.
- Promoting education and stewardship of water resources is a critical component of "supporting the quality of life and economic prosperity of all Coloradoan's."

Related Studies

Colorado State Forest Action Plan: Analysis of forest trends with watershed prioritization and guidance for improving forest health.

Saint Vrain Wildfire/Watershed Assessment (2010): Assessment designed to identify and prioritize watersheds based on their hazards of generating flooding, debris flows and post-fire sediment yields that could impact water supplies.

Saint Vrain Watershed Plan (2015) : Provides background on geology, soils, hydrology and other watershed characteristics that impact water supply, watershed health and water quality.

Memorandum of Understanding for Coordination and Collaboration to Improve Forest Health and Reduce Wildfire Risk in Boulder County: A collective vision and initial steps for addressing wildfire issues.

Boulder Watershed Collective Strategic Plan and draft Community Engagement Plan (2021): Strategies for accomplishing the BWC vision. Program areas include Community Engagement, Watershed Restoration and Climate Adaptation and Resiliency.

Taxpayer Bill of Rights

The Boulder Watershed Collective is not aware of any issues that would affect this application.

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that: (1) Summarizes the project and how the project was completed. (2) Describes any obstacles encountered, and how these obstacles were overcome. (3) Confirms that all matching commitments have been fulfilled. (4) Includes photographs, summaries of meetings and engineering reports/designs. The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions. Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following: (a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in the Budget & Schedule Exhibit B. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment. (b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment. (c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary. (d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

Last Updated: May 2021

ENGAGEMENT & INNOVATION GRANT FUND SUPPLEMENTAL APPLICATION

Introduction & Purpose

Colorado’s Water Plan calls for an outreach, education, public engagement, and innovation grant fund in Chapter 9.5.

The overall goal of the Engagement & Innovation Grant Fund is to enhance Colorado’s water communication, outreach, education, and public engagement efforts; advance Colorado’s water supply planning process; and support a statewide water innovation ecosystem.

The grant fund aims to engage the public to promote well-informed community discourse regarding balanced water solutions statewide. The grant fund aims to support water innovation in Colorado. The grant fund prioritizes measuring and evaluating the success of programs, projects, and initiatives. The grant fund prioritizes efforts designed using research, data, and best practices. The grant fund prioritizes a commitment to collaboration and community engagement. The grant fund will support local and statewide efforts.

The grant fund is divided into two tracks: engagement and innovation. The Engagement Track supports education, outreach, communication, and public participation efforts related to water. The Innovation Track supports efforts that advance the water innovation ecosystem in Colorado.

Application Questions

*The grant fund request is referred to as “project” in this application.

Overview (answer for both tracks)
In a few sentences, what is the overall goal of this project? How does it achieve the stated purpose of this grant fund (above)?
The overall goal of this project is to increase public knowledge of watersheds and specifically of forest ecosystems and wildfire ecology. Increased knowledge, through robust and experiential education and engagement programs, will create behavior change to increase support of and participation in large scale forest management and other watershed stewardship projects.
Who is/are the target audience(s)? How will you reach them? How will you involve the community?
There are two target audiences: 1) private landowners living in the forested watershed and 2) downstream users who benefit from intact and functional forested ecosystems. These target audiences will be reached through BWC’s growing network, email list serve and social media. All educational events are marketed through a wide network of local partners including other recreational and environmental non-profit agencies and government agency partners. This project specifically proposes multiple methods of engagement to reach more diverse audiences who are interested in participating in various ways. Forest Forensics is experiential learning on the landscape and targeted toward adults and youth. Podcasts and webinars can reach a wide and diverse virtual audience.
Describe how the project is collaborative or engages a diverse group of stakeholders. Who are the partners in the project? Do you have other funding partners or sources?

Last Updated: May 2021

This project is collaborative and includes new partnerships with the Ember Alliance and Rocky Mountain Tree Ring Research. Additional partners include those within the Boulder County Fireshed-13 agencies and communities who we are collaborating with to increase forest health and reduce wildfire risk. All educational opportunities are distributed through these partner organizations. Previous podcast and webinar partners have included the city and county of Boulder, CU Center for Sustainable Landscapes and Communities & Native American and Indigenous Studies department, USFS, CSFS, and many others.

Specific communities we are working with (as target communities) include Gold Hill, Nederland, Coal Creek Canyon, Gilpin County and western city of Boulder residents.

This project will be supported with an in-kind contribution by a University Colorado Environmental Studies intern who is receiving class credit for their work and a pending grant through the AEC Trust, a local family foundation who actively participates in forest restoration projects and supports local groups involved in forest and wildfire projects.

Describe how you plan to measure and evaluate the success and impact of the project?

BWC's measurable outcomes are the persistent understanding of if and how we are accomplishing both our larger community engagement program goals, and those more specific to each project. For Forest Forensics assessment will be directly integrated into the project itself through pre and post workshop surveys. We aim to capture a mix of quantitative measures (e.g. number of attendees, short survey responses), and qualitative information (e.g. documentation of conversations, interviews). In some cases, we may use a mixed-method approach where quantitative measures provide breadth on a topic, and qualitative measures provide depth.

Especially important to our team is measuring project success from inclusive, representative assessment processes. We will continue to keep a keen eye on who was represented in each assessment and who was missing from that focal audience. This will largely inform how we approach project assessment the next time, as we ask key questions like, *What are we doing to be more inclusive in our practices and in our assessment? What specific populations are we working with on this project? Who do we want to impact and how do we want to impact them?* In all instances, we hope to grow inclusion of more diverse communities.

For webinars and podcasts we use analytics provided by the podcasting/marketing platform (google, anchor, Eventbrite) to allow us to learn more about our audience and their interests and continue to refine and tailor future episodes. We often include short surveys when participants register for an event to gather key information. The analytics track the following:

- Overall plays, monthly plays and trends and top episode
- Geographic location (Worldwide, US state, county)
- Listening platforms
- Gender and age



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- How they learned about the event

What research, evidence, and data support your project?

As understood by many education and social science researchers, bringing awareness to environmental challenges is necessary but not sufficient alone to motivate individuals to learn, engage, and shift their actions (Steelman and McCaffrey 2013; Koebele 2015; Frick et al. 2004; Hewitt et al. 2019; Moser and Dilling 2011; Ojala 2015; Truelove and Parks 2012). There are knowledge gaps and misunderstandings between the public and restoration professionals, especially regarding the current science around restoration practices and goals. We understand from this research that education and outreach should not singularly emphasize awareness and knowledge; it should include interactive engagement informed from community needs and community-driven processes. These approaches will ultimately provide settings for reciprocal listening and learning between the public and professionals to increase trust and cultivate more sustainable practices. These engagement efforts will aid BWC and partners in tailoring restoration and mitigation projects to meet the desires of local communities, when appropriate, rather than a “one size fits all” policy towards conservation and restoration. This shift from a disengaged community learning about environmental topics passively, to an informed community that feels involved will allow our team and partners to take proactive approaches to managing restoration efforts. Collectively, these goals help BWC uplift our role as a convener between community and agencies by creating opportunities for them to work together and strengthen communication toward common goals.

