COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Last Updated: June 2020

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	Matthew.Stearns@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 Whitewater
Name of Water Project	Economic Impact of River Recreation
CWP Grant Request Amount	$83,458

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Other Funding Sources: Mighty Arrow Family Foundation	$25,000
Other Funding Sources: Pitkin County Healthy Rivers	$19,355
Other Funding Sources: Walton Family Foundation (pending)	$40,000
Other Funding Sources: New Belgium Brewing (pending)	$9358
Applicant Funding Contribution	$5,000 in-kind
Total Project Cost	$177,170.00

Applicant & Grantee Information
Name of Grantee(s): American Whitewater
Mailing Address: P.O. Box 1540 Cullowhee, NC 28723
FEIN: 23-7083760
Organization Contact: Mark Singleton
Position/Title: Executive Director
Email: mark@americanwhitewater.org
Phone: 828.508.1726
Grant Management Contact: Hattie Johnson
Position/Title: Southern Rockies Stewardship Director
Email: hattie@americanwhitewater.org
Phone: 970-456-8533
Name of Applicant (if different than grantee)
Mailing Address

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Position/Title
Email
Phone

Description of Grantee/Applicant
Provide a brief description of the grantee's organization (100 words or less).
American Whitewater is a national non-profit 501(c)(3) river conservation organization founded in 1954 with over 6,000 national dues-paying members, 100 local-based affiliate clubs, and 50,000 supporters representing whitewater enthusiasts across the nation. American Whitewater's mission is to protect and restore America's whitewater rivers and to enhance opportunities to enjoy them safely. Our vision is that our nation's remaining wild and free-flowing rivers stay that way, our developed rivers are restored to function and flourish, that the public has access to rivers for recreation, and that river enthusiasts are active and effective river advocates.

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.
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
X	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):*	
X	Environmental & Recreation - Projects that promote watershed health, environmental health, and recreation. *Applicable Exhibit A Task(s): See Statement of Work, Tasks 1-4 (year 1) and 7-10 (year 2)*	
	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	Larimer, Moffat, Garfield, Eagle & Pitkin
Rivers	Cache La Poudre, Crystal, Roaring Fork, and Yampa
Latitude	N/A
Longitude	N/A

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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.
American Whitewater is proposing to develop a method to determine economic impact of river-based recreation and its sensitivity to water supply changes. This method will pair with our established recreational Flow Preference and Boatable Days tools, as identified in the Nonconsumptive Toolbox[1]. We are proposing to develop a framework to assess the sensitivity of Boatable Days to management scenarios under consideration by Basin Roundtables, local water managers and water rights holders. By understanding the basin specific economic impact of a boatable day, we can utilize this framework to quantify the dollar value costs and benefits of water management decisions. Resulting data could be used to aid Basin Roundtables and their members in identifying potential opportunities that either directly or indirectly facilitate flow conditions suitable for river recreation and describing how the economy is affected by streamflow. The outcome of this project will be a replicable data-based framework that can be used to estimate the economic outcomes of flow management decisions. For this grant request we have identified river reaches within three basins (Yampa, Crystal, Roaring Fork, and Cache La Poudre Rivers) as case studies in the development of the framework and for initial analysis.

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)
	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (indicate acre-feet/year OR dollars/year)
	Area of Restored or Preserved Habitat (acres)

[1] CWCB. July 2013. Nonconsumptive Toolbox

	Quantity of Water Shared through Alternative Transfer Mechanisms	
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning	
387,000 local residents	Number of Coloradans Impacted by Engagement Activity	
220 river miles	Other	Explain: Number of river miles assessed for recreational boating economic impact.

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;)

The Economic Impact of River Recreation Project, through its inter-basin, multi-beneficial, and community driven approach, will help achieve goals outlined in the Colorado Water Plan (CWP 8-8). Colorado's Water Values highlight the need for an economy that promotes recreation (CWP 1-6) and states the need to quantify streamflows for the stream management planning process (CWP 6-168). Through this project, AW will provide valuable information for Basin Roundtables and communities in the form of quantified recreational stream flows and economic value of recreational opportunities, while also addressing non-consumptive projects that will provide positive impacts for the watershed (CWP 6-167).

Through this project we hope to provide data that will allow for the leverage of economic development **to support non-consumptive use of water resources at the local and state level through recreation (CWP 8-10)**. The resulting economic impact studies will provide metrics to be used amongst other data (i.e. impacts to agricultural or municipal/industrial use) in making water management decisions. The intent of this analysis is to understand the level of economic impact of river-based recreation on a particular river or basin and not to prioritize the use of water for recreation.

The proposed project will support the identification and development of **multipurpose projects and methods that benefit environmental and recreational water needs as well as water needs for communities or agriculture**. There are several initiatives identified in the Water Plan that have the potential to create flow conditions that are preferred by river recreationists. The proposed project will develop a framework capable of assessing such initiatives in terms of their tangential benefits and costs to recreational flows and associated regional economic outcomes. These include, though are not limited to (rivers where these initiatives are under active consideration are noted in parentheses):

- Ecosystem preservation (Yampa, Poudre)
- Water banking and other alternative transfer mechanisms (Roaring Fork, Crystal, Yampa, Poudre)
- Sustainable Front Range suburban growth (Poudre, Crystal, Roaring Fork)
- The transfer or sale of water rights from retiring industries (Yampa)

The Flow Preference and Boatable Days analyses and the Economic Impact Analysis will require broad local stakeholder engagement**. In line with the Basin Implementation plans, AW will seek out direct users, local**

officials, business owners, residents, and other stakeholders to develop consensus during this project (CPW 8-8). Along with local stakeholders and roundtables, this project will involve partnering with organizations such as Friends of the Yampa, the Coalition for the Poudre River Watershed, Craig and Moffat County Chamber of Commerce, water conservancy districts, Pitkin County Healthy Rivers and Streams Board, and others to cultivate community driven outcomes (CWP 8-15).

This project will assist in the completion of the following identified projects and processes (IPPs):

- Quantifying recreation economy needs is an identified method to the basin-wide theme to protect healthy rivers as identified in the Colorado Basin Implementation Plan (2015).
- Recreational, habitat and management strategy improvements from the Yampa/White/Green BIP (2015).
- Economic Impact of River Recreation is identified as a potential IPP in the South Platte BIP update – SP-2020-XXXX (2020).

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.

Colorado Water Conservation Board, 2013. Nonconsumptive Needs Toolbox, Retrieved from: http://cwcbweblink.state.co.us/weblink/0/doc/172701/Electronic.aspx?searchid=b764b205- 1125-4f18-b3e8-998e5e025e10

Colorado Water Conservation Board, 2019. Future Avoided Cost Explorer:Hazards, Retrieved from: https://storymaps.arcgis.com/stories/4e653ffb2b654ebe95848c9ba8ff316e

Fey, N. & Stafford, E. (2009) Flow-Recreation Evaluations for the Upper Colorado River basin. Report prepared for Upper Colorado River Wild and Scenic Stakeholders Group & U.S. Bureau of Land Management.

