



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Craig Godbout
Program Manager – Water Supply Reserve Account Grant Program
Water Supply Planning Section

DATE: March 3, 2016

AGENDA ITEM: 14 (a-ad) WSRA Grant Requests

Staff Recommendation - Action Items: WSRA Grant Requests

A summary of staff's recommendation for each WSRA application is provided in the first component of the attached table. If applicable, the table also includes a breakdown of match amounts for applications that include a request for Statewide Account WSRA funds.

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.



Water Supply Reserve Account Applications for Consideration at the CWCB March 2016 Board Meeting																
Agenda Item	Basin(s)	Applicant(s)	Name of Water Activity	Basin(s) Account Request	Statewide Account Requests	Total Request	Applicant Cash Match	Applicant In-Kind Match	Applicant Total Match	Total Project or Study Costs	Basin Account Match (5% min) as Percentage of Total Grant Request (Basin + Statewide)	Applicant Match (cash + in-kind: 5% min) as Percent of Total Grant Request (Basin + Statewide)	Basin Account & Applicant Total Match (cash + in-kind), (25% min) as Percent of Total Grant Request (Basin + Statewide)	Basin Account & Applicant Total Match (cash + in-kind) as Percent of Total Project Costs	Staff Recommendations	PM
14(a)	Colorado	WateReuse Colorado	Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Needs	\$15,000	\$131,455	\$188,955	\$55,000	\$59,525	\$114,525	\$303,480	30.4%	60.6%	91.0%	56.7%	Staff recommends approval of \$15,000 from the Colorado Basin Account; \$25,000 from the Metro Account; \$2,500 from the North Platte Basin Account; \$15,000 from the South Platte Basin Account; and \$131,455 from the Statewide Account.	Kevin Reidy
	Metro			\$25,000												
	North Platte			\$2,500												
	South Platte			\$15,000												
14(b)	Metro	Coalition for the Upper South Platte	Horse Creek Restoration Project	\$50,000	\$550,000	\$650,000	\$1,050,000	\$172,045	\$1,222,045	\$1,872,045	15.4%	188.0%	203.4%	70.6%	Staff recommends approval of \$50,000 from the Metro Account; \$50,000 from the South Platte Basin Account; and \$550,000 from the Statewide Account.	Chris Sturm
	South Platte			\$50,000												
14(c)	Colorado	Colorado River Water Conservancy District	Colorado River Development and Curtailment Risk Study	\$8,000	\$0	\$32,000	\$20,000	\$0	\$20,000	\$52,000	100.0%	62.5%	162.5%	100.0%	Staff recommends approval of \$8,000 from the Colorado Basin Account; \$8,000 from the Gunnison Basin Account; \$8,000 from the Southwest Basin Account; and \$8,000 from the Yampa/White/Green Basin Account.	Brent Newman
	Gunnison			\$8,000												
	Southwest			\$8,000												
	Yampa/White/Green			\$8,000												
14(d)	Arkansas	Huerfano County Water Conservancy District	Water System Improvements - Huerfano River Basin	\$20,000	\$93,400	\$113,400	\$155,000	\$44,000	\$199,000	\$312,400	17.6%	175.5%	193.1%	56.0%	Staff recommends approval of \$20,000 from the Arkansas Basin Account, and \$93,400 from the Statewide Account.	Andy Moore
14(e)	Arkansas	Lower Arkansas Valley Water Conservancy District & North La Junta Water Conservancy District	North La Junta Streamlined Flood Mitigation and Flow Management Project	\$25,000	\$0	\$25,000	\$60,000	\$0	\$60,000	\$85,000	100.0%	240.0%	340.0%	100.0%	Staff recommends approval of \$25,000 from the Arkansas Basin Account.	Brent Newman/Jamie Prochno
14(f)	Arkansas	Upper Arkansas Valley Water Conservancy District	Upper Arkansas Multi-Use Project Phase I - Lake Ranch Multi-Use Pilot Project Feasibility Study	\$31,196	\$162,944	\$194,140	\$30,569	\$5,000	\$35,569	\$229,709	16.1%	18.3%	34.4%	26.9%	Staff recommends approval of \$31,196 from the Arkansas Basin Account, and \$162,944 from the Statewide Account.	Brent Newman
14(g)	Arkansas	Fountain Creek Watershed Flood Control and Greenway District	Evaluation of Flood Control Alternatives for Fountain Creek Corridor	\$8,800	\$33,000	\$41,800	\$25,500	\$12,000	\$37,500	\$79,300	21.1%	89.7%	110.8%	43.3%	Staff recommends approval of \$8,800 from the Arkansas Basin Account, and \$33,000 from the Statewide Account.	Brent Newman
14(h)	Arkansas	McClave Water Association	McClave Water Delivery Improvement Project	\$23,010	\$25,000	\$48,010	\$4,800	\$2,000	\$6,800	\$54,810	47.9%	14.2%	62.1%	50.7%	Staff recommends approval of \$23,010 from the Arkansas Basin Account, and \$25,000 from the Statewide Account.	Brent Newman
14(i) 3/3/2016	Arkansas	Purgatorie Water Conservancy District	Ditch Infrastructure Repair Project	\$30,000	\$60,000	\$90,000	\$132,500	\$0	\$132,500	\$222,500	33.3%	147.2%	180.6%	73.0%	Staff recommends approval of \$30,000 from the Arkansas Basin Account; and \$60,000 from the Statewide Account.	Derek Johnson

