COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

P (303) 866-3441
F (303) 866-4474

John Hickenlooper, Governor

Robert Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Linda Bassi, Stream and Lake Protection Section

DATE: September 20-21, 2017 Board Meeting

AGENDA ITEM: 10 a-d. Water Plan Grants – Environment and Recreation Initial Consideration

---

This item is for consideration only. No action is required at this time

Introduction

The Environment and Recreation grant category has $1 million in available funds. In the first round of applications, the CWCB received eleven applications totaling $3,322,437 and six Intents to Apply totaling $559,250. After staff met with the applicants, one application was withdrawn, and six applications were moved to the Intent to Apply category to provide applicants more time to: (1) address various issues identified with their applications, (2) work on developing stakeholder support, or (3) explore alternative funding options. Staff supports the four applications described below, which total $454,284, leaving $545,716 available for future rounds of grant funding. The twelve applications in the Intent to Apply category now total $1,752,640.

Applicant	Project Name	Request	% of Project	Staff Support
a. Denver Botanic Gardens	South Platte River Basin Restoration Planning and Feasibility Study	$69,847	48%	$69,847
b. Trout Unlimited	Needle Rock Ditch Diversion Modification	$20,000	50%	$20,000
c. Trout Unlimited	Windy Gap Reservoir Bypass Project	$1,950,000	12%	$325,237
d. American Whitewater	Assessing Nonconsumptive Recreational Needs and Opportunities in the Rio Grande River Basin	$39,200	43%	$39,200

See attached Data Sheets for summaries and locations.

Staff Review and Comments

a. Denver Botanic Gardens - South Platte River Basin Restoration Planning and Feasibility Study

Denver Botanic Gardens (DBG) has requested grant funding to conduct a feasibility study and develop a restoration plan for streams located on Jefferson County Open Space properties. This work will build upon the positive results of a stream restoration pilot project DBG conducted on Deer Creek at DBG Chatfield Farms that restored historical flows, reactivated historical oxbows and increased the amount

of riparian habitat. This feasibility study, which will be conducted in partnership with Jefferson County, will result in a final report and specific plan for DBG and Jefferson County to restore portions of streams in the South Platte Basin.

This project directly addresses South Platte environmental and recreation goals outlined in Colorado's Water Plan (6-50), including maintaining or increasing habitat in environmental and recreational focus areas with imperiled species or plant communities. Global, federal and/or state rare, imperiled, threatened, or endangered species occurring in the Basin include the bald eagle, Plains sharp-tailed grouse, Preble's meadow jumping mouse, Northern leopard frog, four rare fish, and ten butterflies, including the rare Hop's Blue. The project also furthers the Water Plan goal of promoting restoration, recovery, and resiliency of endangered, threatened, and imperiled aquatic and riparian dependent species and plant communities.

Staff supports recommending a $69,847 grant to Denver Botanic Gardens for Board approval at the November 2017 meeting.

b. Trout Unlimited - Needle Rock Ditch Diversion Modification

Trout Unlimited (TU) has requested grant funding for: (1) modifying the Needle Rock Ditch diversion structure on Smith Fork Creek in Delta County to enable fish to pass upstream over the diversion, and (2) installing a remotely monitored stream gage at the diversion structure. This project will reconnect approximately 2 miles of Smith Fork Creek with its upper reaches, improving recreation opportunities by improving fish populations. The new stream gage will benefit water users and the Division of Water Resources by assisting with water rights management and monitoring stream flows and trends on the Smith Fork. By working with the Needle Rock Ditch Company on this project, TU hopes to demonstrate the benefits of partnershipe among the agricultural, environmental, and recreational communities.

The project furthers the Water Plan goals of: (1) helping local water managers react to variable flow conditions and adapt to water shortages (stream gage); (2) protecting and enhancing river-based environments and recreational opportunities; and (3) improving stream conditions to promote self-sustaining fisheries (habitat reconnection). The project also will further the Gunnison Basin Roundtable Basin Implementation Plan goals of protecting environmental and recreational water uses, and encouraging the beneficial relationship between agriculture and environmental and recreational uses.

Staff supports recommending a $20,000 grant to Trout Unlimited for Board approval at the November 2017 meeting.

c. Trout Unlimited - Windy Gap Reservoir Bypass Project (Support Reduced Funding)

Trout Unlimited (TU) has requested grant funding for final design and engineering, and construction of the Windy Gap Reservoir Bypass Project (Bypass Channel), which will restore 5,280 ft of the Colorado River currently inundated by Windy Gap Reservoir. The Bypass Channel will reconnect Colorado River habitat upstream and downstream of the Reservoir and will further the Colorado River Habitat Restoration Project's goal to restore aquatic life downstream of the Reservoir. Numerous and diverse stakeholders support the Bypass Channel and have worked together diligently to develop funding for this $16,139 684 project.