Loomis, J. 2008. The economic contribution of instream flows in Colorado: how angling and rafting use increase with instream flows. January 2008 Economic Development Report, No. 2 (EDR: 08-02). Department of Agriculture and Resource Economics.

Southwick Associates. February 28, 2020. The Economic Contributions of Water-Related Outdoor Recreation in Colorado. Report prepared for Business for Water Stewardship.

Mendez, M., Muñoz, L., Paliowda, M., and Tanner, C. (2020), A Methodology for Developing an Economic Impact Assessment of Outdoor Recreation: Through the Lens of River Recreation in the Dolores River. Prepared for American Whitewater and Colorado Outdoor Recreation Office.

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.

1) American Whitewater
2) Assessing Nonconsumptive Recreational Needs and Opportunities in the Rio Grande River Basin
3) Rio Grande Basin Roundtable
4) November 15-16, 2017
5) POGG1 PDAA 201800000978
6) 50%

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.

There will be no TABOR impacts for this grant.

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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)
N/A	Engineer's statement of probable cost (projects over $100,000)
X	Letters of Matching and/or Pending 3rd Party Commitments(1)
Exhibit C	
N/A	Map (if applicable)(1)
N/A	Photos/Drawings/Reports
X	Letters of Support (Optional)
	Certificate of Insurance (General, Auto, & Workers' Comp.) (2)
X	Certificate of Good Standing with Colorado Secretary of State(2)
X	W-9(2)
	Independent Contractor Form(2) (If applicant is individual, not company/organization)
Engagement & Innovation Grant Applicants ONLY	
N/A	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.

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 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.

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Colorado Water Conservation Board
Water Plan Grant - Exhibit A

Statement Of Work	
Date:	**Nov 30, 2020**
Name of Grantee:	**American Whitewater**
Name of Water Project:	**Economic Impact of River Recreation**
Funding Source:	**Colorado's Water Plan Grant Fund**
Water Project Overview:	
American Whitewater is proposing to develop a method to determine economic impact of river-based recreation and its sensitivity to water supply changes. This method will pair with our established recreational Flow Preference and Boatable Days tools, as identified in the Nonconsumptive Toolbox[1]. We are proposing to develop a framework to assess the sensitivity of Boatable Days to management scenarios under consideration by Basin Roundtables, local water managers and water rights holders. By understanding the basin specific economic impact of a boatable day, we can utilize this framework to quantify the dollar value costs and benefits of water management decisions. Resulting data could be used to aid Basin Roundtables and their members in identifying potential opportunities that either directly or indirectly facilitate flow conditions suitable for river recreation and describing how the economy is affected by streamflow. The outcome of this project will be a replicable data-based framework that can be used to estimate the economic outcomes of flow management decisions. For this grant request we have identified river reaches within three basins (Yampa, Crystal, Roaring Fork, and Cache La Poudre Rivers) as case studies in the development of the framework and for initial analysis.	

[1] CWCB. July 2013. Nonconsumptive Toolbox

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Project Objectives:

Objectives: Year 1

- Extensive stakeholder coordination around defining recreation needs using AW's Flow Preference and Boatable Day study[2], economic study methods, user survey and data collection approach, and water management scenarios. Our study approach requires extensive input from water managers, river users, local communities and businesses. Our central objective is to coordinate with all interested parties early on to ensure we are including and analyzing appropriate data.
- Economic profiles will be developed through coordination with the identified communities/regions. The economic profiles will include available natural resources, recreational access opportunities, demographics, regional uniqueness, water management scenarios, etc. that contribute to existing and potential economic impacts of recreation. These economic profiles will include affected industries, sectors, and applicable demographics that can be scaled and adjusted between basins to identify the relationship between economic impact and Boatable Days.
- American Whitewater will work with Lynker Technologies to expand upon models developed as part of the Future Avoided Cost Explorer: Colorado Hazards (FACE:Hazards) project regarding the economic impact of whitewater boating throughout the State. Specifically, additional data sources raised by economic profiling (previous bullet point) will improve empirical relationships between flow conditions, Boatable Days, actual recreational use or 'user-days', and regional economic impacts.
- American Whitewater will work with Lynker Technologies to analyze stakeholder-identified management opportunities identified above that would provide potential benefits to whitewater conditions on key river reaches.

Objectives: Year 2

- A major limiting factor to understanding the economic implications of river-based recreation is lack of non-commercial user-day data. Survey design and distribution will be developed In year one. In year two, we will gather these data to capture river-based recreation user spending.
- We will synthesize the modeling outputs and data collection in prior described work to analyze current and potential economic impact and multi-sector benefits of river recreation for the Cache La Poudre, Crystal, Roaring Fork and Yampa Rivers.

[2] Stafford, E., Fey, N., and Vaske, J. J. (2016) Quantifying Whitewater Recreation Opportunities in Cataract Canyon of the Colorado River, Utah: Aggregating Acceptable Flows and Hydrologic Data to Identify Boatable Days. River Res. Applic., doi: 10.1002/rra.3049.

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Tasks
Task 1 - Flow preference and boatable days studies
Description of Task:
American Whitewater has conducted a Flow Preference and Boatable Days studies on the Yampa and completed preliminary findings for the Cache La Poudre. We would finalize the Poudre analysis as a part of this task. We are currently quantifying Flow Preference and Boatable Days on the Crystal and Roaring Fork Rivers through funding from the Pitkin County Healthy Rivers and Streams Board as a part of this project and would finalize that analysis as a part of this task. These studies are conducted by asking paddlers to identify the acceptability of defined flow rates and determining what range of flows are acceptable based on levels of agreement across responses. Those acceptable flow ranges are then compared to historical gage data to identify how often flows were within that acceptable range for each individual river stretch, or the number of Boatable Days. These methods are identified in the CWCB Nonconsumptive Toolbox as a method to define measurable outcomes and plan projects (CWCB, B-5). Flow Preference and Boatable Days studies completed prior to and as a part of this request will be discussed with local stakeholders to identify factors in addition to flow and could affect boating opportunities. These could include obstacles like low bridges, structures, or winter flows that may not accommodate paddling due to flow conditions or icing. This task seeks to confirm the acceptable flow ranges that support recreation on all reaches on the Crystal, Roaring Fork, Poudre, and Yampa. We have found it useful to discuss identified Flow Preferences with local stakeholders Flow Preference to further identify nuances that affect boating access or experience. As we use this data for the economic analysis, it will be imperative to understand those implications.
Method/Procedure:
In the fall of 2020, American Whitewater identified target river reaches and correlated stream gages within the Crystal and Roaring Fork Rivers for Flow Preference Study and subsequent Boatable Days Analysis, in coordination with local stakeholders. The survey was designed and distributed using American Whitewater's website and social media venues, community partners, and through the respective partner networks and is still active. Once survey data is collected, we will use the Flow Acceptability Agreement Index to analyze survey results and determine optimal and acceptable flow criteria for each targeted river reach. The results of the Flow Preference Study will help to define whitewater boating conditions in each river basin and will be used in the Boatable Days Analysis. Boatable days are quantified by comparing the range of preferable flows to historical gage data and identifying how often flows fell within those ranges. Coordination with local river recreationists and roundtable representatives will be important to confirm Flow Preference ranges.
Deliverable:
American Whitewater will provide final memorandums for each river basin indicating preferrable flow ranges and Boatable Days to share with local partners.