Sarah McCaffery, in her 2015 article published in Current Forestry Reports, discusses the importance of social interactions and place attachment in shaping attitudes toward wildfire and preparedness. Her evaluation of wildfire in the US and Australia implicates the need to take local knowledge and context into account. She states that, “efforts that facilitate development of relationships, within communities and between community members and fire personnel, can contribute to increased preparedness at the individual and community level by facilitating information exchange and helping to build a sense of community.”

The BWC works with communities to strengthen relationships and facilitate learning that moves toward behavior change.

Describe potential short- and long-term challenges with this project.

There are few short or long term challenges with this project. The webinars and podcasts are the culmination of pilot projects which have been successful. Covid is a potential challenge with Forest Forensics, but since it is predominately outside it is less likely to be an issue.

Please fill out the applicable questions for either the Engagement Track or Innovation Track, unless your project contains elements in both tracks. If a question does not relate to your project, just leave it blank. Please answer each question that relates to your project. Please reference the relevant documents and use chapters and page numbers (Colorado’s Water Plan, Basin Implementation Plan, PEPO Education Action Plan, etc.).



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Engagement Track
<p>Describe how the project achieves the education, outreach, and public engagement measurable objective set forth in Colorado’s Water Plan to “significantly improve the level of public awareness and engagement regarding water issues statewide by 2020, as determined by water awareness surveys.”</p>
<p>Focusing directly on education and engagement is the best way to affect public awareness and measure changes in human behavior and understanding. This project accomplishes this by working specifically to improve public awareness about forest health, wildfire and water resources as they relate to watershed resiliency. An understanding of resilient forests is only possible by engaging in a deeper conversation about resilient watersheds and the interrelated nature of streams, uplands, soils, climate and communities. The proposed programs here support this learning process and the measurable objectives within the CWP.</p> <p>The Water Plan and the SPBIP (S.3.6 & 1-28) both highlight the need to “protect and enhance river based environments and recreational opportunities that support local and statewide economies and are important for the enjoyment of current and future generations of Coloradans (WP 10-12). The mountain areas in Boulder County are highly valued for recreational activities and are a critical component of the local economy. Using education and outreach to prevent wildfire and increase knowledge about forest and watershed health is the best way to preserve these forested watersheds. The SPBIP provides a recommendation to, “design and implement an intensive education, participation and outreach program designed to generate a lasting baseline of public awareness and support (S.5.9).” This project will assist the SPBRT in accomplishing this goal and the Water Plan goal of increasing public awareness through targeted outreach and educational programs.</p> <p>Strategic preparedness, response and resilience to climate change and natural disasters is identified in the Colorado Water Plan (10-14) and Colorado Resiliency Framework as a critical action. This project works to address this from the community perspective and is responsive to community requests for increased educational opportunities. In Chapter 7 The Water Plan identifies watershed coalitions as productive organizations to create stakeholder driven watershed protection projects. Ongoing education and engagement is one strategy the BWC employs to further watershed protection projects.</p>
<p>Describe how the project achieves the other measurable objectives and critical goals and actions laid out in Colorado’s Water Plan around the supply and demand gap; conservation; land use; agriculture; storage; watershed health, environment, and recreation; funding; and additional.</p>
<p>Chapter 7 of the Colorado Water Plan states that, “watershed health is a measure of ecosystem structure and function,” and refers to the importance of headwater streams to downstream water users. Education and outreach assist in long term improvements of watershed health and work to create a conservation ethic in those who live and recreate within the watershed. 7-4 states that “sediment is the most concerning non-point source pollutant our forested lands contribute.” Forested watersheds are overly dense due to 100 years of fire suppression. This increases wildfire risk and severe fire behavior. Post fire sediment yields cause significant impacts to drinking water quality and infrastructure for many years after a fire. Education and outreach opportunities created by this project will work to decrease the likelihood of severe wildfire in certain communities. The Colorado Water Plan’s Critical Action Plan addresses both watershed health and environment and education and outreach goals. This project is multi-objective and will support several areas within the Critical Action Plan by creating a direct link within our educational programming to actionable steps people can take to increase stewardship, watershed protection and conservation.</p>



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Describe how the project achieves the education, outreach, and public engagement goals set forth in the applicable Basin Implementation Plan(s).

Section 4.1.3 in the SPBIP lists suggested Education, Participation and Outreach activities for 2015 and beyond. These include leveraging existing Basin resources like watershed coalitions, leveraging state efforts like the Wildfire/Watershed Assessment Group and establishing success metrics. Specific watershed protection projects are that can be affected by public engagement goals include:

- 4.2.1.1- 4.1.1.3. Wildfire Mitigation and Treatment, Insect and Disease and Climate Change awareness. This project directly engages the public on these issues through education and engagement (Forest Forensics, Wild Watershed Podcast and topic relevant webinars) and will provide recommendations for direct actions related to forest health projects on private land and supporting and engaging on work on public lands.
- 4.2.3 #6 Water Quality. The degradation of forested watersheds can result in increased wildfire and non-point source pollution having profound impacts on water quality. Preventing severe wildfire is the best way to minimize post-fire sediment issues.
- 4.5.2.3 Stewardship. This section specifically lists protecting streams and riparian areas. The protection of these areas is interdependent with healthy forests. A deeper understanding of the value of riparian areas and how the public can be involved in stewarding these areas will be developed with greater understanding of watershed health. Forest restoration and stewardship projects will be cultivated through relationships built through this education and engagement project.
- 4.6.3 Environmental and Recreational Impacts and Benefits from Multi-Purpose Projects. BWC is currently implementing several multi-purpose forest restoration projects that incorporate habitat development, watershed protection and community safety. This project is multi-purpose by:
 - Protecting environmental and recreational resources through engagement and stewardship.
 - Engaging local communities in issues that affect them, namely watershed and forest health and wildfire risk.
 - Engaging local agencies in greater collaborative education projects and leveraging resources and expertise.
 - Connecting the public to available resources and assisting them in converting knowledge to action.
 - Protecting headwater streams and water quality by addressing upland forest issues.

Describe how the project achieves the basin roundtable's PEPO Education Action Plans.

