

**COLORADO** Colorado Water Conservation Board Department of Natural Resources

1313 Sherman Street, Room 721 Denver, CO 80203

# Memorandum

To: Colorado Water Conservation Board Members

From: Craig Godbout, Program Manager Water Supply Reserve Account

Date: May 7, 2014

Subject: Agenda Item 23, May 21-22, 2014 Board Meeting Water Supply Reserve Account Grant Program

#### Staff Recommendation - Action Items

A summary of staff's recommendation for each WSRA application is provided in the attached table. If applicable, the table also includes a breakdown of match amounts for applications that include a request for statewide WSRA funds. All Statewide Account requests for May 2014 have been held over from the March 2014 meeting due to insufficient availability of Statewide Account funds. For clarity, the table includes all WSRA requests that have a CWCB Loan component, and are listed as Agenda Items 31(a), and 32(a).

Agenda Item 23(j): Staff will review with the Board the most recent modifications suggested by the Joint CWCB/IBCC WSRA Criteria and Guidelines Subcomiittee regarding the development of a Scoring Matrix for WSRA Tiers 1-3 Evaluation Criteria applicable to Statewide Account requests only.

Favorable recommendations may be contingent on providing the CWCB with additional information, clarifications, or modifications in the scope of work. Please refer to the Water Activity Summary Sheets contained within this agenda item to find a summary of staff's review and any conditions associated with each recommendation.

#### Background

For this agenda item the Board is provided with a brief overview of applications to the Water Supply Reserve Account (WSRA). Attachments to this memo include:

- Summary spreadsheet detailing funding requests for the basin and statewide accounts;
- Summary spreadsheet displaying current WSRA Balance Summary of Fund Appropriations and Receipts by Fiscal Year, and Fund Distribution by Basin and Statewide Account.
- Water Activity Summary Sheets which provide an overview, discussion, issues/additional needs, and staff recommendation regarding funding, partial funding, or not funding the applications.

Staff's review of the applications involves the following steps:



- 1) Applications are reviewed for completeness based on the information requirements, which are primarily outlined in Part 2 of the Criteria and Guidelines (C&G).
- 2) Applications are reviewed to verify that the water activity meets the eligibility requirements in Section 39-29-108 (III) C.R.S. (C&G, Part 2) and the threshold criteria, which are based on the requirements of Section 39-29-108 (III) C.R.S., and two sections of the Water for the 21st Century Act (House Bill 1177); Section 37-75-102 and Section 37-75-104(2)(c) (C&G, Part 3). Staff also verifies that the applicant was an eligible entity to receive funding (C&G, Part 2).
- 3) Staff then prepares the Water Activity Summary Sheet which documents the outcome of the review process and contains staff's recommendations.

#### Water Supply Reserve Account Balance Summary and Project Status Report

To provide the Board updates on the status of specific Water Supply Reserve Account grant applications and projects, staff provides a status report in the CWCB Director's Report. The WSRA status report includes the following information:

- List of completed WSRA projects; •
- List of WSRA projects in progress; and .
- List of WSRA projects in the contracting and procurement process. •



Agenda Item	Basin	Applicant	Name of Water Activity	Basin(s) Account Request	Statewide Account Request	Total Request	Cash Match	In-Kind Match	Total Match	Staff Recommendation	Notes
23 a	Arkansas	Huerfano County Water Conservancy District	Red Wing Augmentation Facility	\$50,000	\$200,000	\$250,000	\$380,000	) \$0	\$380,000	from the Arkansas Basin Account and	Statewide Account request delayed from March 2014 CWCB meeting due to inabilit to fund all Statewide Account requests
23 b	Gunnison	City of Gunnison	Gunnison River Riparian and Diversion Restoration Project	\$0	\$400,752	\$400,752	\$239,248	3 \$119,400	\$358,648	Staff recommends approval of \$400,752 from the Statewide Account	Statewide Account request delayed from March 2014 CWCB meeting due to inabili to fund all Statewide Account requests
23 c	Gunnison	Stewart Mesa Water Company	Stewart Mesa Water Company Improvement Project	\$12,876	\$0	\$12,876	\$20,224	\$7,520	\$27,744	Staff recommends approval of \$12,876 from the Gunnison Basin Account	
23 d	Rio Grande	San Luis Valley Well Owner's Inc.	Hydrologic Recharge Feasibility Study for the Rio Grande Basin Augmentation - Phase 1	\$8,000	\$142,000	\$150,000	\$38,000	\$0	\$38,000	•••	Statewide Account request delayed from March 2014 CWCB meeting due to inabili to fund all Statewide Account requests
23 e	Rio Grande	Trinchera Irrigation Company	Mountain Home Reservoir Dam Outlet Works Upgrade Feasibility Study	\$25,000	\$0	\$25,000	\$0	\$12,650	\$12,650	Staff recommends approval of \$25,000 from the Rio Grande Basin Account	
23 f	Southwest	Geothermal Greenhouse Partnership, Inc.	Geothermal Greenhouse Partnership Project	\$0	\$50,000	\$50,000	\$75,000	\$310,440	\$385,440	Staff recommends approval of \$50,000 from the Statewide Account	Statewide Account request delayed from March 2014 CWCB meeting due to inabili to fund all Statewide Account requests
23 g	Southwest	Montezuma County	McElmo Flume Rehabilitation Project	\$20,000	\$0	\$20,000	\$143,340	\$0	\$143,340	Staff recommends approval of \$20,000 from the Southwest Basin Account	
23 h	Southwest	Red Mesa Reservoir and Ditch Company	Red Mesa Feasibility Study	\$30,000	\$0	\$30,000	\$30,000	\$0	\$30,000	Staff recommends approval of \$30,000 from the Southwest Basin Account	
23 i	South Platte	County of Boulder/Green Ditch Company	Green Ditch Rehabilitation and Fish Passage Project	\$25,000	\$220,000	\$245,000	\$55,000	\$0	\$55,000	Staff recommends approval of \$25,000 from the South Platte Basin Account and \$220,000 from the Statewide	Statewide Account request delayed from March 2014 CWCB meeting due to inabili to fund all Statewide Account requests
oon/Cront	Combination										
31 a		Colorado Rio Grande Restoration Project	Plaza Project - Phase 3: Prairie Ditch Implementation Project	\$21,500	\$408,500	\$430,000	\$445,000	) \$100,000	\$566,500		Statewide Account request delayed from March 2014 CWCB meeting due to inabili to fund all Statewide Account requests
32 a	Rio Grande	Conejos Water Conservancy District	Conejos River System Confluence Management Project	\$15,000	\$280,000	\$295,000	\$287,000	) \$0			Statewide Account request delayed from March 2014 CWCB meeting due to inabilit to fund all Statewide Account requests
			Total Basin Account Requests	\$207,376	\$1,701,252	\$1,908,628					
			<u>Arkansas Basin Total Requests</u>	Basin Account \$50,000		<u>Total</u> \$250,000					
			Colorado Basin Total Requests	\$0	\$0	\$0					
			Gunnsion Basin Total Requests	\$12,876	\$400,752	\$413,628					
			Metro Basin Total Requests	\$0	\$0	\$0					
			North Platte Basin Total Requests	\$0	\$0	\$0					
			Rio Grande Basin Total Requests	\$69,500	\$830,500	\$900,000					
			Southwest Basin Total Requests	\$50,000	\$50,000	\$100,000					
			South Platte Basin Total Requests	\$25,000	\$220,000	\$245,000					
				\$0	\$0	\$0					
			Water Supply Reserve Account Total Reque			\$1,908,628					

