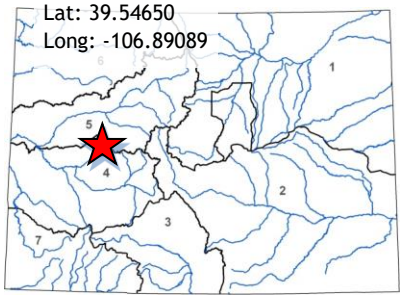
COLORADO
Colorado Water Conservation Board

Engaging Agriculture in Headwaters Restoration
American Rivers

Water Plan Grant Application

September 2021 Board Meeting



L O C A T I O N
County/Counties: All West Slope Counties
Drainage Basin: Colorado and Tributaries

D E T A I L S	
Total Project Cost:	$94,800
Water Plan Grant Request:	$68,800
Other CWCB Funding:	$0
Other Funding Amount:	$14,000
Applicant Match:	$12,000
Project Type(s):	Study
Project Category(Categories):	Agricultural
Measurable Result:	Will lead to demonstration projects that will restore headwater streams and wetlands

Since the 2015 Colorado Water Plan, there have been numerous reports on the need to restore and maintain watershed health. These reports indicate that there is potential for utilizing floodplains and wetlands to buffer extreme weather events and improve water supply reliability. Floodplain and wetland restoration demonstration projects and long-term monitoring are needed to design best practice approaches and predict outcomes.

American Rivers intends to use this grant to complete three tasks. 1) research "state of the science" of process-based restoration (PBR) hydrologic effects in western states and gather information on the most relevant PBR demonstration projects to illustrate the benefits of PBR to agriculture; 2) prepare an outreach & communication plan about PBR benefits and identify agriculture stakeholders to reach out to; and 3) through the outreach, identify three strategic locations for PBR demonstration projects on ranches and/or public lands leased by ranches that would be constructed in a Phase II.

This project furthers several Colorado Water Plan critical action goals relating to agriculture and the environment, including encouraging forest and riparian corridor restoration efforts, which help protect, restore, and sustain water quality and quantity. Strategic headwaters restoration will also help enhance resiliency to climate change impacts such as drought and flooding, by maintaining and restoring watershed health. Restoration efforts have also shown potential benefits to the agricultural community including addressing upstream sedimentation, which can reduce the capacity of reservoirs and affect irrigation operations. The project also supports collaboration, bringing a diverse group of stakeholders together to leverage public dollars. Project partners include the Healthy Headwaters Working Group and Colorado State University. By supporting research into carbon sequestration co-benefits, the project will also help further Colorado's recent commitments to reduce greenhouse gas pollution and mitigate climate change while enhancing overall resiliency.

Funding Recommendation:
Staff recommends Board approval of $68,800 to American Rivers for the Engaging West Slope Agriculture in Headwaters Restoration to Improve Water Security – Outreach and Assessment Strategies Project.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Last Updated: July 2019

Colorado Water Conservation Board

Water Plan Grant Application

Instructions

To receive funding for a Water Plan Grant, applicant must demonstrate how the project, activity, or process (collectively referred to as "project") funded by the CWCB will help meet the measurable objectives and critical actions in the Water Plan. Grant guidelines are available on the CWCB website.

If you have questions, please contact CWCB at (303) 866-3441 or email the following staff to assist you with applications in the following areas:

Water Storage Projects	Anna.Mauss@state.co.us
Conservation, Land Use Planning	Kevin.Reidy@state.co.us
Engagement & Innovation Activities	Ben.Wade@state.co.us
Agricultural Projects	Alexander.Funk@state.co.us
Environmental & Recreation Projects	Chris.Sturm@state.co.us

FINAL SUBMISSION: Submit all application materials in one email to *waterplan.grants@state.co.us*
in the original file formats [Application (word); Statement of Work (word); Budget/Schedule (excel)]. Please do not combine documents. In the subject line, please include the funding category and name of the project.

Water Project Summary

Name of Applicant	American Rivers
Name of Water Project	Engaging West Slope Agriculture in Headwaters Restoration to Improve Water Security – Outreach & Assessment Strategies

CWP Grant Request Amount	$68,800
Other Funding Sources -Trout Unlimited and Audubon	$14,000
Other Funding Sources _____	$
Other Funding Sources _____	$
Applicant Funding Contribution	$12,000
Total Project Cost	$94,800

Applicant & Grantee Information

Name of Grantee(s) American Rivers

Last Updated: July 2019

Mailing Address 1101 14th St NW Suite 1400 Washington, DC 20005
FEIN
Organization Contact Fay Hartman
Position/Title Conservation Director, Colorado River Basin
Email fhartman@americanrivers.org
Phone 616-990-0049
Grant Management Contact. Same as above
Position/Title
Email
Phone
Name of Applicant. Same as above (if different than grantee)
Mailing Address
Position/Title
Email
Phone

Description of Grantee/Applicant

Provide a brief description of the grantee's organization (100 words or less).