The South Platte EAP is focused on educating and engaging the public within the basin about water issues in a collaborative, dialogue-oriented fashion that will lead to solutions-oriented actions related to Colorado's water supply issues. This project will support this goal by focusing on integrating concepts listed below and specifically by aligning closely with the SWEAP framework. This focus will "generate a lasting baseline of public awareness and support".

- Increasing partnerships and awareness of SPBRT values through BWC's agency partners.
- Include recreational and environmental interest groups in educational opportunities.
- Provide survey data to support measurable results.
- Develop education and engagement opportunities that support objectives and topics listed in the Education Action Plan.
- Provide outreach and education that are directly related to solutions-based actions such as forest restoration and wildfire mitigation.



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<ul style="list-style-type: none">• Create a foundation of watershed knowledge that enables the public to better participate in future local and statewide land use and water planning efforts.

Innovation Track
Describe how the project enhances water innovation efforts and supports a water innovation ecosystem in Colorado.
Describe how the project engages/leverages Colorado's innovation community to help solve our state's water challenges.
Describe how the project helps advance or develop a solution to a water need identified through TAP-IN and other water innovation challenges. What is the problem/need/challenge?
Describe how this project impacts current or emerging trends; technologies; clusters, sectors, or groups in water innovation.

Last Updated: May 2021

Colorado Water Conservation Board
Water Plan Grant – Statement of Work – Exhibit A

Statement Of Work	
Date:	November 30, 2021
Name of Grantee:	Boulder Watershed Collective
Name of Water Project:	Forested Watershed Community Education
Funding Source:	CWP/AEC Trust/CU Intern
Water Project Overview:	
<p>The Forested Watershed Community Education project builds upon the BWC's foundation of community engagement within communities and supports the new BWC Strategic Plan. BWC approaches engagement from the perspective that multiple types of engagement, with varying goals and strategies is a much more fruitful endeavor to shift perspectives, increase engagement and empower positive change. This project intentionally engages audiences in multifaceted ways. Boulder Creek Watershed users and residents will engage in well-informed discourse, and lead community initiatives and decision making around critical watershed challenges at multiple scales of impact. The goals of the proposed programs and within our community engagement plan use a similar framework and are closely aligned with the 'Statewide Water Education Action Plan' (SWEAP). The specific education programs proposed here include a Forest Forensics program, and a regular watershed podcast and webinar series. Each of these programs will support awareness, learning and actionable stewardship related to forest and wildfire ecology and watershed resilience.</p>	
Project Objectives:	

Last Updated: May 2021

Through a thriving community engagement program with diverse communities engaged, consistent contact, and multifaceted opportunities for learning, we ultimately envision that the Boulder Creek Watershed users and residents will engage in well-informed discourse, participate in community initiatives and decision making around critical watershed challenges at multiple scales of impact. Additionally, they will be empowered to engage in environmental stewardship, including being more receptive to evidence-based restoration and adaptation management strategies. Specific project objectives include:

1. Increase Awareness & Knowledge,
2. Empower Relationships, Engagement & Behavior Change,
3. Impact Systems and Culture Change.

Tasks

Task 1 – A Wild Watershed Podcast

Description of Task:

Project Description & Goals. [A Wild Watershed](#) is BWC’s pilot podcast that focuses on watershed resiliency. Four episodes have been developed. Through this process BWC has found a user-friendly technology platform, appropriate recording equipment and piloted interview and reporting methods for a baseline understanding of what listeners respond to.

Moving forward BWC will use a systemic lens to discuss watershed health and integrated ecosystems. The podcast will cover topics ranging from climate change and adaptation, forest health and wildfire mitigation, water quality and quantity and highlight innovative and engaging methods of stewardship. The podcast allows us to collaborate with other agencies and non-profit organizations in the field of watershed and forest systems health. Episodes aim to build 1) a greater understanding of landscape-level concepts, risk awareness, and systems thinking, 2) build greater understanding of the wide breadth of fire/forest management tactics and operations, post-fire restoration, future climate change projections, and the connection to water resources, and 3) to provide audiences with local and national resources to inspire adaptation and behavior change.

The podcast is one method of adapting to covid where engagement methods need to include a variety of virtual methods. Having various outreach and engagement methods allows BWC to provide accessible and inclusive engagement methods.

Audience. Our target audience is community members in rural and urban areas along the Colorado Front Range, but is applicable to anyone living in the Western United States.

Method/Procedure:



Last Updated: May 2021

1. Plan episode topics and interviewees,
2. Research and develop scripts,
3. Record interviews,
4. Edit recordings,
5. Market and distribute podcasts.

Deliverable:

A series of 10 podcasts per year. 20 episodes over two years. The podcasts will be available for free on the Anchor platform.

Tasks

Task 2 – Forest Forensics

Description of Task:

Project Description & Goals. Forest Forensics is a hands-on, multifaceted way for people learn directly from their own exploration and scientific discovery in the forest. Forest Forensics workshops will be facilitated by local experts from the Rocky Mountain Tree Ring Research Center, the Ember Alliance, and the Boulder Watershed Collective. Workshops will include field visits to forest locations that provide a visual representation of historic fire regimes and departure from those historical regimes as evidenced in hidden clues in the forest. Participants will find evidence on the landscape that helps them discover how the forest used to look (fire scars, tree stumps), how fire suppression has affected forest structure and composition (tree density and species present) and what areas represent more resilient forested ecosystems (inclusion of meadows, diversity in forest composition). Once participants see the forest this way, they will never be able to walk through a forest again without noticing historical evidence and whispers of potential future forests.



Last Updated: May 2021

Facilitators will guide participants in collecting, analyzing, and reporting data to formulate a scientific understanding of the forest while building community knowledge and capacity. The knowledge and capacity developed through the workshops will help inform planning and prioritization processes as communities develop wildfire risk reduction strategies.

This program is adaptable to remote or individual learning through a modified and can be tailored for youth or adult level learning. Program objectives include:

1. Increased knowledge of forest and wildfire ecology,
2. Living with fire: community risk awareness,
3. Watershed restoration and adaptation methods related to forest management,
4. An understanding of local and regional efforts to support landscape level forest restoration and management.

A secondary component of the program is a field trip series with 6th-12th grades and Community Colleges with curricular goals to build ecological field skill development, and forest ecology and watershed science goals. Funds are built into the budget to support transportation for schools as this is often a prohibitive factor to having field trips.

Both the Ember Alliance and Rocky Mountain Tree Ring Research bring significant expertise to the table for program design, ecology, wildfire and community engagement. Their partnership will strengthen the program immensely.

Method/Procedure:

1. Design and plan the program with partners.
2. Conduct field visits to potential project locations. Ideal locations have evidence of historical fire behavior, old trees for coring, variable ecosystems to understand fire regimes and succession.
3. Acquire necessary materials (prisms, borers, etc.).
4. Outreach to potential participants and marketing for the program.
5. Facilitate workshops (in the field and indoor data analysis workshops).
6. Measure outcomes and reporting.