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Tasks
Task 2 – Develop economic profiles
Description of Task:
American Whitewater will work with local stakeholders to develop an economic profile of each region and community. These stakeholders will be local, county and state government offices (including Colorado Outdoor Recreation Industry Office), NGOs, private industry, academic institutions, local business leaders, land and water managers, Chambers of Commerce, public development authorities, and Basin Roundtables. The profiles will be based on the work developed by Masters of Environment students from the University of Colorado.[3,4] This task will include ongoing coordination and communication with these stakeholders as we identify the components that contribute to the local recreation economy. The economic profiles consist of current economic, demographic, natural and social conditions within a defined region. For each river, we will identify the affected region and those data needed to determine a baseline economic profile associated with river-based recreation. To support replicability, we will describe the elements of an economic profile associated with each key river and how their variability will translate to different economic activity. For example, the economic activity associated with river recreation on the Poudre River will impact Fort Collins, a community with markedly different economic conditions than the City of Craig and the Yampa River. This task will identify the industries and sectors impacted by river recreation and set a baseline to compare to changing recreational resources. An integral and important aspect of the economic profile is natural resource conditions. For river-based recreation this includes facilities (river access points, restrooms, campgrounds), water quality, riparian habitat, and critically - flow. Previous investigations by American Whitewater reveal that flow exerts a strong control on the utility of whitewater recreation for boaters and their use patterns. Separate investigations show that flow is a primary control on the economic, aesthetic, and ecological value of river corridors[5,6,7,8]. Given the known critical nature of flow to the economic profile of rivers, our coordination with partners and stakeholders will help to identify management scenarios that may impact flow conditions on popular boating river reaches. We expect emergent management scenarios to be unique to the geographical and political context of each Basin Roundtable. Once scenarios are identified through collaborative outreach, we will define which of the scenarios it may be possible to quantitatively analyze using publicly available water allocation models.

[3] Crowley, Doolittle, King, Mace, and Seifer (2019), Drought and Outdoor Recreation: Impacts, Adaptation Strategies, and Information Gaps in the Intermountain West, National Integrated Drought Information System
[4] Mendez, Muñoz, Paliowda, and Tanner (2020), A Methodology for Developing an Economic Impact Assessment of Outdoor Recreation: Through the Lens of River Recreation in the Dolores River. American Whitewater and Colorado Outdoor Recreation Office.
[5] Loomis, J. (2008). Estimating the Economic Benefits of Maintaining Peak Instream Flows in the Poudre River through Fort Collins, Colorado. Fort Collins, CO.
[6] Loomis, J. (2008b). The economic contribution of instream flows in Colorado: How angling and rafting use increase with instream flows. Retrieved from http://dare.colostate.edu/pubs
[7] Hagenstad, M., Henderson, J., Raucher, R., & Whitcomb, J. (2000). Preliminary Evaluation of the Beneficial Value of Waters Diverted in the Clear Creek Whitewater Park in the City of Golden. Golden, CO.
[8] Loomis, J., Kent, P., Strange, L., Fausch, K., & Covich, A. (2000). Measuring the total economic value of restoring ecosystem services in an impaired river basin: Results from a contingent valuation survey. Ecological Economics, 33(1), 103–117. https://doi.org/10.1016/S0921-8009(99)00131-7

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It is critical to note that AW will not be recommending which specific management scenarios should be considered, rather AW will respond to the unique needs and interests of regional stakeholders. For example, if a basin roundtable identifies a potential to use reservoir releases to meet downstream senior water rights during specific seasons, we will analyze how it affects recreation and the subsequent economic implications.

AW will work with consultants to identify the data needed to create an economic profile that provides options broad enough to encompass the range of communities within each basin. This task will be focused on developing a framework for the economic study. We will design the sampling frame and schedule, confirm the research methods, design survey questions, and gather stakeholder input on the process. We will coordinate with resource agencies (Bureau of Land Management, US Forest Service, Colorado Park and Wildlife, and others) to ensure survey questions and data collection methods meet their standards and capture appropriate quantitative data. The sampling framework will allow for a systematic collection of on-site river user data throughout the river use season.

We will work with stakeholders to identify how to expand the existing economic impact methodology and begin coordinating the launch of the economic impact assessment within each respective basin.

Method/Procedure:

Regions to be analyzed for economic impact will be determined for communities affected by recreation on the Cache La Poudre, Crystal, Roaring Fork, and Yampa Rivers. We will work with stakeholders within identified areas to vet economic data to be included in economic profiles and define appropriate collection methods. These data collection and survey distributions methods will also be confirmed with stakeholders for deployment in year two. We will subsequently coordinate with roundtables and stakeholders to identify appropriate water management scenarios to analyze in Task 3. We will include our modeling consultants in the discussions to help select scenarios that can be represented using existing water management models and that are likely to have a measurable impact on Boatable Days.