The project furthers the Water Plan goals of: (1) protecting and enhancing river-based

environments and recreational opportunities that support local and statewide economies; and (2) improving stream conditions to promote self-sustaining fisheries. Additionally, this project is one of the Colorado River Basin Roundtable's IPPs.

Staff supports recommending a $325,237 grant to Trout Unlimited for Board approval at the November 2017 meeting. This amount is reduced from the requested $1,950,000, and would be used for final design and engineering of the Bypass Channel.

d. American Whitewater - Assessing Nonconsumptive Recreational Needs and Opportunities in the Rio Grande River Basin

American Whitewater (AW) has requested grant funding to coordinate with the Rio Grande Basin Roundtable (RGBRT) and local stakeholders on conducting recreational flow preference studies on priority river reaches in the Rio Grande Basin, and updating and completing a Boatable Days Study that AW conducted in 2015. These studies will establish a quantitative baseline of current resource conditions supporting recreational opportunities and assist the RGBRT in determining what, if any, change in recreation opportunities are attributable to IPPs and future hydrological changes. The resulting information will directly feed into and be a part of the stream management plan that the RGBRT is planning to conduct.

This project furthers the Water Plan goals of: (1) protecting and enhancing river-based recreational opportunities that support local and statewide economies; and (2) supporting the development of multi-purpose projects that benefit recreational needs as well as agricultural and communities' water needs. Additionally, the Nonconsumptive Needs Assessment Toolbox recommends use of AW's flow surveys to assess recreational boating needs, and the Toolbox identifies maintaining a certain percentage of Boatable Days as an example of a nonconsumptive measurable outcome.

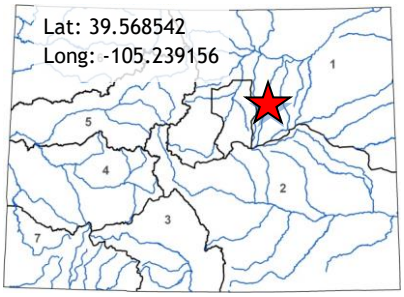
Staff supports recommending a $39,200 grant to American Whitewater for Board approval at the November 2017 meeting.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

South Platte Basin Restoration Feasibility Study
Denver Botanic Gardens

September 2017 Board Meeting
Initial Consideration / Final Consideration

Water Plan Grant Application



LOCATION	
County/Counties:	Jefferson; Larimer; Boulder; Clear Creek; Park; Denver; Adams; Weld
Drainage Basin:	South Platte

DETAILS	
Total Project Cost:	$145,485
Water Plan Grant Request:	$69,847
Other CWCB Funding:	$0
Other Funding Amount:	$7,920
Applicant Match:	$67,718
Project Type(s): Study	
Project Category(Categories): Environment & Recreation, Conservation & Land Use Planning	
Measurable Result: 4,000 ft of stream restored; 20 acres of restored habitat	

The South Platte River Basin accounts for over half of the state's economic activity, contains seven of the top ten agricultural producing counties in Colorado, and includes many areas for recreation. With increasing populations and water demands, the South Platte Basin Implementation Plan (2015) encourages the protection of watershed health for the environmental and recreational economy. In 2015, Denver Botanic Gardens ("DBG") conducted a watershed improvement project in the lower portion of the South Platte River Basin at Denver Botanic Gardens Chatfield Farms. Partnering with six other organizations and agencies and using a mix of federal, state, county, and private funds, DBG installed three in-stream structures along Deer Creek to re-wet historical oxbows, improving hydrology from historical stream channelization. DBG also planted over 1000 willows, cottonwoods, and other native riparian species and initiated a long-term monitoring program. Monitoring of the project has shown that the installation of in-stream structures can restore historical flows, reactivating historical oxbows and increasing the amount of riparian habitat. Based on the success of this minimally invasive technique, DBG desires to expand this approach to other areas in the South Platte River Basin.

Partnering with Jefferson County Open Space, DBG proposes to identify appropriate locations for in-stream structures on Open Space properties and to incorporate undergraduate and graduate students into all components of the project. The focal habitat for this project is the aquatic habitat in the creek channel, floodplain, cottonwood riparian forest, and associated species. Riparian areas are closely connected with surrounding habitats, acting as thoroughfares between ecosystems such as the mountains and prairies. The proposed work is a vital step to implement restoration efforts on Jefferson County Open Space property.