Deliverable:

Last Updated: May 2021

Deliverable is a program report documenting engagement efforts as well as the data that was collected and analyzed by participants.

Tasks

Task 2 – Watershed Webinars

Description of Task:

Webinars and virtual engagement have become a centerpiece of community learning during covid. While initially virtual engagement seemed temporary and limiting, BWC has been able to reach a more broad and consistently larger audience with virtual engagement. BWC routinely gets 40-60 participants on webinars and has had 100 to 300 participants for some topics of great interest. We view webinars as an effective way to complete a feedback loop with community outreach and be responsive to emerging interests and concerns voiced by community members. This project will host a series of six webinars each year (12 over 2 years). Each webinar will be developed with partners, highlighting different agencies and perspectives and marketed to a broad group of diverse stakeholders. The goal for this program is to educate and inspire action.

Method/Procedure:

1. Design and plan the program with partners.
2. Conduct field visits to potential project locations. Ideal locations have evidence of historical fire behavior, old trees for coring, variable ecosystems to understand fire regimes and succession.
3. Acquire necessary materials (prisms, borers, etc.).
4. Outreach to potential participants and marketing for the program.
5. Facilitate workshops (in the field and indoor data analysis workshops).
6. Measure outcomes and reporting.

Deliverable:



Last Updated: May 2021

Twelve recorded webinars.

Tasks	
Task 2 – Grant/Project Management	
Description of Task:	
This task includes all aspects of project management including hiring consultants, managing funds, submitting reimbursement requests and reporting.	
Method/Procedure:	
<ol style="list-style-type: none">1. Contracting2. Project Management3. Financial Management4. Reporting	
Deliverable:	
Accurate and timely reimbursement requests and reporting.	



Last Updated: May 2021

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit C. Per Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

(b) Accountability: Per Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.



Last Updated: May 2021

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.



Colorado Water Conservation Board
Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date:
 Name of Applicant:
 Name of Water Project:

EXAMPLE A: Study or Project Coordination

Task 1 - [TASK NAME]

Sub-task	Item	Hourly Rate	# Hours	Sub-total	Item			Total	CWCB Funds	Matching Funds
					Item Cost	Quantity	Sub-total			
Focus Groups										
	Participant Stipend			\$ -	\$ 50.00	20.00	\$ 1,000.00	\$ 1,000.00	\$ 250.00	\$ 750.00
	Catering			\$ -	\$ 15.00	20.00	\$ 300.00	\$ 300.00	\$ 75.00	\$ 225.00
	Feedback Survey			\$ -	\$ 0.50	20.00	\$ 10.00	\$ 10.00	\$ 2.50	\$ 7.50
	Staff Time	\$ 40.00	10	\$ 400.00				\$ 400.00	\$ 100.00	\$ 300.00
Develop Exhibit										
	Exhibit Designer	\$ 50.00	100	\$ 5,000.00			\$ -	\$ 5,000.00		
	Staff Time Project Manager	\$ 50.00	30	\$ 1,500.00			\$ -	\$ 1,500.00		
	Staff Time Administrative	\$ 35.00	20	\$ 700.00			\$ -	\$ 700.00		
	Film Production (filming, editing, production)			\$ -	\$ 5,000.00	1.00	\$ 5,000.00	\$ 5,000.00		
				\$ -			\$ -	\$ -		
				\$ -			\$ -	\$ -		
TOTAL								\$ 13,910.00		
Other Direct Costs (see below)								\$ 2,469.00		
OVERALL TOTAL								\$ 16,379.00		

Other Direct Costs

Item:	Copies & Printing (Black & White)	Copies & Printing (Color)	Materials and Final Report Production Lump Sum	Lodging and Meals Per Diem	Travel Expenses (Airfare and Car Rental) Lump Sum	Mileage Miles	Total
Units:	No.	No.		Per Diem		Miles	
Unit Cost:	\$0.10	\$0.50		\$ 100.00		\$0.535	
Project Initiation	150	100		2		400	\$479
Report, Conclusions and Recommendations	150	150	\$ 1,900	0		0	\$1,990
Total Units:	300	250	1,900	2	0	400	
Total Cost:	\$30	\$125	\$1,900	\$200	\$0	\$214	\$2,469



COLORADO

Colorado Water Conservation Board

Department of Natural Resources

**Colorado Water Conservation Board
Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate**

Prepared Date:
Name of Applicant:
Name of Water Project:

EXAMPLE C: Construction

Task 1 - Construction

<i>Sub-task</i>	Unit	Quantity	Unit Cost	Total Cost	CWCB Funds	Matching Funds
Mobilization	LS	1	\$ 50,000	\$ 50,000	\$ 10,000	\$ 40,000
Coffer Dam	EA	1	\$ 100,000	\$ 100,000	\$ 20,000	\$ 80,000
Cut	CY	20,000	\$ 4	\$ 80,000	\$ 16,000	\$ 64,000
Fill	CY	18,000	\$ 8	\$ 144,000	\$ 28,800	\$ 115,200
Erosion Control	LS	1	\$ 40,000	\$ 40,000	\$ 8,000	\$ 32,000
18-inch HDPE	LF	500	\$ 50	\$ 25,000	\$ 5,000	\$ 20,000
18-inch Valve	EA	1	\$ 10,500	\$ 10,500	\$ 2,100	\$ 8,400
Etc...						

Task 2 - ?

TOTAL				\$ 449,500.00	\$ 89,900	\$ 359,600
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Colorado Water Conservation Board
Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date:
Name of Applicant:
Name of Water Project:

EXAMPLE B: Engineering

Sub-task	Water Consultants					Subcontracts			Project Total	CWCB Funds	Matching Funds
	Senior Principal Engineer	Senior Water Resources Engineer/Consultant	Water Resources Engineer	Geologist/Water Resources Analyst	Subtotal	Geotechnical Lump sum	Environmental and Cultural Resources Lump Sum	(Other)			
	\$ 190	\$ 160	\$ 130	\$ 100							
	Estimated Hours					Cost per					
Project Initiation / Stakeholder identification	12	32		16	\$ 9,000				\$ -	\$9,000	
Water Rights Evaluation	24	24	80	30	\$ 21,800			\$ 12,000	\$ 12,000	\$33,800	
Geotechnical	24			36	\$ 8,160	\$ 27,000			\$ 27,000	\$35,160	
Permitting		32		40	\$ 9,120				\$ -	\$9,120	
Survey	4	24		8	\$ 5,400				\$ -	\$5,400	
Design of XXX	160	60	100		\$ 12,640				\$ -	\$12,640	
Preparation of construction documents (bid docs, specs)	40	10	30						\$ -		
Project Management	20	30		24	\$ 11,000				\$ -	\$11,000	
Report, Conclusions, & Recommendations	40	54	16	40	\$ 22,320			\$ 3,000	\$ 8,500	\$30,820	
Task 2 - ?											
TOTAL										\$146,940	



November 30, 2021

RE: Letter of Support for Boulder Watershed Collective Forested Watershed Community Education grant application.