Updated 04/24/14

# COLORADO WATER CONSERVATION BOARD Water Supply Reserve Account - Balance Summary

April 1, 2014

Fund Appropriation and Receipts							
Legislative Statewide							
Fiscal Year	Appropriation	Funds Received	Account	Basin Account			
2006/2007	\$10,000,000	\$10,000,000	\$5,500,000	\$4,500,000			
2007/2008	\$6,000,000	\$6,000,000	\$4,200,000	\$1,800,000			
2008/2009	\$10,000,000	\$7,000,000	\$4,300,000	\$2,700,000			
2009/2010	\$5,775,000	\$5,775,000	\$4,215,750	\$1,559,250			
2010/2011	\$6,000,000	\$6,000,000	\$4,380,000	\$1,620,000			
2011/2012	\$7,000,000	\$7,000,000	\$4,732,000	\$2,268,000			
2012/2013	\$10,000,000	\$7,157,724	\$4,580,943	\$2,576,781			
2013/2014	\$10,000,000	\$10,091,639	\$6,458,649	\$3,632,990			
Interest	N/A	\$2,781,515	\$1,780,170	\$1,001,345			
TOTAL	\$44,775,000	\$61,805,878	\$40,147,512	\$21,658,366			

Note: The WSRA is a Severance Tax "Tier II" program with 40% of funds distributed on July 1, 30% on January 1, and the final 30% on April 1.

In FY 2008/2009 the final 30% installment of \$3,000,000 was not received due to the State's budgetary shortfall.

In January 2012 interest for the program from its inception to date was credited directly to the Statewide Account. Interest from January 2012 on is regularly calculated by the Treasury and credited to the Statewide Account.

Fund Distribution					
Basin	Approved Basin Grants	Total Basin Funds	Basin Account Balance	Approved State Grants	Statewide Account Balance
Arkansas	\$1,954,919	\$2,406,485	\$451,566	\$5,976,865	
Colorado	\$1,922,137	\$2,406,485	\$484,348	\$3,976,760	
Southwest	\$1,696,626	\$2,406,485	\$709,859	\$5,110,359	
Gunnison	\$1,957,342	\$2,406,485	\$449,143	\$3,178,081	
Metro	\$2,041,929	\$2,406,485	\$364,556	\$4,086,768	
North Platte	\$1,299,017	\$2,406,485	\$1,107,468	\$311,027	
Rio Grande	\$2,179,237	\$2,406,485	\$227,248	\$9,060,823	
South Platte	\$1,895,123	\$2,406,485	\$511,362	\$5,035,080	
Yampa/White	\$1,508,440	\$2,406,485	\$898,045	\$514,313	
TOTAL	\$16,454,770	\$21,658,366	\$5,203,596	\$37,250,076	\$2,897,436
TOTAL APPROVED	GRANTS				\$53,704,846

Note: Only includes grants approved by CWCB

## Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet Agenda Item 23a

Applicant: Huerfano County Water Conservancy District

Water Activity Name: Red Wing Augmentation Facility – Huerfano Regional Augmentation Project

Water Activity Purpose: Structural Water Project

County: Huerfano

Drainage Basin: Arkansas

Water Source: Huerfano River

Amount Requested: \$250,000

Source of Funds: \$200,000 (Statewide Account)

\$50,000 (Arkansas Basin Account)

**Matching Funds:** \$330,000 cash (\$50,000 Huerfano County Water Conservancy District and \$280,000 CWCB Water Project Loan)

#### **Staff Recommendation**

Staff recommends approval of up to \$200,000 from the Statewide Account and up to \$50,000 from the Arkansas Basin Account to help fund the Red Wing Augmentation Facility – Huerfano Regional Augmentation Project.