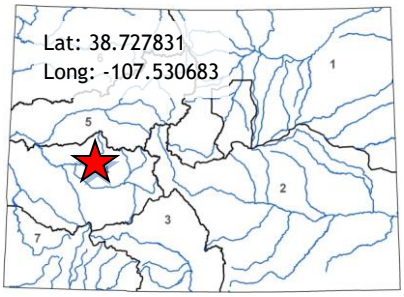
Jefferson County Open Space strongly supports this application and intends, in coordination with DBG, to use the results of the study to determine budgets, permitting needs, opportunities for public engagement, and construction timelines for project implementation.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Water Plan Grant Application

Needle Rock Ditch Diversion Modification
Trout Unlimited

September 2017 Board Meeting
Initial Consideration / Final Consideration



LOCATION	
County/Counties:	**Delta**
Drainage Basin:	**Gunnison**

DETAILS	
Total Project Cost:	$40,000
Water Plan Grant Request:	$20,000
Other CWCB Funding:	$0
Other Funding Amount:	$17,000
Applicant Match:	$3,000
Project Type(s): **Construction**	
Project Category(Categories): **Environment & Recreation, Supply & Demand, Agriculture, Engagement and Innovation**	
Measurable Result: **6 miles restored stream; 100 AF efficiency savings**	

Trout Unlimited (TU) is the nation's largest cold water conservation organization with approximately 150,000 volunteers and roughly 277 employees working to protect, reconnect, restore and sustain America's fisheries. TU, with assistance from the Needle Rock Ditch Company, Colorado River Water Conservation District, Western Slope Conservation Center, and local stakeholders, proposes to modify the diversion structure of the Needle Rock Ditch diversion to allow fish to pass upstream and to reconnect habitat on Smith Fork Creek. The current diversion is a barrier to all fish during most flow conditions. Additionally, TU and its partners will install a remotely monitored flow measurement gaging station to Smith Fork Creek at the diversion structure.

The Needle Rock Ditch often diverts the majority of streamflow in Smith Fork Creek, leaving little water available for fish habitat below the diversion. Fish that migrate below the diversion during high spring run-off become stranded. The addition of a fish passage structure to the diversion dam will reduce fish loss, bolstering the number of wild fish in Smith Fork Creek, and will improve recreational opportunities on the creek. Real-time stream flow monitoring will help the Crawford Water Conservancy District, other irrigators, and the Division of Water Resources monitor flows in Smith Fork Creek, allowing for improved management of diversions and stored water deliveries to downstream water users. The measuring device also will help water managers track flow conditions and trends in Smith Fork Creek, which has not been gaged since 1994.

Objectives:

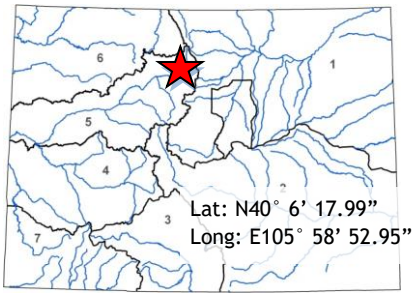
1. Reconnect approximately 2 miles of Smith Fork Creek with its upper reaches.
2. Provide passage for rainbow, brown, brook, and cutthroat trout, speckled dace, and mottled sculpin during most flow regimes.
3. Provide stream flow gaging that can be monitored remotely.
4. Improve the populations of sport fish in the Smith Fork drainage for improved recreational angling opportunities.
5. Improve populations of all fish and of the riparian ecosystem in the Smith Fork drainage.
6. Demonstrate the viability of this type of project and its applicability where similar conditions exist in the Gunnison Basin.
7. Continue to build a precedent of cooperation between consumptive and non-consumptive users that result in improved rivers and streams.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Water Plan Grant Application

Windy Gap Reservoir Bypass Project
Trout Unlimited

September 2017 Board Meeting
Initial Consideration / Final Consideration



LOCATION	
County/Counties:	**Grand**
Drainage Basin:	**Colorado River**

DETAILS	
Total Project Cost:	$16,139,684
Water Plan Grant Request:	$1,950,000
Other CWCB Funding:	$14,189,684
Other Funding Amount:	
Applicant Match:	
Project Type(s): **Construction & IPP**	
Project Category(Categories): **Environment & Recreation, Supply & Demand Gap, Conservation & Land Use Planning**	
Measurable Result: 5,280 ft of restored stream	

Trout Unlimited (TU) is a non-profit national conservation organization with more than 150,000 members and over 400 chapters nationwide; its mission is to conserve, protect and restore cold water fisheries and their habitat. In Colorado, TU has developed a number of partnerships to implement cooperative projects and is the fiscal agent for a number of CWCB grants for these projects. TU has a history of involvement with such projects, playing a role in negotiations leading to ground-breaking cooperative agreements and working closely with its partners to improve the conditions of headwater streams.