Dear Grant Reviewer:

The Boulder County Fire Fighters Association (BCFFA) supports the collaborative efforts of the Boulder Watershed Collective to increase forest and watershed education throughout our service areas and communities.

The BCFFA represent a collaboration of mountain fire chiefs from western Boulder County and the Boulder County Cooperators, the training arm of the organization. Together we have a joint mission to provide safe and effective all-hazard training and a forum for the open discussion of emergency response. As such, wildfire risk reduction and forest health and resiliency are extremely important to our organization. Since one of the roles of our organization focuses on education for local and volunteer firefighters, extending the educational resources to the larger community naturally supports our mission.

Local fire districts are often the frontlines of engagement within rural forested communities. The added support from the Boulder Watershed Collective increases our capacity to support our communities well.

The BCFFA fully supports these efforts to focus on forest wand wildfire education as this will support an increase in other aspects of wildfire risk reduction planning. Please strongly consider this funding request as it would greatly benefit our communities.

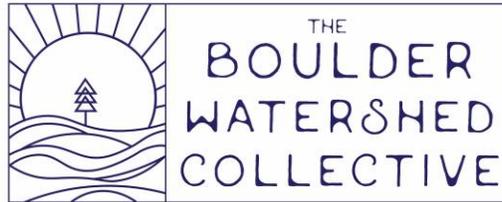
Sincerely,

A handwritten signature in black ink that reads 'Bret Gibson'.

Bret Gibson
President



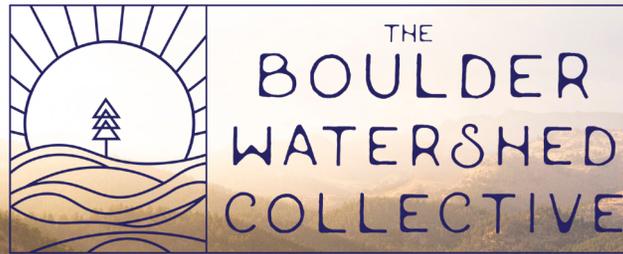
Boulder County Fire Fighters Association
501(c)(3) Non-Profit EIN 84-1287461



Letter of Match Commitment

The BWC will be submitting a grant to the AEC Trust to match this project. AEC Trust is a local family foundation which routinely supports local organizations doing environmental and educational work within Boulder County.

BWC has engaged a CU intern who will be beginning the internship this spring. She is an undergraduate student in Environmental Studies. The student will receive credit for her internship and must work a minimum of 120 hours to meet the credit requirement.



Strategic Plan Summary 2022-2024

MISSION:

To cultivate partnerships, promote community stewardship, and revitalize social and ecological systems within the Boulder Creek watershed and beyond.

VALUES:

Foster trusted relationships

Empower environmental stewardship

Cultivate collaboration

Promote intersectional environmentalism

Embody integrity, inspire action

VISION:

A resilient Boulder Creek watershed where landscapes and communities thrive.

STRATEGIC GOALS:

1. Create a **watershed management plan** that incorporates an integrated ecosystem approach.
2. Increase pace and scale of **community engagement** programming.
3. Support **organizational sustainability** and longevity by building reserves in the bank.
4. Increase BWC's organizational **flexibility** to adapt to emerging needs in the community related to climate change.



OUR PROGRAMMATIC FRAMEWORK:



Over the next three years, we will formalize our three programmatic areas, Climate Adaptation & Resilience, Watershed Restoration, and Community Engagement.

We will also strengthen our organization in the following ways:

Evaluation: Create an evaluation strategy for BWC as an organization and for each of our programs.

Operations: Strengthen our financial systems, data systems, and staff structure to create a sustainable organization that prioritizes equity and inclusion.

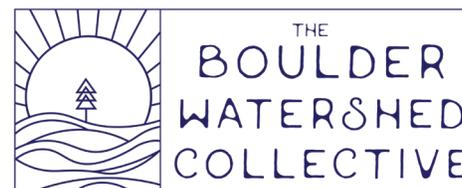
Fundraising: Build organizational capacity and the foundation to sustainably grow unrestricted revenue from diverse funding sources.

Marketing: Pursue a targeted approach to engaging a diverse set of stakeholders within the Boulder Creek watershed.

Governance: Grow the Board to represent the diversity of the communities within the Boulder Creek watershed and empower board members to use their skillsets in service of our mission.

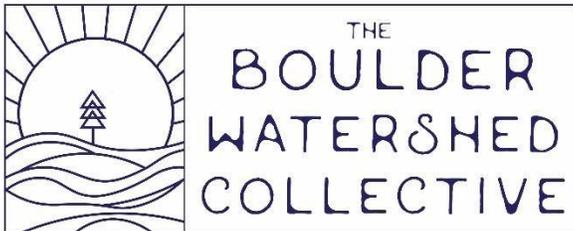
The Boulder Watershed Collective is a 501(c)3 nonprofit dedicated to ensuring the vitality of the Boulder Creek watershed. For more information or to make a donation, visit us at www.boulderwatershedcollective.com.

303-449-3333 | maya@boulderwatershedcollective.org.



Community Engagement Strategic Plan

November 2021



DRAFT

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1. Executive Summary

This plan will primarily provide our team structured direction on community engagement opportunities to pursue or develop in the Boulder Creek Watershed that engage audiences in multifaceted ways along three key **program goals**:

1. Increase Awareness & Knowledge
2. Empower Relationships, Engagement & Behavior Change
3. Impact Systems and Culture Change.

Through a thriving community engagement program with diverse communities engaged, consistent contact, and multifaceted opportunities for learning, we ultimately envision that:

“The Boulder Creek Watershed users and residents will engage in well-informed discourse, and lead community initiatives and decision making around critical watershed challenges at multiple scales of impact. Additionally, they will be empowered to engage in environmental stewardship and responsibility, including being more receptive to evidence-based restoration and adaptation management strategies.”

Ultimately, this plan will provide thoughtful focus on which program goals and innovative strategies we should consider, why, and how we can measure the success of our pursuits to align with our intended goals and audience. In addition to setting a clear path forward, this program plan will allow us to create scalable engagement that intentionally incorporates some of the multifaceted goals of our partners and funders (e.g. the Boulder County MOU, non-profit partners like the Ember Alliance, county, regional and statewide partners). Collectively, these outcomes help BWC maintain our role as a convener between community and agencies by creating opportunities for agencies and communities to work together and strengthen communication toward common goals - critical steps to effectively scale-up our impact within the watershed.