14(j)	Colorado	Trout Unlimited/American Rivers	Irrigators of Lands in the Vicinity of Kremmling (ILVK) - Upper Colorado River Irrigation & Restoration Project	\$50,000	\$415,400	\$465,400	\$465,400	\$0	\$465,400	\$930,800	10.7%	100.0%	110.7%	55.4%	Staff recommends approval of \$50,000 from the Colorado Basin Account, and \$415,000 from the Statewide Account.	Brent Newman
14(k)	Gunnison	Upper Gunnison River Water Conservancy District	Remote Cloud Seeder for Upper Gunnison Basin	\$25,000	\$0	\$25,000	\$40,000	\$3,774	\$43,774	\$68,774	100.0%	175.1%	275.1%	94.5%	Staff recommends approval of \$25,000 from the Gunnison Basin Account.	Joe Busto
14(l)	Gunnison	Young Creek Reservoir Company	Young Creek Reservoir No. 1-2 Repair and Rehabilitation	\$60,000	\$75,000	\$135,000	\$58,000	\$0	\$58,000	\$193,000	44.4%	43.0%	87.4%	61.1%	Staff recommends approval of \$60,000 from the Gunnison Basin Account, and \$75,000 from the Statewide Account.	Brent Newman
14(m)	Gunnison	Vern Hillis	McKoon/Blanchard Reservoir Outlet Improvements	\$47,000	\$0	\$47,000	\$8,924	\$0	\$8,924	\$55,924	100.0%	19.0%	119.0%	100.0%	Staff recommends approval of \$47,000 from the Gunnison Basin Account.	Brent Newman
14(n)	Gunnison	Trout Unlimited & Western Slope Conservation Center	North Fork of the Gunnison Environmental Recreation & Irrigation Infrastructure Assessment	\$27,000	\$30,000	\$57,000	\$46,500	\$19,500	\$66,000	\$123,000	47.4%	115.8%	163.2%	59.8%	Staff recommends approval of \$27,000 from the Gunnison Basin Account, and \$30,000 from the Statewide Account.	Brent Newman
14(o)	Gunnison	Lake Fork Valley Conservancy	Lake Fork of the Gunnison River Enhancement Project	\$23,295	\$209,653	\$232,948	\$109,145	\$45,200	\$154,345	\$387,293	10.0%	66.3%	76.3%	34.2%	Staff recommends approval of \$23,295 from the Gunnison Basin Account, and \$209,653 from the Statewide Account.	Chris Sturm
14(p)	Metro	Cottonwood Water & Sanitation District & Arapahoe Cnty Water & Wastewater Authority	Biological Treatment to Remove Selenium from Water Treatment Plant Concentrate	\$25,000	\$375,000	\$400,000	\$4,650,000	\$0	\$4,650,000	\$5,050,000	6.3%	1162.5%	1168.8%	92.6%	Staff recommends approval of \$25,000 from the Metro Account, and \$375,000 from the Statewide Account.	Craig Godbout
14(q)	Rio Grande	Rio Grande Headwaters Land Trust	Nash Ranch Conservation Easement Project	\$10,000	\$90,000	\$100,000	\$400,000	\$0	\$400,000	\$500,000	10.0%	400.0%	410.0%	82.0%	Staff recommends approval of \$10,000 from the Rio Grande Basin Account, and \$90,000 from the Statewide Account.	Craig Godbout
14(r)	Rio Grande	South Metro Water Supply Authority	WISE II	\$10,000	\$0	\$10,000	\$5,488,022	\$0	\$5,488,022	\$5,498,022	100.0%	54880.2%	54980.2%	100.0%	Staff recommends approval of \$10,000 from the Rio Grande Basin Account.	Derek Johnson
14(s)	Rio Grande	Rio Grande Watershed Conservation and Education Initiative	Implementing Public Education & Public Outreach in Rio Grande River Basin: Education to Implement	\$90,000	\$0	\$90,000	\$7,500	\$42,000	\$49,500	\$139,500	100.0%	55.0%	155.0%	69.9%	Staff recommends approval of \$90,000 from the Rio Grande Basin Account.	Craig Godbout
14(t)	Southwest	Town of Telluride & Valley Floor Restoration Partners	Valley Floor Restoration Reach 1	\$45,000	\$399,021	\$444,021	\$1,291,782	\$0	\$1,291,782	\$1,735,803	10.1%	290.9%	301.1%	77.0%	Staff recommends approval of \$45,000 from the Southwest Basin Account, and \$399,021 from the Statewide Account.	Chris Sturm
14(u)	Southwest	San Juan Resource Conservation and Development Council	Phase 3 of Southwest Basin Roundtable's Implementation Plan: Implementation and Outreach	\$87,562	\$43,781	\$131,343	\$0	\$0	\$0	\$125,343	65.1%	0.0%	66.7%	65.1%	Staff recommends approval of \$87,562 from the Southwest Basin Account, and \$43,781 from the Statewide Account.	Craig Godbout
14(v)	Southwest	Mountain Studies Institute	Animas River Community Forum	\$37,850	\$0	\$37,850	\$17,000	\$25,920	\$42,920	\$80,770	100.0%	113.4%	213.4%	67.9%	Staff recommends approval of \$37,850 from the Southwest Basin Account.	Craig Godbout
14(w)	Southwest	Mancos Conservation District	Mancos River Habitat and Diversion Project - Phase 3	\$59,000	\$0	\$59,000	\$18,200	\$8,446	\$26,646	\$85,646	100.0%	0.0%	145.2%	100.0%	Staff recommends approval of \$59,000 from the Southwest Basin Account.	Craig Godbout
14(x) ^{3/3/2017}	Southwest	Dolores Water Conservancy District	SW Colorado Weather Modification Strategic Plan for Winter Snow Agementation	\$55,620	\$0	\$55,620	\$0	\$0 ²	\$0	\$55,620	100.0%	0.0%	100.0%	100.0%	Staff recommends approval of \$55,520 from the Southwest Basin Account.	Joe Busto

14(y)	South Platte	Colorado Agricultural Water Alliance	Agricultural Water Workshop	\$2,550	\$0	\$2,550	\$2,550	\$2,550	\$5,100	\$7,650	100.0%	200.0%	300.0%	66.7%	Staff recommends approval of \$2,550 from the South Platte Basin Account.	Brent Newman
14(z)	South Platte	City of Greeley	Greeley Area Cache la Poudre Greenway Corridor Project	\$15,000	\$25,000	\$40,000	\$17,240	\$17,760	\$35,000	\$75,000	37.5%	87.5%	125.0%	43.0%	Staff recommends approval of \$15,000 from the South Platte Basin Account, and \$25,000 from the Statewide Account.	Brent Newman
14(aa)	South Platte	City of Fort Collins	Poudre River Downtown Project Reach 3	\$50,000	\$250,000	\$300,000	\$8,200,000	\$0	\$8,200,000	\$8,500,000	16.7%	2733.3%	2750.0%	97.1%	Staff recommends approval of \$50,000 from the South Platte Basin Account, and \$250,000 from the Statewide Account.	Chris Sturm
14(ab)	Yampa/White/Green	Crosho Lake Corporation	Crosho Lake and Reservoir (Simon #1) Dam Outlet Replacement	\$30,000	\$108,380	\$138,380	\$61,620	\$0	\$61,620	\$200,000	21.7%	44.5%	66.2%	45.8%	Staff recommends approval of \$30,000 from the Yampa/White/Green Basin Account, and \$108,380 from the Statewide Account.	Craig Godbout
14(ac)	Yampa/White/Green	Colorado Climate Center, Colorado Division of Water Resources	Continuation of lysimeter operations & consumptive use quantification in high-altitude, irrigated meadows in the Yampa/White Basin.	\$11,304	\$11,304	\$22,608	\$0	\$26,854	\$26,854	\$49,462	50.0%	118.8%	168.8%	22.9%	Staff recommends approval of \$11,304 from the Yampa/White/Green Basin Account, and \$11,304 from the Statewide Account.	Craig Godbout
Loan/Grant Combos																
13(a)	Gunnison	The Duke Ditch Company	Piping the Duke Ditch	\$47,237	\$47,237	\$94,474	\$659,910	\$0	\$659,910	\$754,384	50.0%	698.5%	748.5%	93.7%	Staff recommends approval of \$47,237 from the Gunnison Basin Account; and \$47,237 from the Statewide Account.	Anna Mauss
13(b)	Gunnison	City of Grand Junction Water Enterprise Fund	Hallenbeck Reservoir #1 (Purdy Mesa) Dam Rehabilitation	\$25,000	\$75,000	\$100,000	\$1,053,782	\$0	\$1,053,782	\$1,153,782	25.0%	1053.8%	1078.8%	93.5%	Staff recommends approval of \$25,000 from the Gunnison Basin Account; and \$75,000 from the Statewide Account.	Anna Mauss
				\$1,160,924	\$3,210,575	\$4,371,499										
Change of Fiscal Agent																
Agenda Item	Basin	Current Fiscal Agent	Proposed Fiscal Agent	Basin(s) Account Request	Statewide Account Requests	Total Request								Staff Recommendations		PM
14(ad)	North Platte	Ducks Unlimited	United States Fish & Wildlife Service	\$500,000	\$100,000	\$600,000								Staff recommends approval in Change of Fiscal Agent		Jonathan Herndanez

Basin	Basin Account Requests	Statewide Account Requests	Total Requests	Current Basin Account Balances	Remaining Basin Account Balances (if all requests	Current Statewide Account Balance	Current Statewide Account Requests	Remaining Statewide Account Balance (if all requests
Arkansas Basin	\$138,006	\$374,344	\$512,350	\$202,909	\$64,903			
Colorado Basin	\$73,000	\$448,264	\$521,264	\$426,327	\$353,327			
Gunnson Basin	\$262,532	\$436,890	\$699,422	\$845,104	\$582,572			
Metro Basin	\$100,000	\$682,864	\$782,864	\$314,337	\$214,337			
North Platte	\$2,500	\$32,864	\$35,364	\$836,400	\$833,900	\$3,322,013	\$3,210,575	\$111,438
Rio Grande	\$110,000	\$90,000	\$200,000	\$402,156	\$292,156			
Southwest	\$293,032	\$442,802	\$735,834	\$753,089	\$460,057			
South Platte	\$132,550	\$582,864	\$715,414	\$436,356	\$303,806			
Yampa/White/Green	\$49,304	\$119,684	\$168,988	\$1,114,928	\$1,065,624			
Water Supply Reserve Account Total Requests	\$1,160,924	\$3,210,575	\$4,371,499	\$5,331,606	\$4,170,682			

COLORADO WATER CONSERVATION BOARD
Water Supply Reserve Account - Balance Summary
February 2016

Updated 02/10/16

Fund Appropriation and Receipts				
Fiscal Year	Legislative Appropriation	Funds Received	Statewide 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
2014/2015	\$10,000,000	\$10,000,000	\$6,400,000	\$3,600,000
2015/2016	\$10,000,000	\$6,103,590	\$3,906,298	\$2,197,292
Interest	N/A	\$2,857,935	\$1,829,078	\$0
Prior Years Interest Adjustment			\$1,028,856	\$0
2014/2015 Interest	N/A	\$ 240,216	\$240,216	\$0
2015/2016 Interest	N/A	\$ 115,937	\$115,937	\$0
TOTAL	\$74,775,000	\$78,342,040	\$51,887,727	\$26,454,313