Since 1973, American Rivers (AR) has protected and restored damaged rivers for people and nature. As a national organization, AR is well-positioned to scale up local and regional efforts to protect and restore rivers in Colorado. Our vision for Colorado is a state with vibrant resilient river ecosystems that support communities, recreation, sustainable agriculture, and reliable clean water supplies. We have led conservation efforts and worked with hydropower, municipal, agriculture, and other stakeholders to improve the health of rivers, supporting private land conservation, and advancing agricultural practices and policies that preserve flows and riparian habitats.

In 2020, AR hired Jackie Corday of Corday Natural Resources Consulting to continue the effort she began while head of Colorado Parks and Wildlife's Water Resources Section of bringing together numerous organizations, agencies, academics, and restoration practitioners to collaborate on headwaters restoration. Jackie and Fay Hartman of AR co-lead the new group that formed - the Colorado Healthy Headwaters Working Group (HHWG). HHWG has two subcommittees (Policy and Science) to carry out tasks that will help implement the overall goal of increasing the pace of headwaters restoration. Jackie and members of HHWG will assist AR in carrying out the work of this grant if awarded.

Type of Eligible Entity (check one)

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	Public (Government): Municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
	Public (Districts): Authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises.
	Private Incorporated: Mutual ditch companies, homeowners associations, corporations.
	Private Individuals, Partnerships, and Sole Proprietors: Private parties may be eligible for funding.
X	**Non-governmental organizations (NGO):** Organization that is not part of the government and is non-profit in nature.
	Covered Entity: As defined in Section 37-60-126 Colorado Revised Statutes.

Type of Water Project (check all that apply)	
X	Study
	Construction
	Identified Projects and Processes (IPP)
X	Other

Category of Water Project (check the primary category that applies and include relevant tasks)		
	Water Storage - 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. *Applicable Exhibit A Task(s):*	
	Conservation and Land Use Planning - Activities and projects that implement long-term strategies for conservation, land use, and drought planning. *Applicable Exhibit A Task(s):*	
	Engagement & Innovation - Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website. *Applicable Exhibit A Task(s):*	
X	Agricultural - Projects that provide technical assistance and improve agricultural efficiency. *Applicable Exhibit A Task(s):* 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.	
	Environmental & Recreation - Projects that promote watershed health, environmental health, and recreation. *Applicable Exhibit A Task(s):*	
	Other	Explain:

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Location of Water Project

Please provide the general county and coordinates of the proposed project below in **decimal degrees**.
The Applicant shall also provide, in Exhibit C, a site map if applicable.

County/Counties	Western Slope of Colorado - the Rio Grande, Gunnison, Yampa, Lower Colorado, and San Juan/Dolores Basins
Latitude	
Longitude	

Water Project Overview

Please provide a summary of the proposed water project (200 words or less). Include a description of the project and what the CWP Grant funding will be used for specifically (e.g., studies, permitting process, construction). Provide a description of the water supply source to be utilized or the water body affected by the project, where applicable. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, and area of habitat improvements, where applicable. If this project addresses multiple purposes or spans multiple basins, please explain.
The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, Other Funding Sources/Amounts and Schedule.

Since the 2015 CWP, there have been numerous reports on the need to restore and maintain watershed health to protect water security as temperatures continue to rise and snowpack decreases. Reports indicate there is unrealized potential for utilizing natural systems (floodplains and wetlands) as solutions to buffering extreme weather events and improving water supply reliability for all users. Floodplain and wetland restoration demonstration projects and associated long-term monitoring to assess hydrologic effects are needed to best design project approaches and predict outcomes. Public lands and working ranches located in headwater areas are critical to scaling up such work across Colorado.

We propose three tasks to help engage agriculture stakeholders to facilitate scaling up floodplain and wetland headwater restoration: 1) research “state of the science” of process-based restoration (PBR) hydrologic effects in western states and gather information on the most relevant PBR demonstration projects to illustrate the benefits of PBR to agriculture; 2) prepare an outreach & communication plan about PBR benefits and identify agriculture stakeholders to reach out to; and 3) through the outreach, identify three strategic locations for PBR demonstration projects on ranches and/or public lands leased by ranches that would be constructed in a subsequent grant, Phase II.

Measurable Results

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To catalog measurable results achieved with the CWP Grant funds, please provide any of the following values as applicable:		
	New Storage Created (acre-feet)	
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive	
	Existing Storage Preserved or Enhanced (acre-feet)	
	Length of Stream Restored or Protected (linear feet)	
	Efficiency Savings (indicate acre-feet/year OR dollars/year)	
	Area of Restored or Preserved Habitat (acres)	
	Quantity of Water Shared through Alternative Transfer Mechanisms	
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning	
	Number of Coloradans Impacted by Engagement Activity	
X	Other	Explain: This grant work, Phase I, will lead to demonstration projects that will restore headwater streams and wetlands in Phase II.