#### Water Activity Summary:

The Red Wing Augmentation Facility is an important part of a permanent regional augmentation plan covering the Huerfano River Basin within Huerfano County. In addition to this grant, the regional plan was initially funded by a \$2.22M loan from the CWCB's Water Project Loan Fund as well as pledged tax revenue. The regional plan will provide augmentation water to entities now using water unlawfully because of the absence of working augmentation plans and will support future uses of water on this over-appropriated stream.

The Red Wing Augmentation Facility will enable upstream storage and release of historic consumptive use water from the Priority #7 water right, historically diverted through the William Craig Ditch. The District has acquired six-sevenths of the William Craig Ditch. It also acquired the Camp Ranch property, upon which the ditch was used for irrigation. This interest is anticipated to yield an average of approximately 150 acre feet (AF) per year of consumptive use water.

Located immediately offstream of the upper Huerfano River, the Red Wing Augmentation Facility will consists of (1) a diversion structure co-located with the existing Wilson Ditch, (2) a waste-way or augmentation station shortly below the headgate, (3) a splitter box dividing the water diverted between the District and the Wilson Ditch, (4) a pipeline from the splitter box to the Red Wing Augmentation Facility, (5) the lined pond itself, having a capacity of 25 AF, (6) outlet works into a second pipeline delivering releases back to (7) an augmentation station at the river, together with (8) appropriate measuring devices and telemetry. Water will be diverted from the river pursuant to an appropriate right of exchange.

For almost five years, by using temporarily leased water rights, the District has provided augmentation water to an increasing number of water users via individual annual leases of consumptive use water pursuant to approved Substitute Water Supply Plans (SWSP) and Rule 14 Plans. Since the limited statutory life of the plans is about to expire, the District must initiate a permanent augmentation plan.

The regional augmentation plan will provide consumptive use water to existing customers of the District (privately- and publically-owned residential supplies for over 300 homes, plus the Huerfano County Road & Bridge Department), to new water users in the basin, and to other out of priority water users that are not currently strictly administered. Water users will buy permanent augmentation certificates from the District for consumptive use water in amounts to cover their depletions, as well as annual administrative fees.

## **Discussion:**

The Red Wing Augmentation Facility appears to provide multiple benefits. It is an integral part of a larger water activity – establishing a permanent regional augmentation plan for out-of-priority uses of water in the Huerfano River Basin. This activity meets multiple needs and issues by providing replacement water for domestic and residential water supplies, county road maintenance and replacement of pond evaporation. The Town of Gardner and its public school will not be able to continue to operate without the success of the Red Wing Augmentation Facility and the regional augmentation plan that this storage supports.

There are five entities which currently participate in the initial phase of this activity, by annual SWSPs or by Rule 14 Plans, and expect to be served by the permanent augmentation plan: Huerfano County Road & Bridge Department (water for dust control and road maintenance) and private and public water systems serving over 300 homes including: Malachite Spring, CO 61 Homeowners Association, Gardner Water & Sanitation District, and Paradise Acres HOA. Others have expressed interest, including energy companies in need of water for drilling, and residential properties that cannot be used until adequate replacement water supplies are developed (remaining lots within Paradise Acres and CO61). In addition, there are numerous out-of-priority existing water users that will be curtailed by the Division Engineer's Office if the regional augmentation plan is not successfully implemented. This was evidenced by a letter from Steve Witte, Division Engineer.

Additionally, the waters of the Huerfano Basin are subject to the terms of the Arkansas River Compact. Therefore, use of Huerfano River water must be in compliance with the Compact. This project helps ensure Compact compliance by eliminating out-of-priority depletions in violation of the Compact.

Due to these considerations, staff believes this project meets many of the Statewide Evaluation Criteria.

## Issues/Additional Needs: None

#### **Staff Recommendation:**

Staff recommends approval of up to \$200,000 from the Statewide Account and up to \$50,000 from the Arkansas Basin Account to help fund the Red Wing Augmentation Facility – Huerfano Regional Augmentation Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet Agenda Item 23.b.

Applicant: City of Gunnison

Water Activity Name: Gunnison River Riparian and Diversion Restoration Project

Water Activity Purpose: Consumptive and Non-consumptive Structural Water Project

County: Gunnison

Drainage Basin: Gunnison

Water Source: Gunnison River

Amount Requested: \$400,752

Source of Funds: Statewide Account

**Matching Funds:** \$356,648 cash and \$3,000 in-kind (cash match includes \$45,540 from Gunnison Basin Account, approved in March 2014)

#### **Staff Recommendation**

Staff recommends approval upon the condition of providing the additional documentation specified below in Issues/Additional Needs section of up to \$400,752 from the Statewide account to help fund the Gunnison River Riparian and Diversion Restoration Project.

#### Water Activity Summary:

The project focuses on improvement of riparian and fishery habitat; improvement of agricultural water rights diversion structures; improvement of recreational opportunities; and protection of the municipal aquifer recharge area on a 3.59 mile reach of the Gunnison River adjacent to the city of Gunnison. The six segments in the project each have specific impairments related to agricultural diversions; recreation uses; fisheries and riparian habitat; and, flood attenuation.