Deliverable:

- A clear framework for economic profiles for river recreation specific to each basin.
- A list of potential water management scenarios to be analyzed for impacts to recreation that will be approved by respective roundtables.
- Draft recreation user surveys and survey implementation plan

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Tasks
Task 3 – Identify and analyze management scenarios
Description of Task:
Management scenarios identified in previous tasks will vary across basins, but recently completed economic studies of river-based recreation[9] have identified broad economic impacts of all recreation that takes place in and around rivers. This study seeks to understand specifically how a river-based recreation economic impact fluctuates with changes in opportunities as a result of different management practices and other contributing factors. Working with our consultant, Lynker Technologies, we will approximate the resulting changes in flows, Boatable Days, and commercial rafting revenue for each management scenario identified in the previous task. Where appropriate, Lynker will use existing StateMod and MODSIM-DSS models to approximate monthly flow conditions under each different scenario. StateMod models are available for most major river basins in Colorado and include demands and operations consistent with the Water Plan Technical Update. Different statistical techniques will be used to disaggregate these monthly flow simulations into daily flow estimates that can be used to approximate Boatable Days. Different models or approaches may be available and more appropriate for this study. As discussed below, basin-scale water allocation models have limitations that may hamper their utility in specific basins and/or for certain management scenarios. In this case, other approaches can be developed in collaboration with roundtables to replace the use of water-allocations models, such as analyzing historical gauge data, or developing simple spreadsheet models. Our proposed modeling procedures (below) articulate a vision for how calibrated basin-scale water allocation models can be used to analyze water management opportunities. However, we are cognizant of limitations, aware that these models may not be able to meet our needs and are prepared to be flexible in the modeling approach.
Method/Procedure:
We will use calibrated water models to quantify the changes in flow timing and magnitude arising from a hypothetical management change. This information is an important data point for estimating changes in recreational river use and associated economic impacts. We will collect and synthesize existing models that simulate management and flows on the Cache La Poudre, Crystal, Roaring Fork and Yampa rivers. Calibrated StateMod models exist for the major basins containing all of these rivers except the Cache La Poudre: Colorado (Crystal and Roaring Fork rivers) and Yampa (Yampa River) basins StateMod models exist. A calibrated MODSIM-DSS model exists for the Cache La Poudre river basin and can be used to simulate management affecting boating conditions above the canyon mouth and through Downtown Fort Collins. After obtaining datasets and background data, we will build and execute each model in our local computing environment. Thereafter, we will develop a computational framework for model sensitivity analysis, whereby we can systematically perturb parameters and evaluate concomitant changes in monthly flow rates at key gauges. While we lay the foundations of the modeling approach, we will conduct a parallel outreach effort to identify the management scenarios to be tested. It is critical to ensure that model capabilities and limitations are properly communicated and management options under consideration by roundtables are distilled into model perturbations as accurately as possible.

[9] Southwick Associates. February 28, 2020. The Economic Contributions of Water-Related Outdoor Recreation in Colorado. Report prepared for Business for Water Stewardship.

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Once management scenarios are identified and posed in terms of model operation perturbations, we will use sensitivity analysis to estimate changes in monthly average flows arising from hypothetical changes in basin management. A known limitation of the many water allocation models is their coarse monthly temporal resolution. To sidestep this challenge, we propose to use statistical downscaling to estimate daily flows from simulated monthly flows. We will use historical flow records to quantify the probability distribution of daily flows for each month of the year within low, moderate, and high flow bins. We will use these distributions to approximate the exceedance probability of a specific flow. To respect the intrinsic timestep limitations of these models, flow sensitivities will be evaluated against a multi-decade reference period (specific duration depends on the available record) and statistical uncertainties will be quantified and communicated.

Another limitation of water allocation models is their coarse spatial resolution. Often, headwater reaches are not represented in these models or model predictions are untrustworthy in small headwaters due to a lack of calibration data. We emphasize that our proposed inquiries are concentrated on higher order mainstem rivers, often with long and robust flow records. For this reason, we argue that basin-scale water allocation models are appropriate tools for understanding statewide impacts to recreational boating.

Results will be presented by BRTs, project proponents, and the public as appropriate. Result dissemination will be conducted in coordination with BRTs and their respective outreach plans.

Deliverable:

- A table describing the methods for identifying and analyzing management will be included in the memo described in Task 4.
- This information will be expanded upon in the final report that will help provide a foundation for understanding how to replicate this process.

Last Updated: June 2020

Tasks
Task 4 – Produce a memo describing economic profiles and management opportunities
Description of Task:
The investigation and planning completed as a part of previous tasks will be used to describe recreational and economic profiles for each community impacted by river-based recreation on the Cache La Poudre, Crystal, Roaring Fork and Yampa Rivers. Analyzed management opportunities and the resulting impacts on recreation will be identified. The methodology implemented to run the analysis will be clearly described and presented to roundtables. This study approach will be available to investigate other changes to management that stakeholders may identify in the future. We will work basin-by-basin to identify this study methodology to develop an approach that is replicable and consistent throughout each basin.
Method/Procedure:
This task requires compiling of coordination, modeling inputs, data collection methodology, and economic profiles into a memo that describes the relationship between recreational opportunities (Boatable Days) and quantified (dollar-value) economic impact for each basin investigated.
Deliverable:
- A memorandum describing our approach to capturing the economic impact of river-based recreation across variable basins and communities that accounts for and analyzes potential water management opportunities.

Tasks
Task 5 –Meet CWCB reporting requirements (Year 1)
Description of Task:
American Whitewater will meet the CWCB's reporting requirements, including providing the CWCB with deliverables for each task and 6 month progress reports.
Method/Procedure:
We will provide progress reports to the CWCB every 6 months.
Deliverable:
American Whitewater will provide the CWCB with Task deliverables and progress reports as outlined in the reporting guidelines.

Last Updated: June 2020

Tasks
Task 6 – Project Coordination (Year 1)
Description of Task:
In order to see this project through to completion, it will require project coordination to take place internally with American Whitewater staff, as well as with outside partners, coalitions, consultants, and academic institutions, etc. Having designated funds (15% of the total) to coordinate this project will allow the project to remain on track for timing and deliverables, while also ensuring that all CWCB reporting requirements and communications are being maintained.
Method/Procedure:
We propose to manage the project through online project management software. Through that web-based software we will monitor communications made as a result, manage deadlines with consultants, provide memos and information to roundtables and other stakeholders, and track time spent towards our defined deliverables.
Deliverable:
- Six month project reports submitted to CWCB.

Tasks
Task 7 – Gather data river-based recreation user spending
Description of Task:
American Whitewater will work in collaboration with our consultant, RRC Associates, to distribute, collect, and analyze survey data. We will also coordinate with appropriate land and river management agencies such as the Bureau of Land Management, US Forest Service, Colorado Parks and Wildlife, and local municipalities who track use at river access points. Their use data combined with survey responses will be used to understand not only the level of use of recreational river segments, but also user spending. The process of this distribution and collection will be developed and coordinated with local stakeholders to ensure that questions and delivery methods coincide with local values and practices. Surveys will be distributed digitally utilizing web-based surveys in addition to on the ground intercept surveys of river recreationists and users. The method of survey distribution and collection will be determined in Task 4.