Water Project Justification

Provide a description of how this water project supports the goals of Colorado's Water Plan, the most recent Statewide Water Supply Initiative, and the applicable Roundtable Basin Implementation Plan and Education Action Plan. The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g., document, chapters, sections, or page numbers).

The proposed water project shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan Framework for State of Colorado Support for a Water Project (CWP, Section 9.4, pp. 9-43 to 9-44;)

Colorado's Water Plan (CWP) discusses the importance of healthy watersheds and notes that **about 80% of Colorado's drinking water comes from forested watersheds**.

In chapter 7 of the CWP, Watershed Health and Management, it states that "Forests and riparian corridors provide ecosystem services for watersheds that help protect, restore, and sustain *water quality and quantity*. Healthy, forested watersheds absorb rainfall and snowmelt and allow it to runoff slowly, *recharge aquifers, sustain streamflows, and filter pollutants*," page 7-4 (emphasis added). The CWP addresses the need to adapt to predicted climate change impacts (increases in droughts, wildfires, variable snowpack, and more severe floods), by maintaining and restoring watershed health.

Chapter 7 also covers water quality and notes that "Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address them conjunctively." Thus, the plan "**encourages the BRTs to actively incorporate water quality into decision-making processes for consumptive, recreational, and environmental projects,**" page 7-23 (emphasis added). Restoring headwater floodplains and adjacent wetlands is one of the best proactive ways to address both water quality and water supply, while improving recreation and habitat for aquatic and terrestrial species. It also directly addresses the CWP goal of "support the development of multipurpose projects and methods that benefit environmental and recreational water needs as well as water needs for communities or agriculture" by improving water quality delivered to municipal systems and reducing sedimentation of reservoirs and headgates, page 6-157.

Some Basin Roundtable Environmental and Recreation (E&R) projects focus on restoring particular river segments in their communities, but thus far the approach has been primarily to increase in-channel habitat complexity with placement of in-stream logs and boulders and may include stabilizing a re-graded channel and planting riparian vegetation. These types of projects can address typical E&R goals of improving fish habitat and

fishing recreation. This grant proposal will develop talking points that resonate with the agricultural community on why they should consider PBR projects that are designed to restore natural river *processes* (hydrology, sediment routing, nutrient cycling) by **reconnecting incised degraded streams with their floodplains and adjacent wetlands** (if historically present) so that more frequent inundation of the floodplain occurs. Many studies in the past decade are showing that this type of restoration approach results in restoring natural ecological and hydrological stream processes that provide benefits beyond traditional restoration methods, including improving water quality by capturing and filtering sediments and other pollutants and recharging the groundwater to allow for longer streams flows in summer months.

PBR first analyzes what caused the degradation to determine if that can be addressed (maybe it was unmanaged grazing, mining, logging, numerous road crossings with undersized culverts, the removal of beavers). Projects are then carefully designed and located to restore the historic width of the floodplain to allow riparian vegetation to be naturally hydrated. A sub-set of PBR is called low-tech PBR, or LTPBR, which typically involves constructing from natural materials (woody debris, willows, cobble, native sod) temporary porous structures that mimic beaver dams by attenuating the flow, capturing sediment, so that the process of reconnecting the stream to its former floodplain begins. It is about 10X less costly than form-based hard engineering approaches (about $50,000 to $100,000/mile). Scaling up this type of project in Colorado's source watersheds can improve our long-term water security in the face of increasing hydrologic variability.

In chapters 5 and 6, the CWP acknowledges the challenges of relying on reservoirs for our water supplies in the face of climate change. Studies have documented the massive loss of water due to evaporation. Reservoir Evaporation in the Western US From the Western State evaporation report (page 69) "the two reservoirs' evaporation [Powell & Mead] totals roughly 1,400,000,000 m3 (1,400,000,000,000 L) of water annually. This represents about 15% of the annual upper basin allocation of water resources among the Colorado River basin states . . . "As massive as these figures are, they are likely very conservative: "Reservoir evaporation estimates as used in basin system modeling have been based on decades-old data that does not reflect current climate conditions."

In the Executive Summary of the Colorado River basin Climate & Hydrology report (page 13), it discusses that restoring floodplains and wetlands in our source watersheds is a way to naturally store water without huge evaporation loss, but demonstration projects are needed to better understand the natural storage potential of our headwater floodplains, wetlands, and wet meadows. This grant will facilitate identifying West Slope PBR locations to do this important research that will help inform how and where to utilize this tool to improve water security while also restoring critical habitat for numerous species.