2. Vision & Needs

Community Engagement Vision

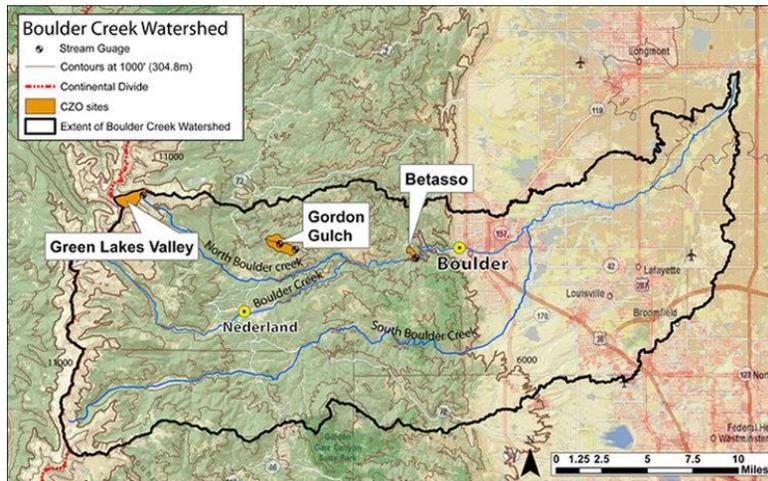
The Boulder Watershed Collective (BWC) is a non-profit organization that builds resiliency at the intersection of social and ecological systems. As BWC expands, we are invested in building this comprehensive ‘Community Engagement Program’ strategic plan, guided by the vision, mission, and values updated in the organizational [Strategic Plan](#). These guiding statements shaped our community engagement vision that:

“The Boulder Creek Watershed residents and recreators will engage in well-informed discourse, and will lead community initiatives and decision making around critical watershed issues at multiple scales of impact. Additionally, they will be empowered to engage in environmental stewardship and responsibility, including being more receptive to evidence-based restoration management strategies.”

The Boulder Creek Watershed Residents & Recreators

As the urban areas grow and meet the mountain wilderness, as climate changes and forests shift, it is crucial that we cultivate collaborations for stewardship and restoration at a larger landscape level - across the Boulder Creek Watershed and beyond (Image 1). Eventually, we hope our projects and community engagement will span across the entire 286,000 acres of the Boulder Creek Watershed, originating at the Continental Divide and reaching the eastern plains. An area that includes forests, streams, plains, and the communities living within these landscapes.

Image 1. The Boulder Creek Watershed



To ensure we better engage with and represent the full-breadth of individuals living within this watershed, we identified key demographics from the 2019 [US Census](#) of residents in Boulder County - those living within the St. Vrain Creek and Boulder Creek Watersheds (Table 1). This helped guide the identification of [6 key focal audiences](#) to prioritize our community engagement efforts. As we continue to grow as an organization, we will use this information to identify and interact with more focal audiences, especially those underrepresented in our current outreach and education initiatives. This will better ensure we have more inclusive projects and means of assessment as we expand restoration and climate adaptation projects across the landscape.

Table 1. Key Demographic Characteristics of Boulder County Residents (US Census, 2019, [Boulder County Trail Visitor Study, 2015](#)).

Characteristic	Value
Population	326,196
Percent population change since 2010	10.7%
Age	
Persons under 18 years old	18.8%
Persons 65 years or older	14.8%
Sex	
Female persons	49.6%

Race	White alone Black or African American alone American Indian and Alaska Native alone Asian alone Native Hawaiian and Other Pacific Islander alone Two or more Races	90% 1.2% 0.9% 5.0% 0.1% 2.8%
Hispanic Origin	Hispanic or Latin-x White alone, not Hispanic or Latin-x	14% 77.4%
Housing (2015-2019) & Living Arrangements	Housing Units Owned & Occupied by Owners Language other than English spoken at home (+ 5 years and older)	62.2% 15.7%
Education (2015-2019)	High School graduate or higher (age 25+) Bachelor's Degree or higher (age 25+)	95% 62.1%
Disability	With a disability (under 65 years)	5.4%
Veteran Status	Total Veterans (2015-2019)	13,779
Income & Poverty	Household income (median) Persons in poverty	\$83,019 10.7%
Geography	Population per square mile (2010) Land area in square miles (2010)	405.6 726.29
Trail Visitors	Boulder County Trails - Lived in BoCo for 10 or more years (2015) Boulder County Trails - Lives in Boulder or Longmont (2015)	58% 47%

Needs

As understood by many education and social science researchers, bringing awareness to environmental challenges is necessary but not sufficient alone to motivate individuals to learn, engage, and shift their actions (Steelman and McCaffrey 2013; Koebele 2015; Frick et al. 2004; Hewitt et al. 2019; Moser and Dilling 2011; Ojala 2015; Truelove and Parks 2012). Additionally, there are knowledge gaps and misunderstandings between the public and restoration professionals, especially regarding the current science around restoration practices and goals (*evidence*). We understand from this research that education and outreach should not singularly emphasize awareness and knowledge; it should include interactive engagement informed from community needs and community-driven processes. These approaches will ultimately provide settings for reciprocal listening and learning between the public and professionals to increase trust and cultivate more sustainable practices. These outreach

efforts will also support agencies in tailoring restoration and mitigation projects to meet the desires of local communities, when appropriate, rather than a “one size fits all” policy towards conservation and restoration. This shift from a disengaged community learning about environmental topics passively, to an informed community that feels involved should allow our team and partners to take proactive approaches to managing restoration efforts. Collectively, these goals help BWC uplift our role as a convener between community and agencies by creating opportunities for them to work together and strengthen communication toward common goals.

Internally, we also acknowledge the growing need for a comprehensive community engagement plan as we expand our presence throughout the Boulder Creek Watershed. Historically, BWC was initiated as part of the State’s coordinated community-driven flood recovery process in 2013. We focused on intensive engagement with affected landowners in the Fourmile Canyon to build community support for projects that could offer more resilient river corridors. As BWC geographically expands, we will continue to tailor and co-develop programs to respond to local needs. But we will also use larger scale approaches by enacting adaptable outreach models and diverse program goals that focus on shifting perspectives, increasing engagement and empowering positive change from household to landscape scales. Ultimately, we desire a plan that will provide thoughtful focus on program goals and strategies we should consider, why, and how we can measure the success of our pursuits.