Method/Procedure:
RRC has recommended a minimum sample size of approximately 380-400 surveys. Approximately half of the 400 surveys per river could be collected through intercept surveys with the rest collected via online methodologies. These online methods may include email lists from American Whitewater, local river organizations, and other entities with river user information. Results from the online survey would benefit from being "ground-truthed" by intercept data. We've identified cost saving methods for intercept survey distribution, using volunteer members, river guides, or potential student groups. We will work with managers of river access points to potentially install QR codes to obtain web-based survey responses. Where applicable, we will also attempt using web or game cameras if approved by managers. All these survey methods may not be valid for every location, but will be discussed and used as appropriate.
Deliverable:
- Copies of survey templates, basic demographics, and stakeholder lists - Survey responses

Tasks
Task 8 – Analyze multi-sector benefits of river recreation
Description of Task:
Once surveys have all been collected, American Whitewater will work with consultants to assess data and begin quantifying results. Surveys will quantify participation and spending of river recreationists. Results will be compiled for each basin and reviewed for efficacy to ensure that there are no misrepresented survey results. This task will synthesize all the data collected in previous tasks to quantify the current impact of river-based recreation on surrounding communities and how that impact could change under changes in water supply. One goal is to develop a customizable economic impact tool that can be deployed in other Colorado communities that will calculate economics of river flow.
Method/Procedure:
Flow sensitivities to specific management scenarios analyzed in Task 3 will be used to estimate associated changes in Boatable Days. We will rely on Flow Preference analyses previously conducted by American Whitewater to set boatable flow thresholds. We will then use FACE:Hazards economic models to estimate the change in regional economic impact arising from simulated changes in Boatable Days. Qualitative and quantitative data from basin-specific economic profiles and user surveys will be used to improve 1) relationships between Boatable Days and river user days, 2) per user direct expenditures, and 3) regional economic multipliers
Deliverable:
- A final report to provide basin-specific economic impact from river-based recreation. - An interactive economic model with appropriate IMPLAN multipliers.

Last Updated: June 2020

Tasks
Task 9 – Finalize a report describing economic impacts of river recreation
Description of Task:
Memorandums and findings developed as a part of earlier tasks will be compiled into final reports for each basin. Each report will contain current economic impact and describe water management scenarios analyzed. A modeling tool will be developed to provide basins or communities the ability to analyze future conditions.
Method/Procedure:
American Whitewater, with the input from our consultants will compile final reports for each river.
Deliverable:
- A final PDF report for each basin describing current economic impacts of recreation. For those basins where management scenarios were analyzed, the resulting economic impacts will be included. - An economic analysis tool will be provided to each basin to analyze future scenarios as needed by each roundtable.

Tasks
Task 10 –Meet CWCB reporting requirements (year 2)
Description of Task:
American Whitewater will meet the CWCB's reporting requirements, including providing the CWCB with deliverables for each task, progress reports, and a final report. In year two this will include summaries of data collection efforts and information collected.
Method/Procedure:
American Whitewater will provide progress reports to the CWCB every 6 months. Upon completion of the project we will submit a final report describing the process, including stakeholder engagement, data collection and modeling methods.
Deliverable:
- Task deliverables, progress reports, and a final report, as outlined in the reporting guidelines.

Last Updated: June 2020

Tasks
Task 11 – Project Coordination (Year 2)
Description of Task:
In order to see this project through to completion, it will require project coordination to take place internally with American Whitewater staff, as well as with outside partners, coalitions, consultants, and academic institutions, etc. Having designated funds (15% of the total) to coordinate this project will allow the project to remain on track for timing and deliverables, while also ensuring that all CWCB requirements and communications are being maintained.
Method/Procedure:
We propose to manage the project through online project management software. Through that web-based software we will monitor communications made as a result, manage deadlines with consultants, provide memos and information to roundtables and other stakeholders, and track time spent towards our defined deliverables.
Deliverable:
- Final report submitted to the CWCB

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Exhibit B
Budget and Schedule

Name of Applicant: American Whitewater

Name of Water Project: Economic Impact and Flow Preference of River Recreation

Task No.	Task Description	Start Date	End Date	Grant Funding Request	Match Funding	Total
Year 1						
1	Flow preference and boatable days studies	2/1/2021	3/1/2021	$0.00	$19,355.00	$19,355
2	Develop economic profiles	2/1/2021	7/1/2021	$9,500	$9,500	$19,000
3	Identify and analyze management scenarios	2/1/2021	10/1/2021	$20,000	$25,500	$45,500
4	Produce a memo describing economic profiles and management opportunities	10/1/2021	12/1/2021	$10,000	$7,075	$17,075
5	Grant reporting	2/1/2021	1/15/2022	$1,050	$0	$1,050
6	Project Coordination	2/1/2021	1/15/2022	$2,402	$2,402	$4,804
			Total Year 1	$42,952	$63,832	$106,784
Year 2						
7	Gather data river-based recreation user spending	12/1/2021	5/1/2022	$30,000	$16,575	$46,575
8	Analyze multi-sector benefits of river recreation	3/1/2022	10/1/2022	$6,150	$10,000	$16,150
9	Finalize a report describing economic impacts of river recreation	7/1/2022	11/1/2022	$2,400	$2,400	$4,800
10	Grant reporting	1/1/2022	12/31/2022	$1,050	$0	$1,050
11	Project Coordination	1/1/2022	12/31/2022	$906	$906	$1,811
			Total Year 2	$40,506	$29,881	$ 70,386
			Total	$83,458	$93,713	$177,170

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Water Plan Grant - Detailed Budget Est

Prepared Date: 30-Nov-20
Name of Applicant: American Whitewater
Name of Water Project: Economic Impact and Flow Preference of River Recreation

Consultant 1: Brian Lewandowski
Consultant 2: Lotic Hydrological
Consultant 3: RRC Associates
Consultant 4: Lynker Technologies

EXAMPLE A: Coordination

Task 1 - Flow preference and boatable days studies

Sub-task	AW Expense	Hourly Rate	# Hours	Subtotal
Conference Calls				
	Staff Time	$ 35.00	120	$ 4,200.00
Planning Meetings				
	Staff Time	$ 35.00	120	$ 4,200.00
Task 1 TOTAL			**AW Subtotal**	**$ 8,400.00**

Task 2 - Develop economic profiles

Sub-task	AW Expense	Hourly Rate	# Hours	Subtotal
Economic Analysis Design				
	Staff Time	$ 35.00	100	$ 3,500.00
Implementation & Outreach				
	Staff Time	$ 35.00	100	$ 3,500.00
Task 2 TOTAL			**AW Subtotal**	**$ 7,000.00**

Task 3 - Identify and analyze management scenarios

Sub-task	AW Expense	Hourly Rate	# Hours	Subtotal
Public engagement				
	Staff Time	$ 35.00	240	$ 8,400.00
Model analysis				
	Staff Time	$ 35.00	60	$ 2,100.00
Task 3 TOTAL			**AW Subtotal**	**$ 10,500.00**

Task 4 - Produce a memo describing economic profiles and management opportunities