Colorado's Statewide Education Action Plan (SWEAP) has a 2025 impact goal that identifies Coloradans will be "engaged in well-informed community discourse and decision-making regarding balanced water solutions…" page 11. The deliverables in this grant proposal are focused on researching, compiling, and distributing information that will help decision makers in the agricultural community and beyond understand the benefits and opportunities of headwater restoration for agriculture in Colorado. This deliverable specifically contributes to SWEAP's impact goal as well as its guiding principles, outcomes, and associated strategies. The scope of work outlined in this grant meets SWEAP's guiding principle of "Supporting of the Colorado Water Plan Vision," page 13. As described in the paragraphs above, restoring headwater floodplains and adjacent wetlands is one of the best proactive ways to address both water quality and water supply while improving recreation and habitat for aquatic and terrestrial species, key components of the CWP.

Additionally, SWEAP has a guiding principle of "Achieved with strong partnerships and collaboration," page 13. One of the main goals of this grant is to build new and nurture existing relationships and partnerships with the agricultural community as it relates to headwater restoration. Many of the tasks identified in this scope of work require outreach and engagement with many different partners across Colorado – including those in the agricultural, academic, nonprofit, and governmental sectors, among others. We believe the scope of work and identified tasks will help build trust, share information, and foster collaboration among many different stakeholders – particularly agricultural entities.

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Related Studies

Please provide a list of any related studies, including if the water project is complementary to or assists in the implementation of other CWCB programs.

The proposed scope of work would greatly compliment several other CWCB funded projects, including:

1) **Colorado Open Lands (COL) 2018 grant**, "Watershed Analysis of Beaver Restoration Potential in Park County," indicated it would "analyze watershed-scale beaver restoration potential in Park County. The proposed approach will serve as a model for similar efforts across the state." The proposed creation of "a decision-support framework that highlights beaver restoration opportunities and potential conflicts" could help with West Slope PBR demonstration projects. COL and their grant partners, EcoMetrics and CNHP, are members of HHWG. We will reach out to them during the project to understand if their research can provide useful information for our project.
2) **Colorado Cattlemen's Association 2019 grant,** "Agriculture Watershed and Stream Management Planning Outreach & Technical Assistance," allows Cattlemen's to develop and present outreach presentations to agricultural producers around the state on the purpose and benefits of Stream Management and Watershed Management Plans. We will reach out to them during the development of the outreach & communication plan to understand if their research can provide useful information for our project.

3) **Colorado Natural Heritage Program (CNHP) 2020 EPA grant.** CNHP received a major EPA 3-year grant in 2020 that CWCB supported called **Wetland Restoration Prioritization for Resilient Colorado Headwaters.** This grant focuses on prioritizing headwater riparian restoration and protection efforts to meet future habitat, water quality, and water quantity needs downstream." AR supported this proposal with a $10,000 match to cover AR's time and contribution to supporting work in this grant related to PBR.

Previous CWCB Grants, Loans or Other Funding

List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order; 6) Percentage of other CWCB funding for your overall project.

None

Taxpayer Bill of Rights

The Taxpayer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect your application.

None

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Submittal Checklist	
	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract.
Exhibit A	
X	Statement of Work(1)
X	Budget & Schedule(1)
	Engineer's statement of probable cost (projects over $100,000)
X	Letters of Matching and/or Pending 3rd Party Commitments(1)
Exhibit C	
	Map (if applicable)(1)
	Photos/Drawings/Reports
	Letters of Support (Optional)
	Certificate of Insurance (General, Auto, & Workers' Comp.) (2)
	Certificate of Good Standing with Colorado Secretary of State(2)
	W-9(2)
	Independent Contractor Form(2) (If applicant is individual, not company/organization)
Engagement & Innovation Grant Applicants ONLY	
	Engagement & Innovation Supplemental Application(1)

(1) Required with application.
(2) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

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Colorado Water Conservation Board
Water Plan Grant - Exhibit A

Statement Of Work	
Date:	**July 1, 2021**
Name of Grantee:	**American Rivers**
Name of Water Project:	Engaging West Slope Agriculture in Headwaters Restoration to Improve Water Security – Outreach & Assessment Strategies
Funding Source:	**CO water plan grant – agriculture track**

Water Project Overview:

Educate and inform West Slope water users about low-tech process-based restoration (LTPBR) and the benefits for agriculture, water security, the environment, and climate resiliency.