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	\$2,736,459	\$2,939,368	\$202,909	\$8,365,160	
Colorado	\$2,513,041	\$2,939,368	\$426,327	\$5,164,260	
Southwest *	\$2,186,279	\$2,939,368	\$753,089	\$6,757,109	
Gunnison *	\$2,094,264	\$2,939,368	\$845,104	\$3,812,791	
Metro	\$2,625,031	\$2,939,368	\$314,337	\$6,713,284	
North Platte	\$2,102,968	\$2,939,368	\$836,400	\$508,078	
Rio Grande	\$2,537,212	\$2,939,368	\$402,156	\$10,260,323	
South Platte *	\$2,503,012	\$2,939,368	\$436,356	\$6,372,646	
Yampa/White	\$1,824,440	\$2,939,368	\$1,114,928	\$612,063	
TOTAL	\$21,122,706	\$26,454,313	\$5,331,607	\$48,565,714	\$3,322,013
TOTAL APPROVED GRANTS					\$69,688,420

Note: Only includes grants approved by CWCB

*See Comments - Figures have changes due to grantee's withdrawn funding

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(a)

Applicant & Fiscal Agent: WaterReuse Colorado

Water Activity Name: Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

Water Activity Purpose: Study

County: Multiple

Drainage Basin: Multiple

Water Source:

Amount Requested/Source of Funds:

\$25,000	Metro Basin Account
\$15,000	South Platte Basin Account
\$15,000	Colorado Basin Account
\$2,500	North Platte Basin Account
<u>\$131,455</u>	<u>Statewide Account</u>
\$188,955	Total Grant Request

Matching Funds:

Basin Account Match (\$57,500) = 30.4% of total grant request (meets 5% min);
Basin Account & Applicant Match (\$172,025) = 91% of total grant request (meets 25% min);
Applicant/3rd Party Match (\$114,525) = 60.6% of total grant request
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$2,500 from the Metro Account; \$15,000 from the South Platte, Basin Account; \$15,000 from the Colorado Basin Account; \$2,500 from the North Platte Basin Accounts; and \$131,455 from the Statewide Account to help fund the project titled: Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

Water Activity Summary: WSRA funds, if approved, will be expended to fund Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands (the Project). The water activity proposed is three-pronged and geared towards: establishing the regulatory environment to facilitate DPR, facilitating public acceptance, and adapting existing tools to help Colorado utilities evaluate if reuse, including potable, is a viable and cost-effective option.

While some indirect potable reuse occurs, much existing municipal reuse in Colorado is for non-potable irrigation and some commercial and industrial use. Reuse volumes gained from non-potable reuse are limited due to seasonality and demand constraints and the typical need for a separate delivery infrastructure. Potable reuse provides greater flexibility than non-potable reuse, can meet year-round demands, and is more drought-resistant and can be more cost-effective than other water supply options. It can produce a higher “yield” than non-potable reuse, due to reusable return flows from indoor uses. Advances in treatment technologies, national implementation and public

perception, combined with water supply limitations around the West are leading a rapidly-growing number of communities to consider DPR. And while indirect potable reuse (IPR) projects have already been implemented in Colorado, it is anticipated that DPR will become the most feasible option for some communities considering potable reuse.

Task 1: DPR Regulatory and Institutional Framework for Colorado: This task will document the bases for development of potential DPR regulations in Colorado that are protective of public health and safety and reflective of best management practices. There is no framework for regulatory development or project-specific approvals specifically designed for direct potable reuse in Colorado. The project will utilize ongoing research and the approaches and experience in other Western States to develop a proposed Colorado-specific approach to DPR project approvals and/or regulations that describes appropriate treatment, monitoring, and operational requirements for DPR systems. A broad-based technical/regulatory/water user work group will be convened, including Colorado Department of Public Health and Environment (CDPHE) regulatory staff, Colorado water utilities (both large and small), environmental and agricultural representatives, regulators and water utilities from other states, national experts, and other water users and interested parties, with most participants providing their time as in-kind contributions. The end goal of this task is to develop a proposed roadmap for the State of Colorado and its water users to follow in the future development of DPR projects.

[Note: The proposed roadmap developed as part of this process is not to be presented to or construed by the CDPHE as being endorsed by any Basin Roundtable, the CWCB, the IBCC, or any other entity unless that specific entity affirmatively states so in writing.]

Task 2: Public Outreach for DPR at the Local and State Level: This task will help bolster public understanding and acceptance of potable reuse through public information and outreach programs. While the science and engineering behind potable reuse is advancing at unprecedented rates, public perception remains one of the most significant challenges in implementing a potable reuse project. This project will provide specific tools and actions to advance public understanding and acceptance of potable reuse projects in Colorado. We will focus on water utilities, regulators, legislators, opinion leaders and the general public with the guidance and assistance of an education/outreach workgroup consisting of the groups listed under Task 1, with the addition of the CWCB's Outreach and Education Coordinator. All workgroup participants and outreach, with the exception of the project consulting team, will provide their time on an in-kind basis.

Task 3: Leveraging Potable Reuse Planning Tools: This task will enhance existing planning tools and assist Colorado utilities with their assessment of DPR as a potential supply option. Research being conducted nationally has resulted in many approaches and tools that can be used locally to support the analysis and implementation of potable reuse projects, with a specific interest in cost comparisons of water supply options, treatment train options, and other cost-benefit analyses. This task includes updating/adapting an existing treatment alternatives screening tool for Colorado utilities' use and demonstrating its use at the local level. This will avoid providers needing to "start from scratch" when assessing treatment train options (including alternatives to membrane-based treatment and the corresponding need for brine management) and the potential role of potable reuse in a supply portfolio. Three Colorado case studies for DPR analysis will be completed using these tools to represent real world applications for utilities that are seriously considering DPR as a supply option.

Discussion: The proposed study aligns with needs, projects and initiatives identified in Colorado's Water Plan regarding direct potable reuse and the contributions to closing the gap for consumptive water needs.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This proposal has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Water Reuse Colorado	\$10,000	\$0	\$10,000
Denver Water	\$10,000	\$10,000	\$20,000
City of Aurora	\$7,500	\$15,000	\$22,500
Centennial Water and Sanitation District	\$5,000	\$6,500	\$11,500
Western Resource Advocates	\$4,000	\$10,500	\$14,500
Town of Castle Rock	\$7,500	\$0	\$7,500
Plum Creek Water Reclamation Authority	\$5,000	\$0	\$5,000
South Metro Water Supply Authority	\$1,000	\$0	\$1,000
WateReuse Research Foundation	\$5,000	\$0	\$4,000
Colorado Springs Utilities	\$0	\$6,525	\$6,525
MSK Consulting	\$0	\$6,000	\$6,000
WateReuse Association	\$0	\$5,000	\$5,000
Sub-total matching funds	\$55,000	\$59,525	\$114,525
WSRA Metro Basin Account	\$25,000	n/a	\$25,000
WSRA South Platte Basin Account	\$15,000	n/a	\$15,000
WSRA Colorado Basin Account	\$15,000	n/a	\$15,000
WSRA North Platte Basin Account	\$2,500	n/a	\$2,500
WSRA Statewide Account	\$131,455	n/a	\$131,455
Total Project Costs	\$243,955	\$59,525	\$303,480

CWCB Project Manager: Kevin Reidy

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(b)

Applicant & Fiscal Agent: Coalition for the Upper South Platte

Water Activity Name: Horse Creek Restoration Project

Water Activity Purpose: Nonconsumptive (Env/Rec) & M&I

County: Douglas

Drainage Basin: South Platte

Water Source: Horse Creek

Amount Requested/Source of Funds:

\$50,000	Metro Account
\$50,000	South Platte Basin Account
\$550,000	Statewide Account [*]
\$650,000	Total Grant Request

Matching Funds:

Basin Account Match (\$100,000) = 15.4% of total grant request (meets 5% min);

Basin Account & Applicant Match (\$1,322,045) = 203% of total grant request (meets 25% min);

Applicant/3rd Party Match (\$1,222,045) = 188% of total grant request (meets 5% min)

(refer to *Funding Summary/Matching Funds* section)

***Note:** The apparent discrepancy between the \$650,000 Statewide Account request indicated in the application and the \$550,000 Statewide Account request represented herein (and on the spreadsheet accompanying the Memo) can be attributed to the applicant agreeing to reduce their Statewide Account request by \$100,000 to accommodate the Statewide Account funding shortfall.

