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	Trout Unlimited, Inc.
Name of Water Project	Irrigation Efficiency and its Effects in Northwest Colorado

CWP Grant Request Amount	$149,999.00
Other Funding Sources (3) ranches	$87,159.76
Other Funding Sources NRCS	$66,010.00
Other Funding Sources Other (pending)	$91,805.58
Applicant Funding Contribution	$32,553.50
Total Project Cost	$427,527.84

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Applicant & Grantee Information
Name of Grantee(s) Trout Unlimited, Inc.
Mailing Address P.O. Box 771233, Steamboat Springs, CO 80477
FEIN 38-1612715
Organization Contact Brian Hodge
Position/Title Northwest Colorado Program Manager
Email bhodge@tu.org
Phone 970-846-0414
Grant Management Contact (same as above)
Position/Title
Email
Phone
Name of Applicant (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).
Trout Unlimited is the nation's largest cold-water conservation organization, with 250,000 members dedicated to conserving, protecting, and restoring North America's trout and salmon fisheries and their watersheds. Trout Unlimited has been working in Colorado since 1998 and has planned and implemented scores of successful projects over the last 21 years.

Type of Eligible Entity (check one)	
	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.
√	**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.

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Type of Water Project (check all that apply)	
√	Study
√	Construction
	Identified Projects and Processes (IPP)
	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):*	
√	Agricultural - Projects that provide technical assistance and improve agricultural efficiency. *Applicable Exhibit A Task(s):* 1. *Irrigation Efficiency Improvement on the Lower Yampa River* 2. *Irrigation Efficiency Improvement on the Lower Little Snake River* 3. *Irrigation Efficiency Improvement on a tributary to the White River* 4. *Monitoring and Outreach on Effects of Efficiency Improvement*	
	Environmental & Recreation - Projects that promote watershed health, environmental health, and recreation. *Applicable Exhibit A Task(s):*	
	Other	Explain:

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	Moffat and Rio Blanco
Latitude	40.514001
Longitude	-107.574494

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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.
Trout Unlimited and its partners propose to implement three irrigation efficiency improvement projects in northwest Colorado, and to study and report effects of these changes on both ranch operations and river. The three project sites are located on the lower Yampa, lower Little Snake, and a tributary to the White River. Trout Unlimited will work with each of the three ranches to convert one grass field from flood to sprinkler irrigation (total = 150 acres). We recently installed a soil moisture sensor network on one of the ranches that can be used to determine crop need and thus inform irrigation. To evaluate effects of efficiency improvements on ranch operations, we will compare pre- and post-project irrigation costs, soil moisture content, and crop yield. Meanwhile, to evaluate effects of efficiency on the river, we will compare pre- and post-project diversion records. We will summarize our findings in a report and offer a presentation or field tour. Overall, the projects could conserve as much as 1,200AF of water per year, increase flows through as much as 30,000 feet of stream, and improve our understanding of the effects of efficiency improvement. Grant funding will be used for project implementation costs (e.g., material, labor).

Measurable Results		
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)	
30,360 lf	Length of Stream Restored or Protected (linear feet)	
1,200 AF/year, 840 labor hours/year	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	
	Other	Explain:

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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;)
This project supports the Colorado Water Plan in numerous ways (not all of which are identified here). First, this project will work towards two of Colorado's core Water Values (Sec 1, Page 1-6): *"Efficient and effective water infrastructure promoting smart land use"* and *"A strong environment that includes healthy watersheds, rivers and streams, and wildlife"*. Namely, this project will use modern innovation to optimize water efficiency, and benefit streams by increasing water quantity and quality. Second, this project will work towards at least one of Colorado's long-term goals with respect to Municipal, Industrial, and Agricultural Infrastructure Projects and Methods (Sec 6.5, Page 6-127). For example, by converting fields from flood to sprinkler irrigation, this project will allow producers to *"use water efficiently to reduce overall future water needs"*. Third, this project will work towards at least two of Colorado's long-term goals with respect to Environmental and Recreational Projects and Methods (Sec 6.6, Page 6-157). As a multipurpose project that will benefit agriculture by improving irrigation infrastructure and the environment by reducing water withdrawal at points of diversion, this project will *"Support the development of multipurpose projects…"*. Last, this project will work towards Colorado's aim for collaboration, which is mentioned throughout the Water Plan. This project will involve collaboration between a conservation NGO, governmental agency, private contractor, several agricultural producers, and private funders. This project supports the Yampa-White-Green Basin Roundtable's 2015 Basin Implementation Plan by meeting at least four of the Basin's goals (Page 3; Available @ at yampawhitegreen.com). First, this project will "*protect and encourage agricultural uses of water"* by ensuring that our ranch partners can continue to put their water rights to their decreed beneficial use (irrigation). Second, it will "*quantify and protect non-consumptive water uses"* by reducing diversions and thus leaving more water instream. Third, this project will *"maintain and consider the existing range of water quality"* by reducing surface and bank erosion associated with flood irrigation. Last, it will *"develop an integrated system of water use…to reduce water shortages and meet environmental and recreational needs"* by coordinating the needs of both agricultural producers and aquatic organisms.