- **Research the "state of the science" for LTPBR –** gather the most relevant published and unpublished research on the ecosystem services benefits of LTPBR, particularly the hydrologic effects that many sources have touted, such as improved water quality, attenuation that leads to longer or greater stream flows in the summer months, groundwater recharge and improved resiliency to extreme events like wildfires, droughts and floods. Also, increased forage for livestock and wildlife is another dual benefit that has been reported. This will be described in a memo.
- **Research the best LTPBR demonstration projects that can serve as initial case studies** – identify the most applicable LTPBR case studies in Colorado and other western states to assist in developing an outreach plan that will include presentations and field trips to demonstration projects with agricultural stakeholders and other water users. This information will be described in the "state of the science" memo.
- **Develop Outreach/communication Plan and tools to assist with engaging water users –** Develop key messages/talking points to educate water users, water managers, and agricultural stakeholders about LTPBR through many conversations and workshops with stakeholders and practitioners who work with or are part of agricultural communities. This would likely include talking points for a few different audiences and communications that can be used for PowerPoints, educational materials, field trips to existing LTPBR projects, and possibly videos and/or a storyboard.
- **Understand and identify challenges and barriers with LTPBR implementation and monitoring –** Challenges and barriers will be identified through conversations, discussions, and reports from the agriculture community and will be described in the outreach plan.
- **Host field trips/presentations across the West Slope –** AR and our grant partners, Trout Unlimited and Audubon, will hold outreach events with the agricultural community and water management entities such as ditch and reservoir companies, water conservancy/conservation districts, watershed organizations, conservation districts as well as other interested water stakeholders as a part of the implementation of the outreach plan.
- **Identify three strategic West Slope locations for LTPBR demonstration projects** –Our outreach will lead to the identification of 3 strategic LTPBR demonstration locations on working ranches and/or public lands leased by ranches. Potential demonstration projects would be constructed in a subsequent grant, Phase II and would be designed to gather baseline information on the current ecological and hydrological conditions with at least 3 years post-project monitoring and site visitations from stakeholders being agreed upon by the landowner.

Project Objectives:

Educate and inform agricultural entities and Colorado water users about LTPBR and the benefits for agriculture, water security, the environment and climate resiliency. Through our outreach, identify three strategic West Slope locations for LTPBR demonstration projects on ranches and/or public lands leased by ranches that would be constructed in a subsequent grant, Phase II. The ultimate goal of this outreach and the demonstration projects is to further the acceptance and implementation of LTPBR as a highly effective and scalable method for increasing the pace of headwaters restoration for all the multiple ecosystem services benefits that are obtained from healthy watersheds.

Tasks
Task 1 – Researching the State of the Science for LTPBR
Description of Task:
Research the "state of the science" for LTPBR. This task includes gathering the most relevant published and unpublished research on the ecosystem services benefits of LTPBR, particularly on the hydrologic effects that many sources have touted, such as improved water quality, attenuation that leads to longer or greater stream flows in the summer months, groundwater recharge and increased resiliency against extreme events including wildfires, droughts and floods. We will also look into increased forage for livestock and wildlife as this is another dual benefit that has been reported. Recent conversations with organizations that work with the agricultural community indicate this will be an important foundational step for this grant. We anticipate this being of interest to landowners who want to learn more about the latest innovative ways to improve their water security.
Method/Procedure:
Through online research and many conversations with academic, agency, and practitioner scientists, we will answer the following questions and draft a memo that will inform our messaging/outreach work as well as conversations with practitioners, academics, private landowners and agriculture: - What is LTPBR headwater restoration? - What are the ecosystem services benefits for agriculture? - What are the typical effects/impacts of PBR-type restoration, including hydrologic, ecologic and social? - What is the best available science - published and unpublished that will help tell the story of why PBR is such an important strategy for water security/climate change/improving habitat?
Deliverable: Prepare a memo answering the above questions

Tasks
Task 2 – Assess current LTPBR headwater restoration work happening on the ground
Description of Task: Research the best LTPBR demonstration projects that can serve as initial case studies for our outreach to the agricultural community. This will include a search of the most applicable LTPBR case studies in Colorado and other western states. These case studies will be utilized in developing the outreach plan and for demonstration field trips with key ag stakeholders. It will also help us gather critical background information and on the ground examples about successes/challenges and barriers to implementation. Finally, it will help to develop a "state of the science and practice" of PBR in the western states and Colorado in particular.

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Tasks
Method/Procedure:
- Identify existing case studies/research to highlight and tell the story of headwater restoration through online research and by hosting a series of discussions with practitioners, academics, private landowners, agricultural interests and others to learn more about work on the ground, science, monitoring, etc. - Identify if any ecosystem services monitoring data has been collected. - Identify challenges/barriers project proponents face which could include permitting, water rights issues, funding/match, capacity, technical training, additional education, etc. - Identify best practices/lessons learned for communicating about LTPBR with landowners and choosing successful locations, designs, and partners.
Deliverable: This case study information will be included in the "state of the science" memo that describes the current science (what currently exists, what is in development, and what needs to happen), barriers and challenges around project implementation, lessons learned from interviews with project leads, and highlight opportunities for how CO can develop practices to address the challenges and barriers to project implementation.