Staff Recommendation:
Staff recommends approval of up to \$50,000 from the Metro Account; and \$50,000 from the South Platte Basin Account; and \$550,000 from the Statewide Account to help fund the project titled: Horse Creek Restoration Project.

Water Activity Summary: WSRA funds, if approved, will be expended to: reduce erosion and flooding in Horse Creek, protecting public infrastructure and life safety; reduce approximately 50,000 tons per year of sediment moving downstream; improve habitat for threatened and endangered species (Prebbles Jumping Mouse), other species of concern, fisheries, and provide aquatic species passage from West Creek Reservoir to the mainstem of the South Platte River. These efforts are proposed to counteract the effects of the the Hayman Fire which burned over 137,000 acres of the Upper South Platte watershed in 2002, yielding long-term negative impacts to water infrastructure and environmental values downstream of the fire scar that continue today. The Horse Creek drainage was significantly damaged, and has had continued flooding, and high-levels of erosion, which delivers over 57,000 tons of excess sediment downstream in average years, and during high precipitation periods, has delivered hundreds of thousands of tons (primarily from streambank

erosion). This material has significant negative impacts on water supply infrastructure (particularly with the volume deposited in Strontia Springs Reservoir, but also affecting downstream diversions and flumes). It also has significant impacts on fisheries, and T&E species (this is a Prebbles Mouse habitat area.)

The Horse Creek Project will re-align approximately 2,000 feet of Horse Creek, restore sediment transport function within 6 sub-basins in the Horse Creek Project utilizing heavy equipment and hand crews, stabilize 2 additional sub-basins with hand crews, and replace three bridges in the project area. The new bridges will replace temporary culvert crossings that continue to fail in heavy flows, and destabilize the river with each failure, as well as acting as aquatic species blockage. The new bridges will be single span construction, to allow for debris to pass underneath the structure without damage, and will have weirs built above to direct the thalweg through the center of the channel.

Discussion: This project aligns well with several of the Goals and Measurable Outcomes as addressed in the South Platte Basin Implementation Plan. For example: Goal 1.9.4: South Platte Storage and Other Infrastructure; Goal 1.9.5: Water Quality; Goal 1.9.7 Environmental and Recreational; and Goal 1.9.8: Statewide Long-term Goals (SPBIP; Section 1.9: Goals and Measurable Outcomes, pages 1-24 thru 1-30). Furthermore, the SPBIP lists this effort as an IPP in Section 4.3.2.1: Reuse Identified Projects and Processes; Table 4-10: South Platte and Metro Provider's Reuse IPPs; page 4-25.

In addition this effort advances Colorado's Water Plan Reuse options as a means to close the supply-demand gap as highlighted in Chapter 6.3.2: Reuse (CWP; Chapter 6.3.2: Reuse; pages 6-75 thru 6-81), and promotes Water Quality goals as emphasized in Chapter 7.3: Water Quality (CWP; Chapter 7.3: Water Quality; pages 7-17 thru 7-33).

Issues/Additional Needs:

- The applicant should provide staff with a detailed monitoring plan that describes geomorphic and vegetative monitoring methodologies.
- The monitoring plan should conform to the CWCB Measurable Results Program's Standard Operating Procedures for Topographic Survey of Stream Channels.
http://cwcb.state.co.us/environment/watershed-protection-restoration/Documents/Survey_SOP_CWCB.pdf

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
319 Nonpoint Source Program	\$600,000	\$0	\$600,000
Denver Water	\$200,000	\$0	\$200,000
Aurora Water	\$200,000	\$0	\$200,000
Douglas County	\$50,000	\$0	\$50,000
Coalition for the Upper South Platte	\$0	\$172,045	\$172,045
Subtotal Applicant Match	\$1,050,000	\$172,045	\$1,222,045
WSRA Metro Account	\$50,000	n/a	\$50,000
WSRA South Platte Basin Account	\$50,000	n/a	\$50,000
WSRA Statewide Account	\$550,000	n/a	\$550,000
Total Project Costs	\$1,700,000	\$172,045	\$1,872,045

CWCB Project Manager: Chris Sturm

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2015
Agenda Item 14(c)

Applicant & Fiscal Agent: Colorado River Water Conservation District

Water Activity Name: Colorado River Development and Curtailment Risk Study

Water Activity Purpose: Multipurpose

County: throughout Colorado Basin

Drainage Basin: Colorado

Water Source: Colorado River and tributaries

Amount Requested/Source of Funds: \$8,000 Colorado Basin Account
\$8,000 Gunnison Basin Account
\$8,000 Southwest Basin Account
\$8,000 Yampa/White Basin Account
\$32,000 Total Basin Account request

Matching Funds: Applicant Match: \$20,000 = 38.5% of the total project cost of \$52,000
(refer to *Funding Summary/Matching Funds* section below)

Staff Recommendation:

Staff recommends approval of up to \$8,000 from the Colorado Basin Account; \$8,000 from the Gunnison Basin Account; \$8,000 from the Southwest Basin Account; and \$8,000 from the Yampa/White Basin Account to help fund the project titled: Colorado River Development and Curtailment Risk Study.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the Colorado River Development and Curtailment Risk Study. The study will address two major questions:

1. What is the likelihood that Lake Powell will drop below elevation 3525' under a range of selected water supply and water demand scenarios?
2. Evaluate how often and by how much water users of Colorado River water in Colorado would have to reduce demands/cut consumptive uses to maintain Lake Powell elevation levels above 3525'. Provide an indication and evaluation of the "risk" to existing uses at different levels of future demand levels.

The results will be shared with the sponsoring roundtables and other interested roundtables across the state via workshop/webinar in order to facilitate discussion of implications and lessons for implementation of the seven point framework identified in Colorado's Water Plan. Participants will be asked to contribute to recommendations for further studies and the consultant will develop recommendations for modeling improvements for future studies.

Discussion: At the December 18th 2014 meeting of the four West Slope Basin Roundtables, attendees cited the need for more technical data and modeling so that the four roundtables could better understand and discuss issues surrounding future Colorado River development, the risk to existing water users and implementation of the framework principles included in the Colorado Water Plan. The proposed study is intended to begin the technical investigation process so that the roundtables will have a common technical platform.

The intent of this study is to supplement other studies and work that are underway or have been completed such as the water bank workgroup effort, the System Conservation Agreement pilot projects and the development of an Upper Basin contingency plan.

The study meets several goals identified in the Basin Implementation Plans of the contributing roundtables, associated with mitigating risk to existing and future uses in these basins. Additionally, Colorado's Water Plan identifies several key actions in Chapters 8 and 9 related to maximization of the use of Colorado's compact entitlement, while actively avoiding compact curtailment. This study will inform roundtable discussion and understanding of potential concepts to advance these actions.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
CRWCD	\$10,000	\$0	\$10,000
SWCD	\$10,000	\$0	\$10,000
Subtotal Matching Funds	\$20,000	\$0	\$20,000
WSRA Colorado Basin Account	\$8,000	n/a	\$8,000
WSRA Gunnison Basin Account	\$8,000	n/a	\$8,000
WSRA Southwest Basin Account	\$8,000	n/a	\$8,000
WSRA Yampa/White Basin Account	\$8,000	n/a	\$8,000
Total Project Costs	\$52,000		\$52,000

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(d)

Applicant & Fiscal Agent: Huerfano County Water Conservancy District

Water Activity Name: Water Infrastructure Improvements – Huerfano River Basin

Water Activity Purpose: Water Administration Improvements

County: Huerfano

Drainage Basin: Arkansas

Water Source: Cucharas River and Huerfano Rivers

Amount Requested/Source of Funds: \$20,000 Arkansas Basin Account
\$93,400 Statewide Account
\$113,400 Total Grant Request

Matching Funds: Basin Account Match (\$20,000) = 17.6% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$199,000) = 175% of total grant request (meets 5% min)
Basin Account & Applicant Match (\$219,000) = 193% of total grant request (meets 25% min)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$20,000 from the Arkansas Basin Account, and \$93,400 from the Statewide Account to help fund the project titled: Water Infrastructure Improvements – Huerfano River Basin.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Water Infrastructure Improvements – Huerfano River Basin. This project will provide technical information via real-time data encompassing a comprehensive assessment of physical conditions needed to make best management decisions regarding river calls in the Huerfano-Cucharas Basin. Listed as project #ARK-2015-0004 in the Basin Implementation Plan Master Needs List, this project will meet several objectives identified in the Arkansas River Decision Support System Feasibility Study Final Report (November 2011) for development of a decision support system and will create administration enhancements that impact decisions about delivery of water downstream to honor a senior call, including a determination that such an effort would be futile and would deprive upstream rights or a chance to use or store water.