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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.
None identified.

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.
Please see attached spreadsheet.

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.
TABOR issues will not affect this application.

Submittal Checklist	
√	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract.
Exhibit A	
√	Statement of Work(1)
√	Budget & Schedule(1)
	Engineer's statement of probable cost (projects over $100,000)
√	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:	**07/31/2019**
Name of Grantee:	**Trout Unlimited**
Name of Water Project:	**Irrigation Efficiency and its Effects in Northwest Colorado**
Funding Source:	**CWP Grant – Agricultural Projects**

Water Project Overview:

Trout Unlimited and Ranch Advisory Partners are working with three ranchers in northwest Colorado to implement and monitor innovative irrigation efficiency projects. Efficiency improvements have been prioritized in the Colorado Water Plan and these projects meet multipurpose criteria by simultaneously improving agricultural water efficiency and enhancing streamflow for environmental benefit.

While flood irrigation can provide multiple benefits, a drawback is that it requires an irrigator to divert more water from the river than is necessary to meet crop demand. This results in a temporary or spatially-discreet reduction in flows. Irrigation infrastructure upgrades—for example, conversions from flood to sprinkler irrigation—can increase water efficiency significantly; however, these upgrades are often cost prohibitive for hay producers in northwestern Colorado.

This project will provide funding to convert 150 acres of irrigated ground on the lower Yampa, lower Little Snake, and a White River tributary, from flood irrigation to sprinkler irrigation. All three producers' fields are immediately adjacent to the river on which they are situated, and producer experience indicates that the lag time on return flows is short. Accordingly, these projects should have no significant impact on downstream water availability.

Project tasks include: 1) irrigation efficiency improvement on the lower Yampa River; 2) irrigation efficiency improvement on the lower Little Snake River; 3) irrigation efficiency improvement on a White River tributary; 4) monitoring of, and outreach on, the effects of efficiency upgrades; and 5) grant administration.

To evaluate the effects of efficiency improvements on ranch operations, project partners will compare pre- and post-irrigation costs (e.g. electricity, labor) and crop yield. Partners will also use new and recently-installed sensor networks to evaluate differences in soil moisture between flood and sprinkler irrigated ground. To evaluate effects of efficiency on the river or system, partners will compare pre- and post-project diversion records. After installation and monitoring are complete, Trout Unlimited, Ranch Advisory Partners, and landowner participants will

aggregate project findings and share learnings with interested local and statewide agricultural producers and water users, as well as project funders.

This project is expected to result in significant increases in irrigation efficiency, enhanced streamflow, and decreased irrigation costs. For example, irrigation efficiency is expected to increase from ≤ 20% with flood irrigation to ≥ 65% with sprinklers. These efficiency savings translate to upwards of 1,200 AF of water conserved (i.e., left instream) each year, and the associated flow-related improvements may be realized for up to 30,360 linear feet of stream. Finally, the project offers an opportunity to examine at a regional scale the on-ranch and in-river effects of improving irrigation efficiency.

Project Objectives:

The overall goals under this proposal are to 1) implement irrigation infrastructure projects that increase efficiency and 2) study and report on the effects of these projects on local irrigators' operations and the river system.

Specific objectives are to:

- Design irrigation efficiency projects that meet the needs of local water users' hay and livestock operations (e.g., timing of installation, operational efficiency, and labor).
- Demonstrate the effects of infrastructure efficiency projects on producers' operations, including effects on electricity costs, crop yield, diversion rates, and soil moisture content.
- Learn about the effects of infrastructure efficiency projects on three streams in the upper Colorado River system: the lower Little Snake River, the lower Yampa River, and a tributary to the White River.
- Share findings with interested local agricultural producers and water users.

Tasks

Task 1 – Irrigation Efficiency Improvement on the Lower Yampa

Description of Task:

Trout Unlimited and Ranch Advisory Partners are partnering with an irrigator on the lower Yampa River near Maybell to upgrade a 90-acre field from flood irrigation to sprinklers. This field has historically been flood irrigated for the production of alfalfa and grazing forage for livestock. The water user currently manually turns on and off water twice a day to effectively irrigate the field. Installing a sprinkler system will improve efficiency by an estimated 515 AF per year, increase late-season streamflow along this segment of the lower Yampa, and generate substantial labor savings for the landowner.