Tasks
Task 3 – Develop an outreach & communications plan – including key messages and communication tools
Description of Task:
This task will build on information gathered for Tasks 1 and 2. Based on our conversations with practitioners, landowners, agricultural interests, academics, etc., we will develop key messages that help explain the benefits of LTPBR and educate different types of water stakeholders about the importance of LTPBR to improve their water security. There will be a specific focus on developing messages that engage and address concerns with private landowners and agricultural interests. This task also includes developing communication tools – including but not limited to factsheets and presentations to help with community education, outreach and engagement. We will assess the effectiveness of different methods of communication and implement the methods that work best in different situations/stakeholders. Communication tools we are considering include PowerPoint presentations, written materials, news articles, field trips, events, videos and a storyboard. Finally, this task will include at least 2 field trips and presentations with agricultural interests and other water users/managers to highlight LTPBR successes across the state and educate water users/managers about the benefits of these projects to all water users.
Method/Procedure:
We will undertake the following tasks to develop and implement communications and outreach plan that will be used to help engage/educate Colorado water users about LTPBR: - Identify and collect existing communication materials and resources that were developed and are being used by NGO, state, federal partners about LTPBR work. This will be focused on stream and wetland restoration projects utilizing beaver mimicry structures, beaver re-introduction to areas they formerly habituated, and livestock fencing strategies for riparian areas. - Host a series of discussions with practitioners, academics and other stakeholders to determine what talking points work well for different audiences and best practices to engage with agricultural and water user/manager stakeholders. - Based on conversations, recommendations from experts, and existing communication materials about LTPBR, develop a communications and outreach plan for educating and engaging water users – particularly the agricultural community – with LTPBR. The plan will include the development of talking

Tasks
points and other communication tools to assist in educating water and other stakeholders about headwater restoration via LTPBR methods. - Determine key audiences in Western Colorado (including but not limited to agricultural interests, federal/state agencies, practitioners and private landowners) to engage with the goal of gaining greater acceptance of LTPBR and identifying key locations for LTPBR demonstration projects. - Develop a "presentation" for engagement with key stakeholders - particularly agricultural interests, water users/managers, private landowners, federal agencies, etc. - Schedule and host at least 2 field trips and presentations in prioritized HUC 8 basins on the Western Slope that include a field trip, presentations from "experts" in this area, and potentially a rancher from another state that has utilized LTPBR on their property.
Deliverable: - Outreach & Communications Plan that includes key messages, audiences, and communication tools and strategies. - Presentation developed for discussing the benefits of LTPBR for key agriculture and water stakeholders - Hosting at least 2 field trips and presentations

Tasks
Task 4 – Determining sites for potential demonstration projects
Description of Task: Identify locations for three West Slope LTPBR demonstration projects
Through the numerous conversations we have to develop the outreach plan and the implementation of the plan, we hope to identify 3 strategic LTPBR demonstration project locations on working ranches, public lands leased by ranches, or on public or private land located above built water infrastructure such as reservoirs, that would be constructed in a subsequent grant, Phase II. The location of the demonstration project sites will be chosen based upon many factors designed to make them as successful as possible. In addition to traditional LTPBR project considerations, for these projects, we are also looking for collaboration with influential landowners or public lands grazing lessees who would allow for multiple future on-site project field trips (to illustrate the multiple benefits of LTPBR projects) and are influential in the agricultural/water community. We hope their engagement in a demonstration project will help influence those in the agricultural community and assist with LTPBR gaining acceptance with their neighbors, colleagues and other agricultural stakeholders that could lead to more such restoration work taking place.
Method/Procedure: We will undertake the following tasks to develop three LTPBR project locations: - In consultation with experts (including academics, practitioners and others) identify important criteria for LTPBR projects on working landscapes and/or lands above water infrastructure such as reservoirs. Use this information to develop a prioritization matrix for selecting additional LTPBR demonstration projects in Colorado. - During the conversations and workshops with experts working with the agricultural communities, use their experience and guidance to identify potential ranch landowners who are already or could be interested in trying LTPBR methods to increase water benefits on their land or leased public lands. - Prioritize a review of existing restoration efforts and the potential to build on existing efforts and ensure that it fits in with existing plans such as stream management plans if there are any in the area.

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Tasks
- During the outreach work to engage with ag stakeholders, the opportunities for demonstration project locations will be further identified and/or confirmed. The list of best locations will be refined through conversations with our grant partners, HHWG members, and other key stakeholders.
Deliverable: Short memo describing 1) the three identified locations for LTPBR projects that can be implemented with future Phase II funding and 2) a prioritization matrix for selecting additional LTPBR demonstration projects in Colorado. Memo will address why sites were chosen, who would be involved (landowner, project partners, potential funding partners), the type of LTPBR method that should be utilized, the expected outcomes/benefits if successfully implemented, and the hoped for sphere of influence for further LTPBR projects.

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.