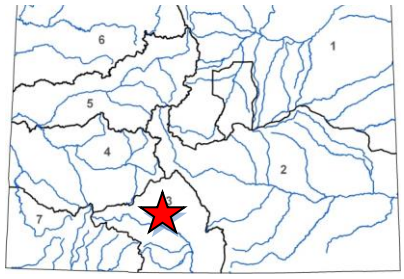
The Windy Gap Reservoir Bypass Project will re-establish approximately one mile of the Colorado River channel currently inundated by Windy Gap Reservoir, reconnecting the Colorado River and its habitat upstream and downstream of the reservoir. The Project is expected to significantly improve aquatic habitat conditions, which have deteriorated after years of transmountain diversions that supply water to Northern Colorado and the Front Range. Evaluation of the feasibility of the Project was required as part of the CWCB-approved Fish and Wildlife Enhancement Plan for both the Windy Gap Firming Project and the Moffat Collection System Project. The Bypass Project will further the Colorado River Habitat Restoration Project's goal to restore aquatic life downstream of the Reservoir. Sponsored by partners with very diverse interests and a long history of conflict, the Project is the linchpin that connects regional restoration efforts in the headwaters of the Colorado River, and provides a model for watershed cooperation to preserve river health while at the same time serving future municipal water supply needs. CWP grant funds would be used to develop final design and engineering and for construction of the bypass channel.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Assessing Nonconsumptive Recreational Needs & Opportunities in the Rio Grande River Basin American Whitewater

September 2017 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION
County/Counties: **Conejos; Hinsdale; Mineral; Rio Grande**
Drainage Basin: **Rio Grande**

392 DETAILS	
Total Project Cost:	$90,160
Water Plan Grant Request:	$39,200
Other CWCB Funding:	$0
Other Funding Amount:	$39,200
Applicant Match:	$11,760
Project Type(s): **Study**	
Project Category: **Environment & Recreation**	
Measurable Result: **3 rivers assessed for recreational boating needs and opportunties**	

American Whitewater (AW) is a national non-profit with a mission "to conserve and restore America's whitewater resources and to enhance opportunities to enjoy them safely." AW's Colorado River Stewardship Program represents recreation interests in the development of programs, policies, and cooperative management strategies that protect and enhance river health and recreational needs while balancing the needs of cities and farms. AW has conducted recreational flow studies in Colorado that have informed State and Federal water planning efforts, including the Colorado River Basin Study, State Water Supply Initiative, Non-Consumptive Needs Assessments and several Wild & Scenic River Alternative Management efforts.

AW will coordinate directly with the Rio Grande BRT (RGBRT) to implement existing programs identified in the Nonconsumptive Toolbox that address data gaps related to streamflow needs for recreation. The RGBRT is planning a Boatable Days Study as part of a basin-wide stream management planning effort, and the BRT has invited AW to assist with the Study. This Study will provide an objective, science-based measure of how whitewater recreation opportunities might change (increase or decrease) under future conditions and supply scenarios. AW has completed similar studies in the Colorado, Yampa, and Southwest Basins, and AW is proposing to extend its research efforts to assist the Rio Grande Basin in defining a baseline of recreational non-consumptive flow needs, from which the RGBRT can model the effects of future projects and processes.

CWP grant and matching funds will be used to support coordination with the RGBRT and local stakeholders, conduct recreational flow preference studies on priority river reaches in the Rio Grande Basin, and complete the Boatable Days Study. This Project will establish a quantitative baseline of current resource conditions supporting recreational opportunities, and aid the RGBRT in determining what, if any, change in recreation opportunities are attributable to IPPs and future hydrological changes. AW proposes that the following 3 streams and rivers be assessed: Conejos River, Rio Grande River, and Treasure Creek.

The project goals include increasing engagement from the Rio Grande Basin community in local water issues and recruiting direct input from the recreational boating community to inform AW's recreational flow evaluation study and needs assessment for the RGBRT. This project will provide direct opportunities for public input and engagement, while providing a platform for collaboration between AW, the RGBRT, local stakeholders, and the general public.