An Assessment of Riparian and Aquatic Habitat Associated with the Upper Gunnison River, Gunnison County, Colorado (Bio-Environs, December 2010) includes the reach of the river being addressed in this project. The study found that, since 1950, because of increased residential development along the Gunnison River, approximately 50 percent of the riparian forest has been lost. Improved agricultural water diversion structures will contribute to enhanced plant communities and reduce streambank erosion, land loss and sedimentation downstream. Property designed diversion structures will benefit the irrigators by decreasing the annual costs of maintenance.

The project goals are to:

- construct four new diversion headgates to improve the beneficial agricultural water right use;
- assist water right holders in improving existing water diversion structures to improve habitat, stability and channel alignment;
- explore the potential to reconnect the floodplain with the existing channel to improve river function, flood storage, and aquifer recharge;
- assess aggradation and degradation near the bridges;
- maintain the existing river planform to maintain property boundaries;
- incorporate in-channel habitat improvement structures while not raising flood stage on properties adjacent to and downstream of project area which are not managed with the goal of maintaining floodplain connectivity;
- increase wild brown and rainbow trout biomass and densities;

- improve conditions for quality-sized adult trout;
- improve fishing access with a trail system;
- create in-channel deep pools to provide lower velocity holding areas;
- improve riparian habitat for wildlife and improve the river function by planting native woody vegetation; and,
- improve and manage boater access.

#### **Discussion:**

This reach is adjacent to the City of Gunnison, and will have significant recreational use.

#### **Issues/Additional Needs:**

Please provide the following additional detail:

- Geomorphic monitoring should conform to CWCB standards.
- All proposed river channel work shall conform to the CWCB <u>Rules and Regulations for Regulatory</u> <u>Floodplains in Colorado</u>.
- Applicant should demonstrate that all funds necessary to complete project are secured.

#### **Staff Recommendation:**

Staff recommends approval upon the condition of providing the additional documentation specified below in Issues/Additional Needs section of up to \$400,752 from the Statewide account to help fund the Gunnison River Riparian and Diversion Restoration Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet May 21-22, 2014 Agenda Item 23(c)

**Applicant:** Stewart Mesa Water Company

Water Activity Name: Stewart Mesa Water Company Improvement Project

Water Activity Purpose: Agriculture and M&I

County: Gunnison

Drainage Basin: Gunnison

Water Source: Town of Paonia

Amount Requested: \$12,876

Source of Funds: Gunnison Basin Account

Matching Funds: \$27,744; 68% of total project costs (refer to Funding overview/Matching Summary)

**Staff Recommendation** 

Staff recommends approval of up to \$12,876 from the Gunnison Basin Account to assist in the funding of the project titled: Stewart Mesa Water Company Improvement Project

**Water Activity Summary:** The funding being requested by SMWC is to be used in two areas in the water distribution system. The first being the completion of the system monitor meter program by installing the last two monitor meters. The installation of monitor meters completes a system-wide water auditing tool used in the company's leak detection program. The second part of our funding request will complete a system engineering analysis of the entire water system. At no time has a hydraulic analysis been performed on this hundred-plus-year-old system. Contemporary system water load demands require the company have an expanded knowledge of the systems strengths and weaknesses. No longer can accurate infrastructure improvement or expansion decisions be made without the information the analysis will provide. Additionally, leak detection and control are high priority issues for SMWC as the existing system presently experiences approximately 25% leaking of purchased water. The funding requested will enable the company to implement a plan to get leakage under 10%. The proposed system analysis will define structural improvements to eliminate leak issues and better ways to identify, locate, and repair leaks.

#### **Discussion:**

No additional discussion is required.

#### **Issues/Additional Needs:**

No issues or additional needs have been identified.

#### Funding Overview/Matching Funds

	Cash	<u>In-kind</u>	<u>Total</u>
WSRA Gunnison Basin Account	\$12,876	n/a	\$12,876
Stewart Mesa Water Company	\$9,100	\$6,800	\$15,900
Colorado Water River Conservation District	\$11,124	\$0	\$11,124
Paonia Fire Department	<u>\$0</u>	<u>\$720</u>	<u>\$720</u>
Total Project Costs	\$33,100	\$7,520	\$40,620

## **Staff Recommendation:**

Staff recommends approval of up to \$12,876 from the Gunnison Basin Account to assist in the funding of the project titled: Stewart Mesa Water Company Improvement Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting and Final Deliverable:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet May 21-22, 2014 Agenda Item 23 (d)

Applicant: San Luis Valley Irrigation Well Users Association

Water Activity Name: Ground Water Recharge for Augmentation and Aquifer Sustainability in the three study areas in Conejos County

Water Activity Purpose: Feasibility Study

County: Conejos

Drainage Basin: Rio Grande

Water Source: Conejos River

Amount Requested: \$150,000 (\$142,000 Statewide Account, \$8,000 Rio Grande Basin Account)

# **Matching Funds:** \$8,000 from Rio Grande Basin Account (5.3% of total grant request, 4.4% of total study costs), and \$30,000 from SLV Irrigation Well Users Association (20% of total grant request, 16.7% of total study costs)

#### **Staff Recommendation**

Staff recommends approval of **up to** \$142,000 of Statewide WSRA funds and **up to** \$8,000 of Rio Grande Basin WSRA funds to help complete the feasibility study titled: *Ground Water Recharge for Augmentation and Aquifer Sustainability in the three study areas in Conejos County.* 