This project will enhance the ability of water users to be aware of opportunities to divert water in priority, under rapidly changing river conditions, by providing better stream gage data in critical areas on the Cucharas and Huerfano Rivers. This project will include installation of monitoring wells in key locations that will serve a dual role of providing data related to alluvial aquifer conditions and

their interrelationship to streamflow conditions as well as providing the opportunity to gain valuable data about aquifer characteristics.

This project has several components: (1) rehabilitation of existing river gages, (2) construction of new river gages, (3) construction of groundwater monitoring wells, (4) collection of historical diversion, storage, call, and river flow data consistent with the needs of CDSS, and (5) development and operation of a spreadsheet model to assist the Division Engineer and his Water Commissioners in making futile call determinations on the Cucharas and Huerfano rivers.

This project is a cooperative effort between the Huerfano County Water Conservancy District (HCWCD; main sponsor), the Colorado Division of Water Resources (Water Division 2), and the Interstate and Federal Section of the CWCB (DSS), with additional support from the funding sources listed above.

Discussion: This project was identified on the Master Needs List of the Arkansas Basin Implementation Plan, and meets several of the goals and measurable objectives identified in that BIP. As stated in the basin's 2015 BIP, "In order to administer surface water in Colorado and the Arkansas Basin, data on streamflow is required in order to make administrative decisions regarding specific surface water diversions that are allowed to divert water according to their priority." § 3.2.3, p. 115. Consequently this application is in direct response to the Arkansas Basin's needs assessment described in C.R.S. §37-75-104(2) and appearing as ARK-2015-0004 in the Master Needs List of the Arkansas BIP.

The project is also consistent with the key action items, goals, and measurable objectives identified in Colorado's Water Plan, specifically critical action items identified in Chapter 10 which direct the CWCB to work with BRTs and project proponents to fund projects which have been prioritized by basin roundtables.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This activity has under gone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
CWCB - DSS	\$100,000	\$0	\$100,000
DWR	\$26,000	\$44,000	\$70,000
HCWCD	\$5,000	\$0	\$5,000
HCBOCC	\$4,000	\$0	\$4,000
CSWD	\$4,000	\$0	\$4,000
HCFMLD	\$4,000	\$0	\$4,000
La Veta	\$4,000	\$0	\$4,000
Walsenburg	\$4,000	\$0	\$4,000
Water Users	\$4,000	\$0	\$4,000
Subtotal Matching Funds	\$155,000	\$0	\$199,000
WSRA Arkansas Basin Account	\$20,000	n/a	\$20,000
WSRA Statewide Account	\$93,400	n/a	\$93,400
Total Project Costs	\$268,400	\$44,000	\$312,400

CWCB Project Manager: Andy Moore

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(e)

Co-Applicants: Lower Arkansas Valley Water Conservancy District /
North La Junta Water Conservancy District

Fiscal Agent: Lower Arkansas Valley Water Conservancy District

Water Activity Name: La Junta Flood Mitigation Project

Water Activity Purpose: Multipurpose

County: Otero

Drainage Basin: Arkansas

Water Source: Arkansas River

Amount Requested/Source of Funds: \$25,000 Arkansas Basin Account
\$25,000 Total Grant Request

Matching Funds: Basin Account Match (\$25,000) = 29.4% of total project costs (\$85,000)
Applicant/3rd Party Match (\$60,000) = 70.5% of total project costs
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:
Staff recommends approval of up to \$25,000 from the Arkansas Basin Account to help fund the project titled: La Junta Flood Mitigation Project.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: La Junta Flood Mitigation Project. The lower Arkansas River passes through a “pinch point” as it traverses the passage between the Towns of La Junta, on the south bank, and North La Junta on the opposite bank. Flooding in this area has been endemic, with efforts underway since the 1999 flood to address the issue by formation of the North La Junta Water Conservancy District. Recent improvements to dikes along the north bank, using material salvaged from tamarisk and island removal, has aggravated the flooding challenges. The District now desires to alter the configuration of existing dikes, and extend the dike system further downstream, to mitigate the flood potential.

The purpose of this project is to relieve a “pinch point” on the Arkansas River at La Junta, Colorado. The construction activity will reduce flooding threats to public safety, improve species habitat and enhance water management capabilities for the Bureau of Reclamation and U.S. Army Corps of Engineers under the administrative protocols of the Arkansas River Compact of 1948. The flooding limits releases from Pueblo Reservoir to John Martin Reservoir in times of high precipitation, resulting in lost water storage in wet years.

The objectives of the project are as follows:

1. Objective 1 – Coordinate the permitting/construction/reclamation activity with interested agencies.
2. Objective 2 – Phase 1: Removal of islands in stream channel to restore channel capacity; Phase 2: Reconstruction and extension of existing dike.
3. Objective 3 – Manage the project through construction to completion, with appropriate retention of contractor payments following final billing, and project signoff for release of retained funds.

Discussion: This project is consistent with the goals and actions identified in the Arkansas Basin Implementation Plan. This water activity addresses multiple needs by a) mitigating a significant flooding problem in the local community, and; b) eliminating a limitation on flow management in the lower Arkansas River valley. When the Bureau of Reclamation needed to release water from Pueblo Reservoir this spring in response to high levels of precipitation, this existing dike and flooding conditions limited the amount of the release. Water that could have been stored in John Martin Reservoir, allowing increased storage in Pueblo Reservoir for the benefit of multiple parties, was lost because of this constraint.

This water activity directly benefits an interbasin need by improving the management of storage as it impacts compliance with the Arkansas River Compact. Improved flow management directly assists meeting the Arkansas Roundtable goal of 70,000 AF of new storage by making greater efficient use of existing storage and “excess” storage at Pueblo Reservoir.

The project is also consistent with the key action items, goals, and measurable objectives identified in Colorado’s Water Plan, specifically critical action items identified in Chapter 10 which direct the CWCB to work with BRTs and project proponents to fund projects which have been prioritized by basin roundtables. The project also meets critical goals related to storage and compact compliance.

Issues/Additional Needs: Members of the Watershed and Flood Protection Section have identified potential impacts to the floodplain from implementation of this project. CWCB staff members have met with the project proponent and BIP coordinator from the Arkansas Basin Roundtable, and addressed the issues which must be resolved prior to implementation of the project. CWCB staff has also offered additional funding to enable to proponent to continue with the project.