Last Updated: July 2019

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 CWCB in hard copy and electronic format 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 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.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Water Plan Grant
Budget and Schedule - Exhibit B

Prepared Date: July 1, 2021
Name of Grantee:
Name of Project: Engaging West Slope Agriculture in Headwaters Restoration to Improve Water Security – Outreach &
Project Start Date: September 2022
Project End Date: October 2022

Task No.	Task Description	Task Start Date	Task End Date	CWCB Grant Funding Request	Match Funding	Total
1	**Researching the State of the Science for LTPBR**					$32,500
	Sub-task: conversations with experts and researching science around LTPBR, communications, case studies and challenges/barriers (note this includes discussions for task 1, 2 and 3)	Oct-21	Jan-22	$15,500	$3,000	
	Sub-task: developing and writing memo (includes information from task 2 as well)	Mar-22	May-22	$7,000	$7,000	
2	**Assess current LTPBR headwater restoration work happening on the ground**					$5,000
	sub-task: identify case studies	nov 2021	jan 2022	$3,000	$2,000	
	sub task: host series of discussions with experts to identify challenges/barriers and best practices for communicating and project design (CWCB request ncluded in task 1)	oct 2021	jan 2022	see task 1		
3	**Develop a communications and outreach plan – including key messages and communication tools**					$37,000
	Sub task: identify existing comms materials	feb 2022	mar 2022	$2,000	$1,000	
	sub task: host series of discussions with experts to identify challenges/barriers and best practices for communicating and project design (CWCB request ncluded in task 1)	oct 2021	jan 2022	see task 1	see task 1	
	sub task: develop a communications and outreach plan - including identifying key audiences, talking points and communications assets to assist in telling the story	april 2022	oct 2022	$11,000	$4,000	
	sub task:host at least 2 meetings and field visits	aug 2022	oct 2022	$14,000	$5,000	
4	**Determining sites for potential demonstration projects**					$13,500
	sub task: host series of discussions with experts to identify challenges/barriers and best practices for communicating and project design (CWCB request ncluded in task 1)	oct 2021	jan 2022	see task 1		
	Sub task: Develop prioritization matrix for project identification	may 2022	july 2022	$4,500	$2,000	
	Sub task: identify potential project sites (3-4 on west slope)	july 2022	oct 2022	$5,000	$2,000	
5	Grant Administrative Costs	oct 2021	oct 2022	$6,800		$6,800
			Total	$68,800	$26,000	$94,800

Audubon | ROCKIES

215 W. Oak St, Suite 2C
Fort Collins, CO 80521

970.416.6931
rockies.audubon.org

Dear Colorado Water Conservation Board:

On behalf of Audubon Rockies and as a member of the Colorado Healthy Headwaters Working Group (HHWG), I write with enthusiastic support for American Rivers' application for the Colorado Water Conservation Board's Water Plan Grant program. If awarded, these grant funds will be used to outreach to key agriculture stakeholders on the West Slope to highlight the multiple benefits that ranchers are experiencing in Colorado and other western states with low-tech process-based restoration of stream/wetlands on their lands. Additionally, work will be done to assess opportunities to collaborate with landowners, both public and private, for headwater restoration in Colorado to demonstrate the multiple benefits of such restoration for agriculture and wildlife.

American Rivers and members of the Healthy Headwaters Working Group (HHWG), are working to amplify stream and headwater restoration projects across Colorado through policy, education, and science strategies. Organized in 2020, HHWG is a diverse working group comprised of non-profits, academics, state and federal agencies and stream restoration practitioners. The varied experiences, knowledge, and expertise of HHWG members working collaboratively together will ultimately lead towards amplifying stream restoration around Colorado at a much larger scale than what can be achieved working separately. Given American Rivers' leadership role with HHWG, they are well positioned to spearhead the development of communications and outreach materials to educate, communicate and connect with the agricultural community around headwater restoration. American Rivers will work closely with HHWG partners, particularly Trout Unlimited, the National Audubon Society, and the Colorado Natural Heritage Program to develop and implement communication and outreach materials and assess potential opportunities for headwater restoration projects.

With this grant award, American Rivers, in partnership with my organization, will undertake an assessment to understand the current playing field of process based headwater restoration in Colorado on public and private lands, establish a "state of the science" focused on supporting agricultural, ecological and social benefits, and develop communications tools that help stakeholders – particularly those in the agricultural field - understand the benefits of process based headwater restoration. By partnering with stakeholders like myself as well as private landowners, agricultural interests, and federal and state agencies, American Rivers and HHWG has the potential to enact substantial landscape-scale ecosystem change.

Audubon Rockies pledges $7,000 of in-kind contributions for this agriculture outreach effort regarding low-tech process-based restoration of stream/wetlands on agriculture lands. Audubon will collaborate with existing Audubon Conservation Ranching partners, 14 ranches with 480,252 acres across Colorado, to support success of this effort. Additionally, Audubon will hold outreach event(s) and produce

media/communications highlighting the intersection of ranching and benefits of process-based restoration of stream/wetlands on agricultural lands.