**Water Activity Summary:** The State Engineer is in the process of promulgating "Rules Governing the Withdrawal of Ground Water in Water Division 3" (Rules and Regulations). In order to continue pumping, wells must be covered by either ground water management sub-district plan of water management or by a court-approved augmentation plan. The Rules and Regulations will require that ground water withdrawals can only occur if 1) injurious stream depletions are replaced or remedied, and 2) a plan for sustainability of the unconfined aquifer and the confined aquifer is addressed and maintained. In response to this need, San Luis Valley Irrigation Well Owners Inc. (SLVIWO) is applying for WSRA funds to conduct a hydrological feasibility study of potential groundwater recharge opportunities for augmentation in three study areas in Conejos County, exploring options for using Taos Valley #3 Ditch water for augmentation credits to offset well pumping depletions. The three study areas are: Conejos Off-Channel Recharge Feasibility, Punche Arroyo Off-Channel Recharge Feasibility, and Rio San Antonio Off-Channel Recharge Facility. The activities for each study area are: install piezometers (monitoring wells), establish water table gradients, aquifer testing, and pilot ground Water Recharge testing.

If approved, this study represents the first in a three phase effort. Upon the successful conclusion of Phase 1, Phase 2 will develop the physical infrastructure to accomplish the plan. This phase will potentially require investing in the development of an augmentation station, recharge basins, perhaps pipelines or ditch linings, or perhaps a change in point of diversion, so that SLVIWO can physically get the Taos Valley No. 3 water to the locations where it needs to be stored or recharged. Phase 3 will involve submitting an application for an augmentation plan to Water Court and working through the subsequent proceedings required to adjudicate the plan.

## Threshold Criteria:

The application meets all four Threshold Criteria.

#### Evaluation Criteria:

Tier 1: The proposed study will address augmentation options that may provide effected irrigators the opportunity to offset pumping depletions, as well as updating an augmentation decree to help Colorado meet its Rio Grande Compact obligations. There are eight or more active shareholders in the SLVIWO, that includes: Conejos Sub-district, Trinchera Sub-district, Carmel/Waverly/Alamosa Sub-district, Closed Basin Sub-district, Saguache Sub-district, San Luis Creek Sub-district, among others. In addition, the Rio Grande Water Conservation District is a key partner, providing technical assistance and advising the project from the perspective of the emerging sub-districts and their augmentation requirements. The projects and processes emerging from this hydrologic feasibility study will significantly inform the Rio Grande Decision Support System as its conclusions will advance the identified basin-wide need to 1) restore the Basin's aquifer to a sustainable level and 2) establish a sustainable balance between surface water and ground water.

Tier 2: Due to the very recent and rapid advance of the State Engineer's new Rules and Regulations, the pressures which the augmentation requirements place upon well owners and sub-districts are quite real. Nobody will be allowed to pump unless they comply with the new Rules and Regulations. Therefore SLVIWO is doing everything possible to adapt to the funding schedule of CWCB's grant and loan programs, and cannot stress enough how critically important it is for this project to be funded. Although there is no loan component at this early phase, SLVIWO understands that future funding phases will likely require pursuing a CWCB grant/loan combination. Without the requested funds from the Water Supply Reserve Account this project would not be possible, nor could future critical phases be accomplished in time for the new Rules and Regulations. Additionally, the applicant has committed \$30,000 to the study, which represents 16.7% of the total study costs.

Tier 3: Colorado Senate Bill 222 has two goals – to prevent injury to surface water rights by groundwater pumping and to build back the San Luis Valley's aquifer to a sustainable level. This project provides a high level of benefit to Colorado by addressing and curing some of the problems in both of these cases. The amount of grant money requested constitutes a financially good investment for the Rio Grande Basin and for Colorado. This feasibility study promotes a better understanding of the hydrogeology of the Rio Grande Basin and provides the data needed to inform numerous future decisions. There are hydrogeologically analogous areas in Colorado – where perched or multiple water tables exist in a geologically complex area - that may benefit from this study in terms of the technical approach, testing, and solutions.

#### Funding Summary/Matching Funds

	<u>Cash</u>
WSRA Rio Grande Basin Account	\$30,000
WSRA Statewide Account	\$142,000
San Luis Valley Irrigation Well Owners	<u>\$30,000</u>
<b>Total Study Costs</b>	\$180,000
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#### **Discussion:**

No additional discussion needed

#### **Issues/Additional Needs:**

CWCB staff requests that the following issues be addressed prior to contracting:

• The Statement of Work, Budget and Schedule need further clarification and revisions.

## **Staff Recommendation:**

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Staff recommends approval of **up to** \$142,000 of Statewide WSRA funds and **up to** \$8,000 of Rio Grande Basin WSRA funds to help complete the feasibility study titled: *Ground Water Recharge for Augmentation and Aquifer Sustainability in the three study areas in Conejos County.* 

All products, data and information developed as a result of this grant must be provided to CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

**Reporting:** The applicant shall provide the CWCB a progress report every six months from beginning from the date of the executed contract. The progress report shall describe the completions or partial completions of the task identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarized the project and documents how the project was completed. This report may contain photographs summaries of meetings and engineering reports/designs.

## Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet May 21-22, 2014 Agenda Item 24(e)

**Applicant:** Trinchera Irrigation Company

Water Activity Name: Mountain Home Reservoir Outlet Study - Phase I

Water Activity Purpose: Agriculture/Study

County: Costilla

Drainage Basin: Rio Grande

Water Source: Ute Creek and Sangre de Cristo Creek

Amount Requested: \$25,000

Source of Funds: Rio Grande Basin Account

**Matching Funds:** \$12,650 in-kind match by applicant and third parties: 33.6% of total study costs of \$37,650 (refer to *Funding Overview/Match Summary* below)

#### **Staff Recommendation**

Staff recommends approval of up to \$25,000 from the Rio Grande Basin Account to assist in the funding of the study titled: Mountain Home Reservoir Outlet Study – Phase I.

**Water Activity Summary:** Trinchera Irrigation Company seeks \$25,000 in WSRA Rio Grande Basin Account funds for a feasibility study which will conduct an underwater inspection, capture and analyze video data, and determine the best method to repair, upgrade and/or replace the gates and outlet works. Engineers will evaluate the condition of three 30" diameter gate valves, conduits and operators at Mountain Home Reservoir and develop alternative plans to rehabilitate the outlet works.

The objective of this Project is to determine the Scope of Work, Budget and Timeline for the Phase II implementation of this dam restoration project without affecting the CPW conservation pool or requiring the emptying of the reservoir.

This project addresses three main issues:

- 1) Dam safety with reliable water level elevation management of the reservoir:
- 2) Improved water storage management and reduced storage loss:
- 3) Protection of the CPW conservation pool and enhancement of environmental, recreational and wildlife habitat assets:

The existing gates don't operate correctly and all three of the gates leak. For many decades gate number one is the only one that has been used and it is not known whether gates two and three would open properly or, more importantly, whether they would close properly once opened. Depending on the storage elevation (i.e. head pressure) the gate leakage results in the loss of 150 to 250 AF per month, or from 1350 to 2250 AF annually. The State is now requiring TIC to repair or upgrade the gates and to restore full operating capability at Mountain Home Reservoir.

CPW and TU are conducting parallel feasibility studies, in conjunction with this project, to determine how best to expand and enhance wildlife habitat, improve recreational fishing opportunities, and create additional options for hiking, wildlife viewing and public appreciation of the very popular Mountain Home Reservoir State Wildlife Area.

By restoring full designed operating capacity to the outlet works at Mountain Home Reservoir, this Phase I feasibility study addresses several Measurable Goals and Objectives in the Rio Grande Basin Implementation Plan: Rehabilitate an important Basin reservoir, significantly improve water management efficiency, reduce reliance on groundwater pumping, protect fishery and wildlife habitat assets, and explore ways to improve the outdoor recreational enjoyment of folks who come to Mountain Home.

## **Discussion:**

No additional discussion is required.

## **Issues/Additional Needs:**

No issues or additional needs have been identified.

Funding Overview/Matching Funds

	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
WSRA Rio Grande Basin Account.	\$25,000	n/a	\$25,000
Trinchera Irrigation Company	\$0	\$2,250	\$2,250
Trout Unlimited	\$0	\$400	\$400
Colorado Parks and Wildlife	<u>\$0</u>	\$10,000	\$10,000
Totals	\$25,000	\$12,650	\$37,650

## **Staff Recommendation:**

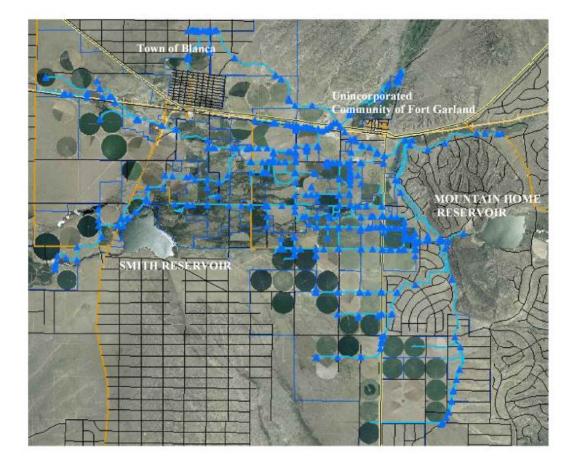
Staff recommends approval of up to \$25,000 from the Rio Grande Basin Account to assist in the funding of the study: Mountain Home Reservoir Outlet Study – Phase I.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting and Final Deliverable:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

# **Project Map:**



#### Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet May 21-22, 2014 Agenda Item 23(f)

Applicant: Geothermal Greenhouse Partnership, Inc.

Water Activity Name: Geothermal Greenhouse Partnership Project

County: Archuleta

River Basin: Southwest

Water Source: San Juan River and geothermal groundwater well

Amount Requested: \$50,000 from the Statewide Account (delayed from March 2014).

Matching Funds: \$25,000 cash match from the WSRA Southwest Basin Account (5% of total project costs/33% of total grant request), \$27,440 in-kind from Community at large (6% of total project costs/37% of total grant request), \$283,000 in-kind Town of Pagosa Springs (61% of total project costs/377% of total grant request), \$25,000 cash match Town of Pagosa Springs (5% of total project costs/33% of total grant request), \$25,000 cash match Musser Fund (5% of total project costs/33% of total grant request).

#### **Staff Recommendation:**

Staff recommends approval of up to \$50,000 from the Statewide Account for the project titled:

Geothermal Greenhouse Partnership Project.