Project proponents will work with CWCB staff to update the scope of work and application to be consistent with the additional requirements:

- 1) Applicant will obtain a letter of support from Otero County for the flood mitigation activities to be performed in the scope of this project.
- 2) Applicant will obtain a floodplain development permit from the local permitting authority (Otero County).
- 3) Applicant will perform (with assistance of consultant) a hydraulic analysis of the impacts of project implementation, and project design which meets the criteria of the Watershed and Flood Protection Section staff.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a**Funding Summary/Matching Funds:**

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
LAVWCD	\$40,000	\$0	\$40,000
Otero County	\$10,000	\$0	\$10,000
La Junta	\$10,000	\$0	\$10,000
Subtotal Matching Funds	\$60,000	\$0	\$60,000
<u>WSRA Arkansas Basin Account</u>	<u>\$25,000</u>	<u>n/a</u>	<u>\$25,000</u>
Total Project Costs	\$85,000	\$0	\$85,000

***Additional funding will be provided by the CWCB to assist applicant with floodplain-related issues**

CWCB Project Co-Managers: Brent Newman/Jamie Prochno

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(f)

Applicant & Fiscal Agent: Upper Arkansas Water Conservancy District

Water Activity Name: Upper Arkansas Multi-Use Projects Phase I – Lake Ranch Multi-Use Pilot Project (LRMUPP) Feasibility Study

Water Activity Purpose: Multipurpose

County: Chaffee

Drainage Basin: Arkansas

Water Source: Arkansas River

Amount Requested/Source of Funds:

\$31,196	Arkansas Basin Account
\$162,944	<u>Statewide Account</u>
\$194,140	Total Grant Request

Matching Funds:

Basin Account Match (\$31,196.50) = 16% of total grant request (meets 5% min);

Applicant/3rd Party Match (\$35,569) = 18.3% of total grant request (\$229,709.50)

Basin Account & Applicant Match (\$66,765) = 34.4% of total grant request (meets 25% min)

(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$31,196 from the Arkansas Basin Account, and \$162,944 from the Statewide Account to help fund the project titled: Upper Arkansas Multi-Use Projects Phase I – Lake Ranch Multi-Use Pilot Project (LRMUPP) Feasibility Study.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Upper Arkansas Multi-Use Projects Phase I – Lake Ranch Multi-Use Pilot Project (LRMUPP) Feasibility Study. This project is one of two multi-use projects that the Upper Arkansas Conservancy District is moving forward. These projects aim to integrate multiple water use components to address the “gap” through a multi-purpose approach. the District owns the Lake Ranch property, associated water rights, and has lease agreements for lease fallowing and other project components with the current lessee.

Components of the LRMUPP include: alluvial aquifer storage and return flow mapping; lease fallowing in the forms of interruptible water supply or rotational crop fallowing; low-head low-impact hydropower supply; water supply yield enhancement and delivery improvements; educational demonstrations on alternatives to permanent dry-up, use of small scale hydropower and demonstration plots for irrigation technology and crop science R&D; environmental benefits through wetlands and protection of open space; recreational benefits through the enhancement of the Voluntary Flow Management Program; and, potential collaborations with CPW, CSU Extension, USGS, NRCS, Colorado Water Resources and Power Development Authority (CWRPDA), etc ..

For the purposes of this grant application, the District would like to investigate the feasibility of each component of the LRMUPP. A feasibility study will allow the District to study each complex component of this pilot project and ensure the success of its implementation. Elements of the feasibility study can be transferable to the larger TCPMUP and aid in future projects to come. The LRMUPP will give the District the insight and knowledge needed for implementation of multi-use projects, while gaining vast benefits at the Lake Ranch throughout the process. The LRMUPP's successful implementation will provide a demonstration of how to maximize utilization of State waters and address the "gap" with a multi-purpose approach.

OBJECTIVES:

- To study the feasibility of multi-use projects;
- To improve understanding of how multiple water use components can be integrated into a single project;
- To investigate the use of alluvial aquifer storage;
- To investigate the potential for low-head, low-impact, hydro-power systems;
- To analyze the potential for enhancements of delivery systems;
- To analyze water rights yields and return flows;
- To analyze the use of ATMS and the Lease Fallowing Tool;
- To successfully integrate environmental and recreational needs;
- To develop educational demonstrations on irrigation R&D, ATMs, & hydropower;
- To produce studies and demonstrations that can lead as an example and be transferable to the TCPMUP and future multi-use projects across the State; and,
- To establish the necessary requirements to move the LRMUPP into Phase 2- Implementation.

Discussion: The LRMUPP will help implement projects and processes identified in the Arkansas Basin Implementation Plan. This pilot project will lead as a demonstration for the implementation of the larger TCPMUP that is featured in the Ark BIP. This pilot project will assist in the implementation of future multi-use projects that will have the ability to address the "gap" through a collaborative approach. Specifically, the LRMUPP will address the "gap" through new storage, lease fallowing and delivery system improvements.

MEETING THE NEEDS OF THE COLORADO WATER PLAN:

Critical Action Plan Implementation Goals Met:

1. Supply & Demand (A)- This project will address the supply & demand gap through increased storage, lease fallowing and integrated water management;
2. Conservation (B) - This project has the ability to address conservation by providing a demonstration on new storage technologies to store and manage this conserved water and will provide a demonstration garden on irrigation efficiencies and plant species;
3. Agriculture (D)- This project will demonstrate agricultural viability through Alternative Transfer Methods and protection from permanent "buy & dry";
4. Storage (E)- This project will provide multi-purpose & multi-partner storage options and will demonstrate the use and benefits of alluvial aquifer storage;
5. Watershed Health, Environment, and Recreation (F)- Enhances environmental values through the creation of wetlands and protection of open space. Recreational benefits include the potential enhancement of the Voluntary Flow Management Program;

6. Funding (G) - This project uses a variety of funding mechanisms in the form of matching grants from the Colorado Water Resources and Power Development Small Hydropower Grant Match and UAWCD cash matching. This project is designed to promote sustainability through generating revenue and promoting collaboration through multiple partnerships. Potential revenue can be developed through the hydropower and storage components and future partnerships include CPW, SECWCD, Local Land Trusts, GARNA, CSU Extension, and, more.; and,
7. Education, Outreach, and Innovation (H)- This project will include education and outreach in the form of a demonstration garden to promote innovation in irrigation and plant species; provide a demonstration of the use of small hydropower systems; provide a demonstration on the use of lease fallowing; and provide an example of how to implement multi-purpose/use projects.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
UAWCD	\$30,569	\$0	\$30,569
PEPO match	n/a	\$5,000	\$5,000
Subtotal Matching Funds	\$30,569	\$5,000	\$35,569
WSRA Arkansas Basin Account	\$31,196	n/a	\$31,196
WSRA Statewide Account	\$162,944	n/a	\$162,944
Total Project Costs	\$194,140	\$5,000	\$229,709

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
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Applicant & Fiscal Agent: Fountain Creek Watershed Flood Control and Greenway District

Water Activity Name: Evaluation of Flood Control Alternatives for the Fountain Creek Corridor

Water Activity Purpose: Multipurpose

County: El Paso / Pueblo

Drainage Basin: Arkansas

Water Source: Fountain Creek

Amount Requested/Source of Funds: \$8,800 Arkansas Basin Account
\$33,000 Statewide Account
\$41,800 Total Grant Request

Matching Funds: Basin Account Match (\$8,800) = 21% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$37,500) = 89% of total project costs (\$79,300)
Basin Account Match & Applicant Match (\$46,300) = 111% of total grant request (meets 25% min)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$8,800 from the Arkansas Basin Account; and \$33,000 from the Statewide Account to help fund the project titled: Evaluation of Flood Control Alternatives for the Fountain Creek Corridor.
--

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Evaluation of Flood Control Alternatives for the Fountain Creek Corridor. This project evaluates alternatives to protect productive agricultural, commercial and residential land and aquatic and riparian habitat along the Fountain Creek corridor from flood damage and excessive sediment transport. It will simultaneously examine whether infrastructure utilized to meet these nonconsumptive objectives can also be used to meet water supply needs through enhanced exchange opportunities, augmentation or direct use, and provide for additional aquatic and riparian habitat and recreational opportunities.

The water activity will evaluate alternatives for structural and non-structural improvements in the Fountain Creek corridor from Colorado Springs to the confluence with the Arkansas River. The water activity will progress the design and construction of habitat-sensitive restoration techniques that will stabilize the creek bank, reduce flooding and erosion and sediment transport while improving water quality and protecting viable agricultural land, commercial facilities, residential properties, aquatic habitat, wildlife habitat and wetlands. The activity will also evaluate whether detention facilities or a

mainstream dam can constitute a viable means of storing water to meet current and future water supply needs by adding to exchange opportunities (potentially as part of a leasing/fallowing program) or serving as augmentation or direct use reservoirs, without injuring downstream water rights. The water activity will consider water rights along Fountain Creek and pertinent stretches of the Arkansas River to ensure that existing water rights are not injured if flood control or multi-use facilities are constructed in the Fountain Creek Corridor. Meetings will be held with ditch associations, canal companies, Water Division No. 2 representatives and independent water rights holders to keep the communities informed throughout the execution of this water activity and seek input that will be valuable in establishing credible alternatives for analysis.