Sub-task	AW Expense	Hourly Rate	# Hours	Subtotal

Stakeholder Coordination						
	Staff Time	$	35.00	120	$	**4,200.00**
Memo production						
	Staff Time	$	35.00	25	$	**875.00**
Task 4 TOTAL				**AW Subtotal**	$	**5,075.00**

Task 5 - Reporting Requirements						
Sub-task	**AW Expense**	**Hourly Rate**		**# Hours**	**Subtotal**	
Coordination with State & Roundtable						
	Staff Time	$	35.00	30	$	**1,050.00**
Task 5 TOTAL				**AW Subtotal**	$	**1,050.00**

Task 6 - Project Coordination					
	AW Subtotal		**Overhead**	**Subtotal**	
Overhead and personnel management					
	$	32,025.00	15%	$	**4,803.75**
Task 6 TOTAL					

Task 7 - Gather data river-based recreation user spending						
Sub-task	**AW Expense**	**Hourly Rate**		**# Hours**	**Subtotal**	
Stakeholder Coordination						
	Staff Time	$	35.00	120	$	**4,200.00**
Analyzing received materials						
					$	-
	Staff Time	$	35.00	25	$	**875.00**
Task 7 TOTAL				**AW Subtotal**	$	**5,075.00**

Task 8 - Analyze multi-sector benefits of river recreation						
Sub-task	**AW Expense**	**Hourly Rate**		**# Hours**	**Subtotal**	
Technical analysis						
	Staff Time	$	35.00	30	$	**1,050.00**
Final Report Development						
	Staff Time	$	35.00	60	$	**2,100.00**
Task 8 TOTAL				**AW Subtotal**	$	**3,150.00**

Task 9 - Finalize a report describing economic impacts of river recreation						
Sub-task	**AW Expense**	**Hourly Rate**		**# Hours**	**Subtotal**	
Coordination with Stakeholders						
	Staff Time	$	35.00	40	$	**1,400.00**
Deliverable finalized						
	Staff Time	$	35.00	40	$	**1,400.00**
Task 9 TOTAL				**AW Subtotal**	$	**2,800.00**

Task 10 - Reporting Requirements

Sub-task	AW Expense	Hourly Rate	# Hours	Subtotal
Coordination with State & Roundtable				
	Staff Time	$ 35.00	30	**$ 1,050.00**
Task 10 TOTAL			**AW Subtotal**	**$ 1,050.00**

Task 11 - Project Coordination				
		AW Subtotal	**Overhead**	**Subtotal**
Overhead and personnel management				
		$ 12,075.00	15%	**$ 1,811.25**
Task 11 TOTAL				

Totaly Project Cost	
Other Funding Sources:	
	Walton Family Foundation (pending)
	New Belgium Brewing (pending)
	Storer Foundation (pending)
	Mighty Arrow Foundation
	Pitkin County Healthy Rivers and Streams
Match Subtotal	
CWCB Request	

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Subcontracts: Lump Sum per Task						
Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**	
$ -	$ 5,305	$ -	$ -	**$ 5,305.00**	$	9,505.00
$ -	$ 5,650	$ -	$ -	**$ 5,650.00**	$	9,850.00
					$	**19,355.00**

Subcontracts: Lump Sum per Task						
Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**	
$ 2,000		$ 5,000		**$ 7,000.00**	$	10,500.00
			$ 5,000.00	**$ 5,000.00**	$	8,500.00
					$	**19,000.00**

Subcontracts: Lump Sum per Item						
Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**	
$ -		$ -	$ -	**$ -**	$	8,400.00
$ -		$ -	$ 35,000	**$ 35,000**	$	37,100.00
					$	**45,500.00**

Subcontracts: Lump Sum per Task					
Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**

$ -	$ -	$ -	**$ -**	$	4,200.00
$ 1,000.00	$ 1,000.00	$ 10,000.00	$ 12,000.00	$	12,875.00
				$	**17,075.00**

Subcontracts: Lump Sum per Task

Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**
				$ -	$ 1,050.00
				$	**1,050.00**

Subcontracts: Lump Sum per Task

Consultant 1	Consultant 2	Consultant 3	Consultant 4		**Total**
				$ -	$ 4,803.75
				$	**4,803.75**

Subcontracts: Lump Sum per Task

Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**
$ -		$ 1,000	$ -	**$ 1,000**	$ 5,200.00
$ -		$ 40,500.00	$ -	$ 40,500.00	$ 40,500.00
				0	$ 875.00
				$	**46,575.00**

Subcontracts: Lump Sum per Task

Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**
$ 10,000		$ -	$ -	**$ 10,000.00**	$ 11,050.00
$ 3,000		$ -	$ -	**$ 3,000.00**	$ 5,100.00
				$	**16,150.00**

Subcontracts: Lump Sum per Task

Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**	**Total**
$ -		$ -	$ -	**$ -**	$ 1,400.00
$ -		$ -	$ 2,000	**$ 2,000**	$ 3,400.00
				$	**4,800.00**

Subcontracts: Lump Sum per Task

Consultant 1	Consultant 2	Consultant 3	Consultant 4	**Subtotal**		**Total**	
				$	**-**	$	1,050.00
						$	**1,050.00**

Subcontracts: Lump Sum per Task							
Consultant 1	Consultant 2	Consultant 3	Consultant 4			**Total**	
				$	**-**	$	1,811.25
						$	**1,811.25**

	$ 177,170.00
	$40,000.00
	$4,357.50
	$5,000.00
	$25,000.00
	$19,355.00
	$93,712.50
	$83,457.50

Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
(303) 866-3441 ext. 3209
chris.sturm@state.co.us
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Mr. Sturm,

I am writing on behalf of City of Craig to provide support for American Whitewater's Colorado Water Plan grant proposal. Their project, *Economic Impact of River Recreation*, will provide a dynamic new outlook for river recreation, and quantify the economic benefit that river recreation has on river basins and local municipalities across the state of Colorado.

American Whitewater will achieve this goal by partnering flow preference studies, as identified in the Colorado Water Conservation Board nonconsumptive toolbox, with economic information to provide a realistic outcome that localities can leverage in their economic development planning. With the economic downturn that has taken place in 2020, and the proven economic benefits of outdoor recreation, this tool, once implemented, will be utilized across the county to help build a more resilient and community-oriented economy, and a just-transition for the future. This project proposes to utilize the flow preference approach identified in the nonconsumptive toolbox of the Colorado Water Conservation Board, and the economic study approach has been developed by economists and graduate students at the University of Colorado Boulder. The approach has community buy-in, and will be tailored specifically to meet the needs of Craig and Moffat County.