**Water Activity Summary:** WSRA Grant funds will be expended to assist in the financing of the Geothermal Greenhouse Project which includes three 42 foot agricultural growing domes heated by geothermal energy, grounded in permaculture practices and centrally located in downtown Pagosa Springs at Centennial Park, and will become part of the already existing District Heating System of the Town of Pagosa Springs.

Specifically, WSRA funds will finance the construction of infrastructure which includes: a closed loop system for heating/cooling the domes where geothermal water is used to heat well water which is then circulated under and through the domes; and the delivery systems for irrigation and potable water to the domes. The geothermal loop also provide heat for the surrounding beds, walk ways and public seating area. Inside the domes water infrastructure also includes ponds, radiators, sprinkler system, temperature instrumentation and various meters as needed.

Overall the project includes three domes: an education dome which will house a center for K-12 science education, as well as for advanced study in agriculture and renewable energy technologies; a commercial growing dome which includes an educational component and will provide a test site for the commercialization of organic crops at high altitudes using the geothermal resource; and a community garden dome which includes education and will provide an opportunity for the public to grow year-round crops. The influence of the GGP Project will extend well beyond Pagosa Springs as it serve as a model for other communities both state and nation wide that possess a geothermal resource.

#### Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

#### Statewide Evaluation Criteria:

The application meets all three Tiered Evaluation Criteria.

#### Funding/Match Summary:

Funding Source	In-kind	<u>Cash</u>	<u>Total</u>
WSRA Southwest Basin Account	\$0	\$25,000	\$25,000
Community at large	\$27,440	\$0	\$27,440
Town of Pagosa Springs	\$283,000	\$25,000	\$308,000
Musser Fund	\$0	\$25,000	\$25,000
<b>Total Project Costs</b>	\$310,440	\$75,000	\$385,440

#### **Discussion:**

The Geothermal Greenhouse Partnership Project applicants initially submitted a WSRA Grant request for \$25,000 from the Southwest Basin Account (approved in March 2014), and \$50,000 from the Statewide Account, however due to an anticipated WSRA Statewide Account shortfall the applicant has agreed to delay their Statewide Account request until the May 2014 CWCB meeting.

#### **Issues/Additional Needs:**

No additional issues or needs were identified.

#### **Staff Recommendation:**

Staff recommends approval of up to \$50,000 from the Statewide Account for project titled: Geothermal Greenhouse Partnership Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting and Final Deliverable:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

#### Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet May 21-22, 2014 Agenda Item 23(g)

Applicant: Montezuma County
Water Activity Name: McElmo Creek Flume Rehabilitation
Water Activity Purpose: Education
County: La Plata
Drainage Basin: Southwest
Water Source: n/a
Amount Requested: \$20,000
Source of Funds: Southwest Basin Account
<b>Matching Funds:</b> \$145,340 total cash match by applicant and third parties: 88% of total study costs of \$165,340 (refer to <i>Funding Overview/Match Summary</i> below).

#### **Staff Recommendation**

Staff recommends approval of up to \$20,000 from the Southwest Basin Account to assist in the funding of the study titled: McElmo Creek Flume Rehabilitation.

Water Activity Summary: WSRA funds, if approved, will be expended to rehabilitate the McElmo Creek Flume which will become an interpretive stop along the San Juan Skyway and Trail of the Ancients National Scenic Byways. In 2012, the Trail of the Ancients was awarded a National Scenic Byways grant to build a formal pullout with interpretive panels to tell the story of the Montezuma Valley Irrigation system (MVI), of which the McElmo Creek Flume was an integral component. In 2011, the McElmo Creel Flume was listed on Colorado Preservation Inc.'s Endangered Places List, and in 2012 the McElmo Creek Flume was listed on the National Register of Historic Places. This flume is the last surviving flume of the original 104 flumes on the MVI system, and was originally constructed in 1890s in order to bring water to Montezuma Valley which allowed large scale farming and ranching to develop, and also allowed the town site of Cortez to be established. While the system underwent extensive modifications, the flume went out of service permanently in 1992 with the construction of McPhee Reservoir which delivered water via underground laterals. Subsequently the flume has experienced extensive damage due to heavy rainfall, and high winds and has fallen into disrepair. Rehabilitation of the McElmo Creek Flume, in concert with other interpretive stops along the Trail of the Ancients that include discussions regarding the Ancestral Puebloan water history, will be an excellent venue for educating the local and travelling public about the 19<sup>th</sup> and 20<sup>th</sup> century water history in Southwestern Colorado.

#### **Discussion:**

No additional discussion is required.

## **Issues/Additional Needs:**

No issues or additional needs have been identified.

	<u>Cash</u>	In-kind	<u>Total</u>
WSRA Southwest Basin Account	\$20,000	n/a	\$20,000
Montezuma County	\$2,500	\$0	\$2,500
Southwestern Water Conservation District	\$15,000	\$0	\$15,000
Ballantine Family Fund	\$4,000	\$0	\$4,000
Colorado State Historical Fund	\$123,840	\$0	\$123,840
Totals	\$165,340	\$0	\$165,340

## Funding Overview/Matching Funds

#### **Staff Recommendation:**

Staff recommends approval of up to \$20,000 from the Southwest Basin Account to assist in the funding of the study: McElmo Creek Flume Rehabilitation.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting and Final Deliverable:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet May 21-22, 2014 Agenda Item 23h

Applicant: Red Mesa Reservoir and Ditch Company
Water Activity Name: Red Mesa Feasibility Study
Water Activity Purpose: Agriculture/Study
County: La Plata
Drainage Basin: Southwest
Water Source: Hay Gulch and La Plata River
Amount Requested: \$30,000
Source of Funds: Rio Grande Basin Account
Matching Funds: \$40,000 total cash match by applicant and third parties: 57% of total study

Matching Funds:\$40,000 total cash match by applicant and third parties: 57% of total study<br/>costs of \$70,000 (refer to *Funding Overview/Match Summary* below).