3. Engagement Framework

Overview of Engagement Framework

The purpose of an engagement framework is to provide our team and partners structured direction on community engagement projects and strategies to pursue or develop in the Boulder Creek Watershed with guiding goals in mind. To accomplish this, our engagement framework consists of **program goals** that align with **projects and strategies** specific to each focal audience to achieve measurable **outcomes** all working toward our ultimate **vision** (Image 2). This framework prioritizes setting program goals before choosing specific projects and strategies (i.e. how we will engage people) and measurable outcomes (i.e. how we will measure success). It is built upon the ‘[Statewide Water Education Action Plan](#)’ (SWEAP) model and incorporates best practices from education curriculum design (i.e. backwards design).



Program Goals

Our program goals are organized by the diversity of ways we engage with communities in the Boulder Creek Watershed and beyond (Image 3). When applicable, these goals will emphasize SWEAP's critical water concepts, Colorado's K-12th water concept standards, and the Northern Colorado Fireshed Collaborative's fireshed concepts.

Image 3. Community Engagement Program Goals

COMMUNITY ENGAGEMENT PROGRAM GOALS

INCREASE AWARENESS & KNOWLEDGE



- 1) Increase awareness of **ecological risks** to local safety, health, homes & properties.
- 2) Increase awareness of **threats, connectedness, and solutions** for thriving watersheds.
- 3) Improve knowledge of **critical water- and fire-shed concepts**.
- 4) Increase knowledge of **new restoration management research and strategies** & current local projects.

EMPOWER RELATIONSHIPS, ENGAGEMENT & BEHAVIOR CHANGE



- 1) Increase engagement in **monitoring and activities** to improve watersheds.
- 2) Increase implementation of **risk reduction and climate change adaptive strategies**.
- 3) Involve **more local engagement** in community dialogue, decision making, and leadership for short and long-term adaptive and resilient strategies.
- 4) Increase **stewardship while recreating and using** resources within the watershed.
- 5) Create **valued, trusted relationships, and networks** with BWC and others across jurisdictional boundaries in Boulder Creek Watershed.

IMPACT SYSTEMS & CULTURE CHANGE



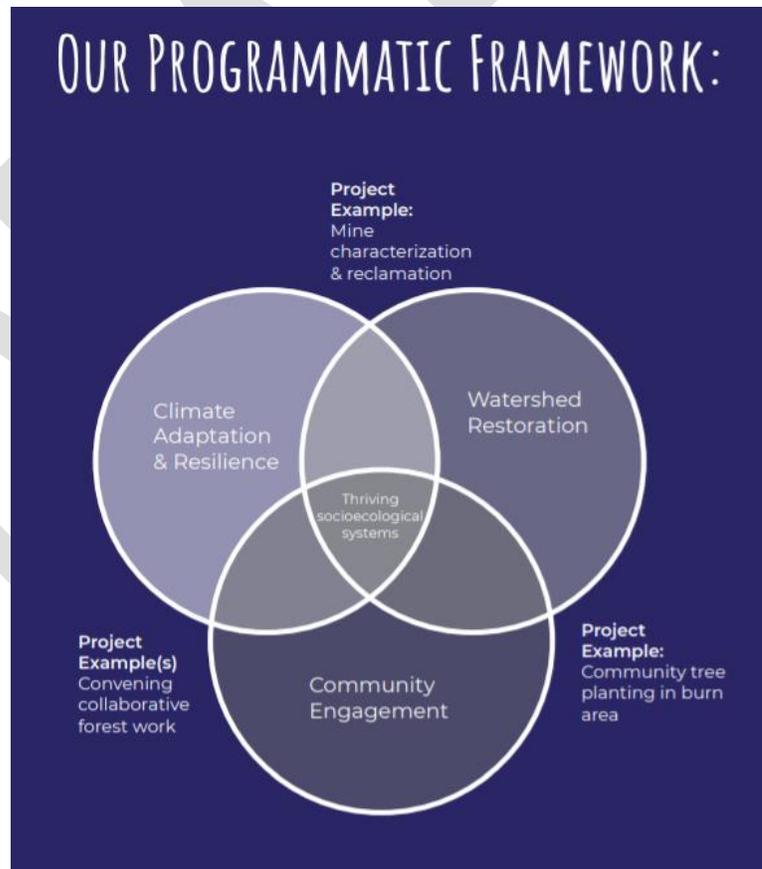
- 1) Better understand the **public's values, resource needs, barriers to engagement and support** to influence policy, engagement, restoration and monitoring projects.
- 2) Increase **support for restoration projects** that improve watershed health and reduce risks.
- 3) Work with a full representation of the public to **collectively envision and enact what a healthy, future watershed will be**.

Projects & Strategies

Our innovative **projects and strategies** are key to how we accomplish our community engagement program goals. These are our day to day relationships we build, one-time events we host, and long term initiatives we envision with stakeholders. While we hope to achieve one or more key program goals in each project we take on, we also have a deep passion for bringing people together in authentic ways that connect the social, ecological, artistic and spiritual together. Therefore, when we are able, we hope to learn about watershed and community health by joining the benefits of art with community experiences and environmental justice.

Community engagement is also a key component of many of our projects across all of BWC's program areas, demonstrated in the following framework (Image 4). Specifically, across the '**Watershed Restoration**' program, the community engagement plan will include strategies and projects that 1) support local residents learning about and giving voice to where and how restoration projects may occur, 2) provide opportunities to involve community scientists and volunteer stewards in restoration efforts and monitoring (e.g. tree planters in burn areas), and 3) emphasize sharing results of monitoring and restoration projects with the local communities and the general public. Across the '**Climate Adaptation & Resiliency**' program, the community engagement plan emphasizes projects and strategies that 1) support our team in learning about local actions to adapt to climate change, and that 2) increase the scale of these efforts to impact culture and systems change (e.g. Community Conversations).

Image 4. BWC's Programs



We aim to capture and structure all of our projects and strategies in a living document. As our projects grow and adapt, the [following list](#) will be amended every 3-6 months to reflect the specific projects and strategies we create or hope to pursue (tab 1) across: 1) program goals, 2) key audience, 3) project assessment, 4) timeframe, and 5) intersection with other BWC programs. This fluid document will also contain the best ways for BWC to communicate with each focal audience based on their preferences (tab 2).

Measurable Outcomes

Our **measurable outcomes** are the persistent understanding of if and how we are accomplishing both our larger community engagement program goals, and those more specific to each project. In many cases, we hope to integrate assessment directly into the project itself (e.g. documenting authentic community conversations and summarizing resource gaps, K-12th grade activities to engage students that also formatively assess learning). We aim to capture a mix of quantitative measures (e.g. number of attendees, short survey responses), and qualitative information (e.g. documentation of community conversations, interviews). In some cases, we may use a mixed-method approach where quantitative measures provide breadth on a topic, and qualitative measures provide depth.