Subtasks are 1.1) field preparation and 1.2) sprinkler installation.

Method/Procedure:

Tasks	
1.1	Field preparation. To prepare the field for installation of the center pivot, the irrigator will eliminate borders and topographical features created for the existing flood irrigation regime and prep and reseed disturbed areas. The irrigator will perform this work and contribute labor and equipment as in-kind match.
1.2	Sprinkler installation. A T&L center pivot will be installed on the 90-acre field in the fall of 2020. The T&L center pivot has an automated control system that allows the irrigator to monitor water application and turn the pivot on and off remotely, generating significant labor savings for the irrigator. Trout Unlimited will coordinate with the irrigator and a contractor to purchase and install the center pivot.
Deliverable:	
1.1.	A relatively level, sprinkler-ready field.
1.2.	Installed center pivot (as evidenced by photos).

Tasks
Task 2 – Irrigation Efficiency Improvement on the Lower Little Snake
Description of Task:
Trout Unlimited and Ranch Advisory Partners are partnering with an irrigator on the lower Little Snake River near Maybell to implement an irrigation efficiency project that will install big gun sprinklers on a 22-acre field on the lower Little Snake. This field has historically been flood irrigated for the production of grass hay and grazing forage for livestock. The new sprinkler system will improve efficiency by an estimated 350 AF per year, increase late-season streamflow along this segment of the lower Little Snake, and generate labor savings for the irrigator. Subtasks are 2.1) sprinkler installation and 2.2) reseeding.
Method/Procedure:
2.1. Sprinkler installation. A set of Nelson "big gun" sprinklers will be installed on the 22-acre field in the fall of 2020. The automated Nelson TWIG system allows for certain sprinklers to operate while other sprinklers remain off, increasing water application efficiency. Trout Unlimited will coordinate with the irrigator to hire a contractor to purchase and install a Nelson big gun sprinkler system.
2.2. Reseeding. The ranch will reseed all areas disturbed during pipe and sprinkler installation. The ranch will perform this work and contribute both time and materials as in-kind match.
Deliverable:

Tasks
2.1 Installed "big gun" system (as evidenced by photos). 2.2 Reseeded field.

Tasks
Task 3 – Irrigation Efficiency Improvement on a tributary to the White River
Description of Task:
Trout Unlimited is partnering with an irrigator on a White River tributary near Meeker to implement an irrigation efficiency project that will install big gun sprinklers on a 35-acre field. This field has historically been flood irrigated for the production of grass hay and grazing forage for livestock. The sprinkler system will improve efficiency by an estimated 352 AF per year, mitigate flood irrigation-induced erosion, increase late-season streamflow in the White River tributary, and generate labor savings for the irrigator. Subtasks are 3.1) system design, 3.2) electrical wiring, and 3.3) pump and sprinkler installation.
Method/Procedure:
3.1 System design. The rancher will hire and pay for an NRCS-approved Technical Service Provider to complete a final design for the sprinkler system. A preliminary design has already been completed. Design costs will be contributed as match. 3.2 Electrical wiring. Three-phase (220V) power lines will be extended to the pump site. 3.3 Pump and sprinkler installation. A pump, pipeline, and set of Nelson big gun sprinklers will be installed on the 35-acre field in the spring or summer of 2020.
Deliverable:
3.1 A construction-ready design. 3.2 Power to the pump site. 3.3 Installed pump, pipeline, and set of big gun sprinklers (as evidenced by photos).

Tasks
Task 4 – Monitoring and Outreach
Description of Task:

Tasks
Trout Unlimited and Ranch Advisory Partners will monitor the impacts of the infrastructure upgrades on both ranch operations and on the river. Results will be analyzed and summarized in a report that will be available to project participants and project funders. Project partners will also engage in outreach efforts to share project learnings. Subtasks are 4.1) monitoring, 4.2) analyses and report, and 4.3) outreach.
Method/Procedure:
4.1 Monitoring. Monitoring efforts will evaluate how infrastructure upgrades affect both ranchers and river systems. Data to be collected includes crop yield, electricity costs, soil moisture content, and water diversion records. Each irrigator will keep records of their operational costs associated with the project (electricity costs, crop yield, etc.). Trout Unlimited and Ranch Advisory Partners will monitor soil moisture content on the project site and any control sites, both pre- and post-installation. To monitor soil moisture content, data-logging soil moisture sensors will be installed on each participating irrigated field and on a control field adjacent to each project site. The devices record soil moisture content every hour. In April of 2019, before the start of the irrigation season, two soil moisture sensors and two groundwater monitoring wells were installed on the 90-acre, lower Yampa site. To create a control or point of comparison, two additional soil moisture sensors were installed in a big gun stand just north of the project site. Baseline data is currently being collected to determine soil moisture content under flood irrigation. Eventually, this soil moisture data could be used by the irrigator to drive when they turn on and off their sprinklers. As part of this process, Trout Unlimited and Ranch Advisory Partners will interview ranch participants both during and after project implementation to learn about their overall satisfaction with irrigation efficiency projects. 4.2 Analyses and Report. Trout Unlimited and Ranch Advisory Partners will analyze crop yield data, electricity costs, diversion records, and soil moisture content across the three project sites. Results will be compiled into a report that documents high-level findings. 4.3 Outreach. Project partners will engage the local agricultural community and project funders by offering one or more presentations or field tours during which one or more of our ranch partners can share their perspective and experience, as well as high-level findings.
Deliverable:
4.1-4.2 One report aggregating results and lessons learned across the three water users identified in this proposal. 4.1-4.3 One or more presentations and/or field tours with interested agricultural user associations and project funders.

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Tasks
Task 5 – Grant Administration
Description of Task:
Trout Unlimited will administer the grant and handle all budgetary and reporting requirements (Subtask 5.1).
Method/Procedure:
5.1 Grant administration. Trout Unlimited will follow the same administrative procedures it has followed with prior CWCB grants and awards (see attached spreadsheet.)
Deliverable:
5.1 A Final Report on Trout Unlimited 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.

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.

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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