#### **Staff Recommendation**

Staff recommends approval of up to \$30,000 from the Southwest Basin Account to assist in the funding of the study titled: .

**Water Activity Summary:** The Colorado State Engineer (SEO) has identified the spillway at Red Mesa Dam as seriously deficient in flood routing capacity and has directed the owners to bring the spillway into compliance with dam safety requirements for a high hazard dam, or face significant storage restrictions or a possible breach order. In 2012, a time frame of approximately three years was established to achieve compliance. The proposed Feasibility Study, which will conform to CWCB water project loan requirements, is the final preliminary step to acquiring funding to design and construct improvements to the dam and reservoir to comply with the SEO requirements. This Feasibility Study, anticipated to be performed by URS Corporation, will incorporate the results of two previously Southwest Basin Account WSRA funded studies (\$29,000 in 2009 for an *Incremental Damage Analysis and Emergency Action Plan*; and \$19,400 in 2012 for a *Spillway Alternatives Analysis*). This study will also further consider the viability of enlargement scenarios (250 and 550 acre-feet) versus the baseline cost of maintaining existing storage. The Spillway Alternatives Analysis identified that a dam breach scenario presents significant costs, on the order of \$1.2 million, and results in the total loss of storage, which is the primary asset of the company.

#### **Discussion:**

No additional discussion is required.

#### **Issues/Additional Needs:**

No issues or additional needs have been identified.

	<u>Cash</u>	In-kind	<u>Total</u>
WSRA Southwest Basin Account	\$30,000	n/a	\$30,000
Red Mesa Reservoir and Ditch Company	\$10,000	\$0	\$10,000
Southwestern Water Conservation District	\$30,000	\$0	\$30,000
Totals	\$70,000	\$0	\$70,000

## **Staff Recommendation:**

Staff recommends approval of up to \$30,000 from the Southwest Basin Account to assist in the funding of the study: Red Mesa Feasibility Study.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting and Final Deliverable:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## Water Supply Reserve Account – Grant and Loan Program Water Activity Summary Sheet Agenda Item 23.i.

Applicant: Green Ditch Company (City of Boulder is majority shareholder)

Water Activity Name: Green Ditch Diversion Rehabilitation and Fish Passage Project

Water Activity Purpose: Consumptive and Non-consumptive Structural Water Project

County: Gunnison

Drainage Basin: South Platte

Water Source: Boulder Creek

Amount Requested: \$245,000

Source of Funds: South Platte Basin (\$25,000) and Statewide Account (\$220,000)

**Matching Funds:** \$326,000 cash (cash match City of Boulder, US Fish and Wildlife Service, and Boulder Flycasters). Green Ditch Company providing and additional \$100,000 for temporary repair to allow for irrigation in 2014. Green Ditch Company also holds an emergency CWCB loan for \$505,000.

#### **Staff Recommendation**

Staff recommends approval upon the condition of providing the additional documentation specified below in Issues/Additional Needs section of up to \$25,000 from the South Platte Basin account and \$220,000 from the Statewide account to help fund the Green Ditch Diversion Rehabilitation and Fish Passage Project.

#### Water Activity Summary:

The September 2013 flood caused significant damage to the reach of Boulder Creek that includes the Green Ditch Diversion. The creek found a new path through a wetland complex, and it no longer flows to the Green Ditch headgate. The proposed project will reconstruct the Green Ditch diversion structure at a point approximately 1000 feet upstream of the existing point of diversion. The project will involve significant work to relocate the Boulder Creek channel, stabilize channel banks, and construct boulder cross vanes to direct flow into the ditch.

#### **Discussion:**

The diversion reconstruction project will serve as a valuable demonstration project. It incorporates objectives of the CWCB Watershed and Stream Protection Program. These objectives include reconstruction of diversion structures to improve: sediment transport, stream connectivity (longitudinally and laterally), flood resiliency, fish passage, and recreation opportunities.

The South Platte Roundtable identified the Boulder Creek reach that includes the Green Ditch Diversion as an Environmental Focus Area in the South Platte Basin Non-consumptive Needs Assessment. Boulder Creek from Highway 36 to the St. Vrain Creek confluence is important "habitat for plains fish that are listed as State threatened and endangered or species of concern" as well as providing a "municipal recreational corridor".

The CWCB holds an instream flow water right on Boulder Creek that includes the project reach. The City of Boulder donated senior water rights to maintain instream flows in this reach.

#### **Issues/Additional Needs:**

Please provide the following additional detail:

• Geomorphic monitoring that conforms to CWCB standards should be incorporated to the scope of work.

• All proposed river channel work shall conform to the CWCB <u>Rules and Regulations for Regulatory</u> <u>Floodplains in Colorado</u>.

#### Staff Recommendation:

Staff recommends approval upon the condition of providing the additional documentation specified below in Issues/Additional Needs section of up to \$25,000 from the South Platte Basin account and \$220,000 from the Statewide account to help fund the Green Ditch Diversion Rehabilitation and Fish Passage Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.