Especially important to our team is measuring project success from inclusive, representative assessment processes. We will continue to keep a keen eye on who was represented in each assessment and who was missing from that focal audience. In an important feedback loop, this will largely inform how we approach project assessment the next time, as [we ask key questions](#) like, *What are we doing to be more inclusive in our practices and in our assessment? What specific populations are we working with on this project? Who do we want to impact and how do we want to impact them?* In all instances, we hope to include subject matter experts and advocates from focal communities in identifying how we hope to impact and learn from those watershed stakeholders, what key things we hope to achieve with this initiative, and how we will measure success.

4. Engagement Process with Focal Audiences

Overview of Engagement Process

While our engagement *framework* helps us internally organize intention and assessment around every community engagement opportunity we create or collaborate on, we recognize more and more that engaging with communities requires common *processes*. For instance, it requires we have a more intimate baseline understanding of the community itself, informed by the lived experiences of those in the community (e.g. understanding the multifaceted factors that influence decision making and forest management support). It also requires community initiatives that are responsive and co-created by community stakeholders themselves. Therefore, the big question our team and graduate student collaborators have iteratively been working to answer is: *“What is a replicable but adaptable engagement process that BWC can use to create and maintain trusted relationships with new focal audiences that empowers community leadership toward watershed health and climate adaptation?”*

The following process is a replicable but adaptable engagement model that BWC can use with new focal audiences that empowers climate adapted and resilient communities from household to landscape scales. The precise process will be illuminated by local stakeholder input in a dynamic fashion. Depending on the focal audience, not all process phases will be relevant and can be rearranged as needed. This flexible model integrates BWC’s program goals, strategies and measurable outcomes throughout. This is a starting place for BWC to engage with new stakeholders of each [focal audience](#) to

ensure we build off of their strategies and are responsive to the needs and interests of the community; a process informed from the 2021 MENV Capstone project in Gold Hill.

Image 4. Engagement Process - Adaptable Model for Engaging with Each Focal Audience



Description of Process Phases

Phase 1: Find Initial Project - Identification of initial projects by first identifying our own program goals of interest internally and with key advocates and stakeholders from the community (iterative process with Phase 2). This localizes any potential projects in the spaces where our communities live, work or recreate. Key difference between Phase 1 and Phase 4 is that this phase is more BWC initiated and directed. Examples of initial projects: 1) forest restoration project on private land nearby, 2) public take-a-hikes, 3) one-day lesson plan in K-12th grade classroom.

Phase 2: Get to Know Community - this includes...

- 1. Identify full sweep of stakeholders** - those already established community groups (e.g. Fire District volunteers, school boards, teachers, other trusted nonprofits and businesses, town meeting members); attend meetings/engage with those members and/or get introduced by common allies. Fire Department involvement is very important → leverage those relationships (they know someone, who knows someone). With this group, identify project areas/communities with them (with eye on inclusive practices & assessment), our program goals, their goals, in which ways do they want to get to know their communities' perspectives more, how they suggest we do this, or start brainstorming projects and strategies -- use initial snowball strategy to find others who might be interested in being an advocate (identify local experts on program goals of interest like forestry, water sciences, educator). Build relationships with local leaders who believe in BWC's work and are willing to amplify BWC's messages by sharing them with their communities. Helps create a decentralized network of channels to disseminate information and engage diverse communities. Develop a joint program board of representatives from local organizations who receive updates on the program, generate ideas, solve problems, and connect BWC with their communities.
- 2. Host Initial Meeting/Lesson Plan/Community Outreach or Marketing about the Initial Project** - This can be introductory meeting to introduce to the project and the people they need to trust. Sharing what agencies do and do not know at this point and more modern science around practices. Find ways to have more Informal interactions cannot be underestimated
- 3. Gather Baseline Understanding of the multifaceted and localized factors influencing program goals** - important to identify specific questions we want to answer that fit program goals we hope to achieve (e.g. values, beliefs, norms, historical context etc.). Engage key stakeholders in ways to understand community more: historic/census/literature review, social science methods, tie into existing programs? Get an initial understanding of their ideas, values, and end-goals (e.g. is there more information needed on community drivers/barriers & community dynamics?). Give them an initial survey on: types of education they are exposed to and future ideas for community engagement. Find what is locally important & who do folks listen to on that topic. Share this information with advocates to help us interpret the story and what to share with community at a community conversation (Phase 3).

Phase 3: Host Community Conversation - Whether this would be visioning, understanding more collective gaps in resources, strengths, assets, and next steps they aim for → we document these challenges and use understanding community to help jump start this conversation (used as focus group information). Hosted by BWC but core locally driven and for their own purposes (what resources do they have, what do they need...). then open it up to community (get them involved as a focus group on the

who, what, when, where and why of large scale projects). Identify resources needed & resources that exist with these stakeholders and envision end state of our efforts. Understanding the barriers and sources of tension for who, when, where and why these forest projects occur.

Phase 4: Co-create Next Strategies - this includes...

1. **Synthesize Community Conversations & Evidence from Baseline Data to Support Next Steps** - use the patterns found across getting to know the community and community conversation to recommend more specific next outreach initiatives.

2. **Collaborate with Community Stakeholders to Create Next Strategies:** Work directly with new (and hopefully expanded) group of stakeholders on what comes next from evidence from community. Revisit which BWC internal program goals we hope to amplify in these future projects/strategies and how we can integrate assessment into the community-driven strategies. The following three steps are ultimately different forms of information exchange; this step is where the information is all put together to come up with specific plans for projects. involve community initiatives that are responsive and co-created by community stakeholders. and include events targeted to and co-created with community members (their ideas). This could include, but not limited to 1) Informing/Training: Providing relevant stakeholders with objective information based on the best science and help them in understanding documents and other relevant data that factor into any given decision. This includes doing any initial workshops or training for these key stakeholder groups to learn common language and key messages, like the Ambassador Program, or training instructors on a larger watershed unit. and/or 2) Watershed Restoration Community Volunteering: hosting volunteer events, community science, monitoring events.

Phase 5: Implement & Evaluate New Strategies - Implementing the strategy involves testing the interventions and then putting the plan into action in the community. Implementation occurs when the intervention strategy is put in place and the implementation plan schedules are followed. Communication needs to be frequent and consistent. Evaluating Impact: Based on the metrics we defined for each main program goal and project, and to demonstrate that the efforts are reaching target populations, and have the planned impact. Sharing Field Results: As part of intersection with Watershed Restoration Program, will have deliberate ways to share monitoring and restoration results with the local communities and general public, especially if community members were integral in collecting information or helped with restoration efforts in the field.