I enthusiastically support this proposal and I hope you will do the same. Thank you for your consideration.

Sincerely,

Western Rivers Regional Program Manager
Audubon Rockies

Drew Peternell, Director, Colorado Water Program

June 29, 2021

Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, Colorado 80203

Re: Healthy Headwaters Grant Application

Dear Board Members:

On behalf of Trout Unlimited, I urge you to support American Rivers' application for the Colorado Water Conservation Board's Water Plan Grant program. If awarded, American Rivers and its partners would use these grant funds conduct outreach to agriculture stakeholders on the West Slope to highlight the multiple benefits that can be achieved with low-tech, process-based restoration of streams and wetlands. Additionally, the project team would assess opportunities to collaborate with landowners, both public and private, for headwater restoration in Colorado to demonstrate the multiple benefits of such restoration for agriculture and wildlife.

In 2020, American Rivers, Trout Unlimited, and other non-profit organizations, along with academics, practitioners, and state and federal agencies came together to form the Colorado Healthy Headwaters Working Group (HHWG). The HHWG works to promote stream and headwater restoration projects across Colorado through policy, education, and science strategies. American Rivers is one of the leaders of the HHWG, and as such, the organization is well-positioned to spearhead the development of communications and outreach materials to educate, communicate and connect with the agricultural community around headwater restoration and to assess potential opportunities for headwater restoration projects. In this effort, American Rivers will work closely with other HHWG partners, including Trout Unlimited, the National Audubon Society, and the Colorado Natural Heritage Program.

More specifically, with this grant award, American Rivers and the project partners will undertake an assessment to understand the current playing field of

process based headwater restoration in Colorado on public and private lands, compile the "state of the science" focused on supporting agricultural, ecological and social benefits, and develop communications tools that help stakeholders – particularly those in the agricultural field – to understand the benefits of process based headwater restoration. With these efforts, the HHWG has the potential to enact substantial landscape-scale ecosystem change.

TU is pleased to contribute $7000 in-kind match for this grant request. We have four key staff that will participate in assisting with the various tasks under the grant, especially helping with the development and implementation of the outreach plan and assessing potential demonstration project locations.

Trout Unlimited encourages you to approve American Rivers' grant application and make a financial award in the amount requested. Thank you for your consideration.

Sincerely,

Drew Peternell

WARNER COLLEGE OF
Natural Resources
Colorado State University

Colorado Natural Heritage Program
1475 Campus Delivery
Colorado State University
Fort Collins, CO 80523-1475
PHONE: (970) 491-6891
FAX: (970) 491-3349
www.cnhp.colostate.edu

June 29, 2021

Dear Colorado Water Conservation Board:

On behalf of the Colorado Natural Heritage Program (CNHP) and as a member of the Colorado Healthy Headwaters Working Group (HHWG), I write with enthusiastic support for American Rivers' application for the Colorado Water Conservation Board's Water Plan Grant program. If awarded, these grant funds will be used for outreach to key agriculture stakeholders on the West Slope to highlight the multiple benefits that ranchers are experiencing in Colorado and other western states with low-tech, process-based stream and wetland restoration on their lands. Additionally, work will be done to assess opportunities to collaborate with public and private landowners on headwater restoration projects to demonstrate the multiple benefits of such restoration for agriculture and wildlife.

American Rivers and members of HHWG are working to advance process-based headwater riparian and wetland restoration projects across Colorado through policy, education, and science strategies. Organized in 2020, HHWG is a diverse working group comprised of non-profits, academics, state and federal agencies and stream restoration practitioners. The varied experiences, knowledge, and expertise of HHWG members working collaboratively together will ultimately amplify stream restoration around Colorado at a much larger scale than what can be achieved working separately. Given American Rivers' leadership role with HHWG, they are well positioned to spearhead the development of communications and outreach materials to educate, communicate and connect with the agricultural community around headwater restoration. American Rivers will work closely with HHWG partners, particularly Trout Unlimited, the National Audubon Society, and CNHP to develop and implement communication and outreach materials and assess potential opportunities for headwater restoration projects.

With this grant award, American Rivers, in partnership with my organization, will assess the current status of process-based headwater restoration in Colorado on public and private lands, establish a "state of the science" focused on supporting agricultural, ecological and social benefits, and develop communications tools that help stakeholders – particularly agricultural producers and ranchers - understand the benefits of process-based headwater restoration. By partnering with stakeholders like myself as well as private landowners, agricultural interests, and federal and state agencies, American Rivers and HHWG have the potential to enact substantial watershed-scale ecosystem change.

I enthusiastically support this proposal and I hope you will do the same. Thank you for your consideration.

Sincerely,

Sarah Marshall, Ph.D.
Ecohydrologist
Colorado Natural Heritage Program