Through this project American Whitewater remains committed to its commitment with the Yampa River. By analyzing the economic impact that Yampa river recreation has on the City of Craig, and Moffat County, American Whitewater will be able to highlight invaluable metrics that will help direct community, economic, and regional growth in an unprecedented way. American Whitewater is the primary advocate for the preservation and protection of recreational flows across the state, and understands that identifying the economic impact of river recreation will provide valuable information for local communities. The City of Craig is pleased with the direction this project and encourage the Colorado Water Conservation Board to approve their Colorado Water Plan grant application, so that we may better highlight the economic potential of river recreation along the Yampa River.

Sincerely,

Ryan Dennison, Director
Craig Parks & Recreation Department
300 W. 4th St.
Craig, CO 81625
970-826-2004
rdennison@ci.craig.co.us

Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
(303) 866-3441 ext. 3209
chris.sturm@state.co.us
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Mr. Sturm,

I am writing on behalf of Craig and Moffat County Chamber of Commerce to provide support for American Whitewater's Colorado Water Plan grant proposal. Their project, *Economic Impact of River Recreation,* will provide a dynamic new outlook for river recreation, and quantify the economic benefit that river recreation has on river basins and local municipalities across the state of Colorado.

American Whitewater will achieve this goal by partnering flow preference studies, as identified in the Colorado Water Conservation Board nonconsumptive toolbox, with economic information to provide a realistic outcome that localities can leverage in their economic development planning. With the economic downturn that has taken place in 2020, and the proven economic benefits of outdoor recreation, this tool, once implemented, will be utilized across the county to help build a more resilient and community-oriented economy, and a just-transition for the future. This project proposes to utilize the flow preference approach identified in the nonconsumptive toolbox of the Colorado Water Conservation Board, and the economic study approach has been developed by economists and graduate students at the University of Colorado Boulder. The approach has community buy-in, and will be tailored specifically to meet the needs of Craig and Moffat County.

Through this project American Whitewater remains committed to its commitment with the Yampa River. By analyzing the economic impact that Yampa river recreation has on Craig, and Moffat County, American Whitewater will be able to highlight invaluable metrics that will help direct community, economic, and regional growth in an unprecedented way. American Whitewater is the primary advocate for the preservation and protection of recreational flows across the state, and understands that identifying the economic impact of river recreation will provide valuable information for local communities. The Craig and Moffat County Chamber of Commerce is pleased with the direction this project and encourage the Colorado Water Conservation Board to approve their Colorado Water Plan grant application, so that we may better highlight the economic potential of river recreation along the Yampa River.

Thank you for your consideration!

Holloway

Jennifer Holloway, MS.
CRAIG CHAMBER OF COMMERCE & MOFFAT COUNTY VISITOR CENTER
EXECUTIVE DIRECTOR
775 YAMPA AVE. CRAIG, CO 81625
970.824.5689

Friends of the Yampa
www.friendsoftheyampa.com
PO Box 771654, Steamboat Springs, CO 80477

Mission: To protect and enhance the environmental and recreational integrity of the Yampa River and its tributaries thru stewardship, advocacy, education and partnerships.

Date: July 30, 2020

Attn: Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

RE: Economic Impact of River Recreation, American Whitewater grant

Hi Chris,

I am writing on behalf of the Friends of the Yampa in support of the American Whitewater's Colorado Water Plan grant proposal. This project, the *Economic Impact of River Recreation*, will provide a dynamic new outlook for river recreation, and quantify the economic benefit that river recreation has on river basins and local municipalities across the state of Colorado.

To achieve this goal AW will partner flow preference studies with economic information to provide realistic outcomes that localities can leverage in their economic development planning. This project proposes to utilize the flow preference approach identified in the nonconsumptive toolbox of the Colorado Water Conservation Board, and the economic study approach has been developed by economists and graduate students at the University of Colorado Boulder. The approach has community buy-in, and will be tailored specifically to meet the needs of Craig and Moffat County.

By analyzing the economic impact that Yampa river recreation has on Craig, and Moffat County, we will be able to highlight invaluable metrics that will help direct community, economic, and regional growth. FOTY is pleased with the direction of this project and believes it critical for the CWCB to approve this Colorado Water Plan grant application. In the end, this project will highlight the economic potential of river recreation along the Yampa River, something that is truly needed. Thank you in advance for your support.

Kind regards,

Kent Vertrees
Board President, the Friends of the Yampa
kent@friendsoftheyampa.com

PITKIN COUNTY

530 East Main Street
Aspen, Colorado 81611
Phone: (970) 920-5200
www.pitkincounty.com

August 20, 2020

Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
(303) 866-3441 ext. 3209
chris.sturm@state.co.us
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Mr. Sturm,

I am writing on behalf of Pitkin County Board of County Commissioners to provide support for American Whitewater's Colorado Water Plan grant proposal. Their project, *Economic Impact and Flow Preference of River Recreation,* will provide a dynamic new outlook for river recreation, and quantify the economic benefit that river recreation has on river basins and local municipalities across the state of Colorado.

American Whitewater will achieve this goal by conducting flow preference and Boatable Days studies, as identified in the Colorado Water Conservation Board nonconsumptive toolbox, and partnering the results with an economic study to quantify existing recreational opportunities, the economic impact to the local community, and how future water conditions will impact recreation and the economy. We recognize that this project will take place across multiple basins, but we are supportive that this project will focus, in part, on the Roaring Fork Valley and that it will build off of ongoing work by American Whitewater to quantify recreation opportunities in the Valley. With the economic downturn that has taken place in 2020, and the proven economic benefits of outdoor recreation, this tool, once implemented, will be utilized by local governments, water managers, and Chambers of Commerce to help build a more resilient and community-oriented economy for the future. This project proposes to utilize the flow preference approach that has already been identified in the nonconsumptive toolbox of the Colorado Water Conservation Board, and the economic modeling approach has been developed by economists and graduate students at the University of Colorado Boulder. The approach has community buy-in, and will be tailored specifically to meet the needs of the Roaring Fork Valley.

In June, 2020, Pitkin County and the Healthy Rivers Board awarded American Whitewater with $19,355 to quantify river recreation opportunities through a flow preference study and American Whitewater's Boatable Days Tool. Using the results from these studies to inform an economic analysis of river recreation will be beneficial to our county, businesses, and residents. The Pitkin County Board of Commissioners are pleased with the direction this project is taking, and we encourage the Colorado Water Conservation Board to approve their Colorado Water Plan grant application, so that we may continue to quantify river recreation opportunities and the economic potential of river recreation in the Roaring Fork Valley.

Sincerely,
PITKIN COUNTY BOARD OF COMMISSIONERS

Steven F. Child

Steven F. Child, Chair

Pitkin County Healthy Rivers
530 East Main Street Suite 301
Aspen Colorado 81611
970 920 5191
pitkincountyrivers.com

Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Mr. Sturm,

I am writing on behalf of Pitkin County's Healthy Rivers Board to provide support for American Whitewater's Colorado Water Plan grant proposal. Their project, *Economic Impact and Flow Preference of River Recreation,* will provide a dynamic new outlook for river recreation, and quantify the economic benefit that river recreation has on river basins and local municipalities across the state of Colorado.