OBJECTIVES

1. Meet with holders of decreed water rights to discuss issues/concerns associated with the construction of infrastructure designed to meet project objectives, including the potential need to provide augmentation supplies so as to prevent material injury to any decreed water rights.
2. Assemble, review and summarize flood control and sediment management alternatives evaluated and described in previous reports by the District, USGS, the USACOE and others.
3. Assemble and summarize previous design information and costs estimates for projects similar to the candidate alternatives including the development of a fatal flaw analysis of costs associated with the operation of the analyzed alternatives.
4. Identify implementation issues, in addition to those referenced in #1 above, for the candidate alternatives.
5. Prepare graphics or animation to visualize the effects of implementation of candidate alternatives on properties in the flood pool during floods of 4 different magnitudes (10, 50, 100 and 500-year).
6. Identify and evaluate any potential opportunities for the use of the candidate alternatives to assist in meeting consumptive and non-consumptive needs, including a preliminary analysis of any fatal flaws associated with such use.
7. Compare the candidate alternatives conceptually and analytically using existing information.
8. Formulate and analyze options or combination of options to form feasible alternatives that meet project objectives.

Discussion: This project meets the goals and objectives identified in the Arkansas Basin Implementation Plan, aligning with all three of the basin themes identified. The project also aligns with the critical actions identified in Chapter 10 of Colorado's Water Plan, especially actions related to storage, water supply and demand gap, and watershed health.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Fountain Creek District	\$25,500	\$0	\$25,500
Colorado Springs Utilities	\$0	\$12,000	\$12,000
Subtotal Matching Funds	\$25,500	\$12,000	\$37,500
WSRA Arkansas Basin Account	\$8,800	n/a	\$8,800
WSRA Statewide Account	\$33,000	n/a	\$33,000
Total Project Costs	\$67,300	\$12,000	\$79,300

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
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Applicant & Fiscal Agent: McClave Water Association, Inc.

Water Activity Name: McClave Water Association Delivery Improvement Project

Water Activity Purpose: Municipal/Industrial

County: Bent

Drainage Basin: Arkansas

Water Source: Arkansas River

Amount Requested/Source of Funds: \$23,010 Arkansas Basin Account
\$25,000 Statewide Account
\$48,010 Total Grant Request

Matching Funds: Basin Account Match (\$23,010) = 47.9% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$6,800) = 14.1% of total project costs (\$54,810)
Basin Account & Applicant Match (\$29,810) = 62% of total grant request (meets 25% min)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:
Staff recommends approval of up to \$23,010 from the Arkansas Basin Account and \$25,000 from the Statewide Account to help fund the project titled: McClave Water Association Delivery Improvement Project.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: McClave Water Association Delivery Improvement Project. The system was constructed in the 1960s and has undergone only limited improvements since that time due to a lack of financing, but is in need of significant repairs and replacements. Because of the high poverty rate in the area however (Bent County ranked as 4th highest poverty level in Colorado by U.S. Census Bureau), member rate increases are not a viable way for the Association to raise funds to replace its aging infrastructure.

The McClave Water Association Delivery Improvement Project will allow for replacement of two sections of PVC distribution line (totaling about 1.5 miles in length) that currently experience heavy water loss due to deteriorated PVC pipe. The Board of Directors has deemed these two sections of distribution line as top priority for replacement due to the high amount of leakage loss currently taking place. It is estimated that these improvements will result in 8 acre-feet of water savings annually. This water savings is significant to the McClave Water Association, as it represents approximately 20% of the water produced annually by the Association's wells.

Task One – Site Preparation and Utility Location: McClave will coordinate with Bent County for the removal of weeds and other vegetative debris along the water right right-of-way. McClave will then

work with utility companies to identify and mark locations of existing utilities within the rights of way to prepare for trenching and pipe installation.

Task 2 - Distribution Line Replacement: McClave will retain a contractor to perform the distribution line replacement and the association replacement of meter connections and valves on two pipe segments. The first pipe segment is a new three-inch PVC distribution line in the north right of way of Bent County Road LL between Road 28 (east) extending to a point approximately 4500 feet west. The second pipe segment is a new two-inch PVC distribution line in the north right of way of Bent County Road JJ between Road 32 (east) extending to a point approximately 3000 feet west. Eight meter connections and valves along these two stretches of distribution line will be replaced at the same time (six within the first segment and two in the second segment). McClave staff will oversee the contractor in trenching and laying two new pipe segments in the McClave water distribution system and replacing eight meter connections and valves located within those segments. Trenching and pipe installation will be done to a minimum depth of 36 inches and will include tie-ins to service lines and the main line of the McClave water distribution system. After installation and after introduction of new water to the installed lines to observe satisfactory functioning and workmanship, the contractors will backfill the trench.

Discussion: This project meets the goals and objectives identified in the Arkansas Basin Implementation Plan, specifically the municipal goal to “Support regional infrastructure development for cost-effective solutions to local water supply gaps.” (Section 1, page 15)

This project also aligns with critical actions identified in Colorado’s Water Plan, such as the support of BRT-identified priority projects. Additionally, this project correlates with action items in Section 6.5 related to the maintenance and updating of aging infrastructure.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant’s detailed response.

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
McClave Water Association	\$4,800	\$2,000	\$6,800
WSRA Arkansas Basin Account	\$23,010	n/a	\$23,010
WSRA Statewide Account	\$25,000	n/a	\$25,000
Total Project Costs	\$52,810	\$2,000	\$54,810

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
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Applicant & Fiscal Agent: Purgatoire River Water Conservancy District

Water Activity Name: Ditch Infrastructure Repair Project

Water Activity Purpose: Agricultural

County: Las Animas

Drainage Basin: Arkansas

Water Source: Purgatoire River

Amount Requested/Source of Funds: \$30,000 Arkansas Basin Account
\$60,000 Statewide Account
\$90,000 Total Grant Request

Matching Funds: Basin Account Match (\$30,000) = 33% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$132,500) = 147% of total grant request (meets 25% min);
Basin Account & Applicant Match (\$162,500) = 180% of total grant amount
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$30,000 from the Arkansas Basin Account; and \$60,000 from the Statewide Account and to assist in funding the project titled: Ditch Infrastructure Repair Project.
--

Water Activity Summary: WSRA funds, if approved, will be expended to perform critical repairs needed throughout the irrigation system downstream from Trinidad Dam. Each of the individual ditch companies completed its own assessment of need, which the District compiled into a master project list, comprising eight components:

1. Picketwire Ditch - Headgate

Debris carried down the Purgatoire River lodges against this headgate, interfering with and blocking its opening. There is currently no safe way for the superintendent to clean this out, other than to hang on the rail revetments and clear debris by hand.

The solution at this location will include:

- Improve safety by installing surface mount ladders down to the headgates
- Reduce debris collection by installing a trash rack to divert large floatables coming down the Purgatoire River
- Improve safety and maintenance access by building a catwalk on the trash rack
- Control erosion and limit debris lodging by installing a concrete wall along the railroad rail and riprap revetment

- Control erosion and help stabilize the outlet works by installing a new concrete floor ahead of the gate structure
- Improve water control by installing new gate seals
- Improve safety and decrease public access by constructing fencing, two access gates, handrails, catwalks, and signage.

2. Chilili Ditch – Ditch Piping

The Chilili Ditch is a senior ditch on the River, with a diversion right of 7 cfs. The ditch is seven miles long, approximately 60 percent running parallel to the BNSF Railroad tracks. There exists a reach, approximately 700-feet long, wherein the ditch is narrowly constrained between a bluff and the railroad tracks. The ditch receives highway runoff and runoff from the bluff, which causes it to overtop, resulting in damage to the ditch bank, and flooding and washing of debris onto the railroad tracks. The very limited accessibility exacerbates problems with repair and maintenance. Approximately 450-feet of the ditch was previously put into a metal pipe culvert, but has now deteriorated and failed at various locations.

The Project will replace approximately 450 feet of existing metal culvert, extending it an additional 300 feet to provide protection for the full reach where a breach could damage the railroad embankment. This improvement would provide the added benefit of reduced maintenance costs, and reduced water losses. Included in the construction will be the installation of new debris screens.