Colorado Water Conservation Board

Water Plan Grant - Exhibit B
Budget and Schedule

Prepared Date: July 31, 2019

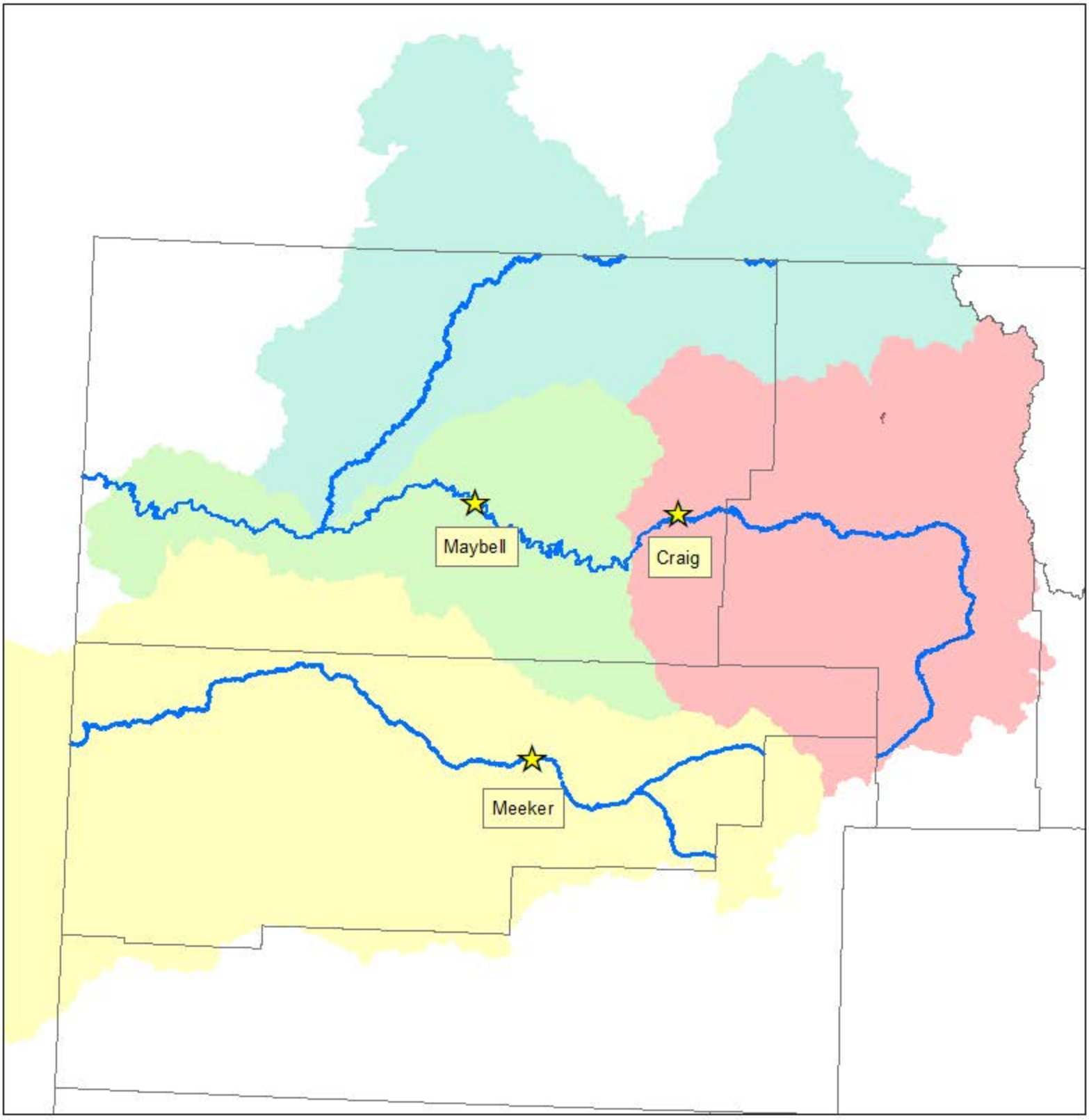
Name of Applicant: Trout Unlimited

Name of Water Project: Irrigation Efficiency and its Effects in Northwest Colorado

Project Start Date: February 1, 2020

Project End Date: December 31, 2023

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request	Match Funding	Total
1	Project 1: Lower Yampa River	2/2/2020	12/31/2021			
1.1	Field preparation			$0	$25,634	$25,634
1.2	Sprinkler installation			$63,906	$61,179	$125,085
2	Project 2: Lower Little Snake River	2/2/2020	12/31/2021			
2.1	Sprinkler installation			$41,724	$56,075	$97,799
2.2	Reseeding			$0	$580	$580
3	Project 3: White River tributary	2/2/2020	12/31/2021			
3.1	System design			$0	$5,500	$5,500
3.2	Electrical wiring			$0	$18,500	$18,500
3.3	Pump and sprinkler installation			$23,802	$64,210	$88,012
4	Monitoring and Outreach	2/2/2020	12/31/2023			
4.1	Monitoring			$0	$13,058	$13,058
4.2	Analyses and report			$0	$7,990	$7,990
4.3	Outreach			$0	$7,752	$7,752
5	Grant administration	2/2/2020	12/31/2023			
5.1	Grant administration			$20,567	$17,051	
			Total	$149,999	$277,529	$427,528



Legend

- Little Snake River Basin
- Upper Yampa River Basin
- Lower Yampa River Basin
- White River Basin

N

0 10 20 40 Miles

Photo 1. The lower Yampa River site, where a center pivot will be installed to irrigate 90 acres of grass hay.

Photo 2. The White River tributary site, where “big gun” sprinklers will be installed to irrigate 35 acres of grass hay. The conversion from flood to sprinkler irrigation will reduce overbank erosion.

RANCH ADVISORY
PARTNERS

Colorado Water Conservation Board
c/o Alexander Funk
1313 Sherman Street, Suite 718
Denver, CO 80203

July 31, 2019

Dear Conservation Board,

I am writing on behalf of Ranch Advisory Partners in support of Trout Unlimited's 'Irrigation Efficiency and its Effects in Northwest Colorado' Water Plan Grant Application under the Agricultural Projects category. We are pursuing this effort in partnership with Trout Unlimited and two of the three irrigators identified in the project proposal.

Ranch Advisory Partners works to improve the ecological and financial health of agricultural and rangelands across the West. Our team has been working in northwest Colorado for over 20 years, and we are keenly aware of how critical effective irrigation infrastructure is for agricultural operators in the Basin.

The infrastructure upgrade projects proposed in this application will improve irrigation efficiency on the lower Yampa and the lower Little Snake by converting one flood-irrigated field per producer to sprinkler irrigation, pairing sprinkler systems with soil moisture sensors such that irrigation regimes are driven by the crop's real-time irrigation water requirements, and monitoring the effects of these upgrades on crop yield, diversion rates, irrigation costs, and soil moisture.

The projects will generate cost and labor savings for agricultural producers, improve irrigation efficiency, and improve streamflow while offering an opportunity to examine at a regional scale the on-ranch and in-river effects of improving irrigation efficiency.

I respectfully urge you to positively consider Trout Unlimited's grant application for a Water Plan Grant and to provide funding for this project. This project has strong potential to benefit both agricultural producers in northwest Colorado and the natural environment – directly advancing the multipurpose goals of the Colorado Water Plan.

Thank you for your consideration,

Todd Graham
Ranch Advisory Partners