American Whitewater will achieve this goal by conducting flow preference and Boatable Days studies, as identified in the Colorado Water Conservation Board non-consumptive toolbox, and partnering the results with an economic study to quantify existing recreational opportunities, the economic impact to the local community, and how future water conditions will impact recreation and the economy. We recognize that this project will take place across multiple basins, but we are supportive that this project will focus, in part, on the Roaring Fork Valley and that it will build off of ongoing work by American Whitewater to quantify recreation opportunities in the Valley. With the economic downturn that has taken place in 2020, and the proven economic benefits of outdoor recreation, this tool, once implemented, will be utilized by local governments, water managers, and Chambers of Commerce to help build a more resilient and community-oriented economy for the future. This project proposes to utilize the flow preference approach that has already been identified in the non-consumptive toolbox of the Colorado Water Conservation Board, and the economic modeling approach has been developed by economists and graduate students at the University of Colorado Boulder. The approach has community buy-in, and will be tailored specifically to meet the needs of the Roaring Fork Valley.

In June, 2020, the Pitkin County Board of County Commissioners and the Healthy Rivers Board awarded American Whitewater with $19,355 to quantify river recreation opportunities through a flow preference study and American Whitewater's Boatable Days Tool. Using the results from these studies to inform an economic analysis of river recreation will be beneficial to our county, businesses, and residents. The River Board is pleased with the direction this project is taking, and we encourage the Colorado Water Conservation Board to approve their Colorado Water Plan grant application, so that we may continue to quantify river recreation opportunities and the economic potential of river recreation in the Roaring Fork Valley.

Sincerely,

Andre Willie
Chairman

THE COLORADO BASIN ROUNDTABLE
C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO 81602

November 25, 2020

Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

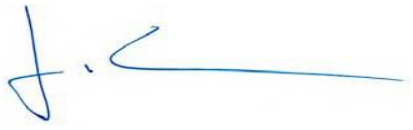
Dear Mr. Sturm,

I am writing on behalf of the Colorado Basin Roundtable to provide support for American Whitewater's Colorado Water Plan grant proposal. Their project, *Economic Impact of River Recreation,* will provide a new outlook for river recreation, and quantify the economic impact that river recreation has on river basins and local municipalities across the state of Colorado.

American Whitewater will be partnering Flow Preference and Boatable Days studies, as identified in the Colorado Water Conservation Board non-consumptive toolbox, with economic information to provide information for localities in decision making around development planning. American Whitewater is currently identifying flow preferences for the Crystal and Roaring Fork Rivers. The economic study AW is proposing with this project will be useful in taking that data a step further to understand how our local community is affected by river recreationists. We appreciate that American Whitewater will be working with local stakeholders to ensure community values and voices are driving this process. The approach will be tailored specifically to meet the needs of the Colorado River basin.

American Whitewater will identify metrics that can help direct decision making around infrastructure and planning as well as water management. We encourage the Colorado Water Conservation Board to approve their Colorado Water Plan grant application.

Regards,



Jason V. Turner, Chair

Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
(303) 866-3441 ext. 3209
chris.sturm@state.co.us
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Mr. Sturm,

I am writing on behalf of the South Platte Basin Roundtable to provide support for American Whitewater's Colorado Water Plan grant proposal. At the November 10, 2020 Roundtable meeting the membership voted to unanimously support this Water Plan grant application. Their project, *Economic Impact of River Recreation,* will provide a dynamic new outlook for river recreation, and quantify the economic benefit that river recreation has on river basins and local municipalities across the state of Colorado.

American Whitewater will achieve this goal by partnering flow preference studies, as identified in the Colorado Water Conservation Board nonconsumptive toolbox, with economic information to provide a realistic outcome that localities can leverage in their economic development planning. We appreciate that this project will take place across multiple basins and provide multiple benefits but see the utility of this valuable information right here in the South Platte Basin. With the economic downturn that has taken place in 2020, and the proven economic benefits of outdoor recreation, this tool, once implemented, will be utilized by local governments, water managers, Chambers of Commerce, and many others to help build a more resilient and community-oriented economy for the future. This project proposes to utilize the flow preference approach identified in the nonconsumptive toolbox of the Colorado Water Conservation Board, and the economic study approach has been developed by economists and graduate students at the University of Colorado Boulder. The approach has community buy-in and will be tailored specifically to meet the needs of the Poudre Valley.

Through this project American Whitewater remains committed to its previous work with the Cache La Poudre River and the South Platte Basin. By analyzing the economic impact that the Poudre river recreation has on Fort Collins, and Larimer County, American Whitewater will be able to highlight invaluable metrics that will help direct community, economic, and regional growth in an unprecedented way. American Whitewater is the primary advocate for the preservation and protection of recreational flows across the state, and understands that identifying the economic impact of river recreation will provide valuable information for local communities. The South Platte Basin Roundtable is pleased with the direction this project and encourage the Colorado Water Conservation Board to approve their Colorado Water Plan grant application, so that we may better highlight the economic potential of river recreation along the Poudre River.

Sincerely,

Garrett Varra

Chair, SPBRT

Yampa-White-Green Basin Roundtable

November 18, 2020

Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Mr. Sturm,

I am writing on behalf of Yampa White Green Basin Roundtable to provide support along with additional BRT feedback for American Whitewater's Colorado Water Plan grant proposal. Their project, "Economic Impact of River Recreation", will provide a dynamic new outlook for river recreation, and quantify the economic benefit that river recreation has on river basins and local municipalities across the state of Colorado. After discussion with the YWG Roundtable, concern was expressed regarding the undefined, and possibly new, modeling techniques that will be used to estimate economic impacts of river recreation. Therefore, the YWG Roundtable support of this grant is contingent upon American Whitewater establishing a local stakeholder group of diverse interests to review and advise American Whitewater regarding modeling techniques for determining economic impacts. We do not expect the stakeholder group to be modeling experts, but rather to provide a high-level "check and balance" to assure fair and unbiased criteria are used in modeling economic impacts. The Basin Roundtable has a history of utilizing similar processes during agriculture, municipal and industrial, and non-consumptive studies in the past and we look forward to working with American Whitewater on this study.

We encourage the Colorado Water Conservation Board to approve their Colorado Water Plan grant application incorporating the YWG BRT stakeholder group suggestion, so that we may better highlight the economic potential of river recreation along the Yampa River.

Please look favorably on this grant request to help in the completion of this valuable project.

Sincerely,

Alden Vanden Brink

Alden Vanden Brink
Yampa-White-Green BRT Chair