3. Baca Ditch - Siphon Protection

The section of concern is an inverted siphon which carries water for the Baca, El Moro, and Picketwire Ditches under the Powell Arroyo drainage. Measures in place to control head cutting in the arroyo, consisting of railroad rails and rock-filled wire baskets, are deteriorating and allowing fines to wash through, and threaten the long term viability of the structure.

The planned approach for this repair is to buttress the existing revetment by constructing grouted rock riprap across the arroyo channel, providing energy dissipation as water flows over the top of the rocks.

4. Enlarged Southside Irrigation Ditch - Diversion Erosion Repair and Debris Removal

At this location, the Purgatoire River has eroded the bank beyond the wing wall of the diversion structure, working its way back to the Southside Ditch and threatening the loss of the ditch embankment. Sediment continues to build up on the opposite side of the river, directing current toward the area, causing further erosion.

The plan of work for this area includes the removal of the area of built up sediment, using the excavated/dredged material to backfill the eroded area, followed by armoring the eroded area with rock riprap.

5. Enlarged Southside Irrigation Ditch - Railroad Crossing

At this location the ditch parallels the railroad tracks and then makes an abrupt turn to the right to cross under the railroad embankment via four 60-inch culverts. The abrupt change in direction is causing erosion and debris accumulation on the outside of the bend, eroding the bank, railroad grade, and the entrance to the culverts.

The proposed work at this location is to construct a concrete headwall and wing walls for the culverts, including a concrete floor at the entrance to the culvert entrance. This chosen option carries the added benefit of improved flow and culvert hydraulics.

6. El Moro - Hoehne Pipeline Association – Headgate Repair

The headgate at this location no longer functions correctly, failing to completely close water flow. It is believed that replacement of the gate seals will solve the problem.

7. New John Flood Ditch – Headgate Replacement

At the headgate where the diversions are made from the Picketwire Ditch, the headgate diversion cannot be completely shut off because the gate operator moves upward as the gate is screwed down. This means that water is lost from the shareholders of the Picketwire Ditch without providing benefit to the New John Flood Ditch. The concrete headwalls and slab to which the slide gate and operator are attached are in such poor condition that it is no longer possible to set new or additional anchors. Therefore, replacement is the only option to restore the operation of this headgate structure.

8. New John Flood Ditch - Lietzendorfer Arroyo Flume

A significant amount of water is being lost from an open channel flume, which conveys water across the Lietzendorfer Arroyo, from areas where the flume's metal plates have rusted out or welds have broken. The ditch company has been maintaining this structure over time by welding patches over holes as they develop, but due to deterioration of the base metal to where it is very thin, this is no longer a viable plan of maintenance. Since the flume's support structure is in good condition, it is not necessary to replace the entire structure. The plan is to weld new metal plate lining in-place over the existing lining.

Discussion: This project aligns with Goals and Measurable Outcomes described in the Arkansas Basin Implementation Plan. Projects related to this WSRA Grant are included in the Appendix 5.2-A Arkansas Basin Implementation Plan per the following table:

Arkansas Basin ID (ARK-2015-)	Project Title	Project Proponent
0517	Trinidad Project Infrastructure Upgrade	Purgatoire River Water Conservancy District
0520	Baca-Picketwire Headgate Improvement	Purgatoire Watershed Partnership
0522	Chilili Ditch Diversion and Improvement	Chilili Ditch Co., Purgatoire Watershed Partnership
0521	Powell Arroyo Siphon Protection Structure	Baca Ditch Co.
0518	El Moro - Hoehne Pipeline Association Water Line Replacement	El Moro - Hoehne Pipeline Association

This project also aligns with Colorado's Water Plan, *Section 10.3 – Critical Goals and Actions*, item D. - Agriculture, serving to maintain agricultural viability, and supporting agricultural conservation and efficiency.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: This activity has been reviewed and evaluated and has staff determined that it satisfies the Evaluation Criteria. Please refer to the WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Purgatoire River Water Conservancy District	\$100,000	\$0	\$100,000
Picketwire Ditch Company	\$4,640	\$0	\$4,640
Enlarged Southside Irrigation Ditch Co.	\$13,420	\$0	\$13,420
Chilili Ditch Company	\$7,870	\$0	\$7,870
Baca Ditch Company	\$2,350	\$0	\$2,350
New John Flood Ditch Co.	\$4,030	\$0	\$4,030
El Moro - Hoehne Pipeline Association	\$190	\$0	\$190
Sub-total matching funds	\$132,500	\$0	\$132,500
WSRA Arkansas Basin Account	\$30,000	n/a	\$30,000
WSRA Statewide Account	\$60,000	n/a	\$60,000
Total Project Costs	\$222,500	\$0	\$222,500

The applicant has provided a Basin Roundtable Letter indicating recommendation of the Basin and Statewide grant amounts. It should be duly noted that the applicant's required cash matching should be \$132,500, not \$121,500 as stated in the Basin Roundtable Letter.

CWCB Project Manager: Derek Johnson

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, any corrective action taken to address these issues, and copies of construction progress meeting minutes.

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 shall 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.

Water Supply Reserve Account – Grant and Loan Program
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Co-Applicants: Trout Unlimited / American Rivers

Fiscal Agent: Trout Unlimited

Water Activity Name: Irrigators of Lands in the Vicinity of Kremmling (ILVK) - Upper Colorado River Irrigation and Restoration Project - 2016

Water Activity Purpose: Multipurpose

County: Grand

Drainage Basin: Colorado

Water Source: Colorado River

Amount Requested/Source of Funds:

\$50,000	Colorado Basin Account
<u>\$415,400</u>	<u>Statewide Account</u>
\$465,400	Total Grant Request

Matching Funds:

Basin Account Match (\$50,000) = 10.7% of total grant request (meets 5% min);

Applicant/3rd Party Match (\$465,400) = 50% of total project costs (\$930,800)

Basin Account & Applicant Match (\$495,400) = 106% of total grant request

(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$50,000 from the Colorado Basin Account; and \$415,400 from the Statewide Account to help fund the project titled: Irrigators of Lands in the Vicinity of Kremmling (ILVK) Upper Colorado River Irrigation and Restoration Project – 2016.
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Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Irrigators of Lands in the Vicinity of Kremmling (ILVK) Upper Colorado River Irrigation and Restoration Project – 2016. The ILVK Project seeks to restore aquatic habitat and improve irrigation systems along 12 miles of the Colorado River in Grand County, Colorado.

This application seeks funds for the first phase in a long-term, regional effort to restore segments of the Colorado River and agricultural operations impacted by trans-mountain diversions. With support from an array of partners, the goals of the ILVK Project are to implement specific on-the-ground measures that address both irrigation and aquatic habitat issues and demonstrate that a healthy river is capable of providing multiple benefits to sustain agricultural irrigation, aquatic and wildlife habitat, and recreation.

This phase of the project, which is expected to be completed in 2016, follows the original ILVK Upper Colorado River Irrigation and Restoration Assessment Phase 1. The Project 2016 list is based on priority within the ILVK reach.

Funding for 2016 work includes the following:

- Topographic Survey of the river corridor through the entire ILVK project reach
- Yust Family Blue River Assessment (Loback Ditch to Colorado River confluence)
- Blue River irrigation infrastructure emergency repair
- Final engineering design and construction of the Grade Control Riffle to stop head-cut, stabilize river elevations for the McElroy pump systems, and improve aquatic habitat just above the confluence of the Blue and Colorado Rivers
- Bank stabilization and 400 LF new pipe line for ditch system for water delivery out of the Orr #2 irrigation pump
- Engineering, bank stabilization and 1800 LF new pipeline for ditch system for water delivery out of the KB Ditch System
- Engineering, bank stabilization, and habitat improvements on the Petersen Ranch; it includes 3 specific locations where ditch infrastructure is jeopardized based on bank erosion and a habitat project that targets a wide portion of the river to a low flow channel by the construction of a point bar riffle
- Final design engineering, bank stabilization, and habitat improvements on the Bruchez Ranch; it includes design and construction of 2 riffle veins for habitat, a low flow channel and to direct water velocities away from eroding banks; includes design and construction of 1540 LF of bank stabilization using a variety of techniques to study and monitor for progression of ILVK project.

Discussion: This project serves multiple purposes and uses, and aligns with Themes 1 and 2 of the Colorado River Basin Implementation Plan: to “protect and restore healthy streams, rivers, lakes, and riparian areas” and to “sustain agriculture.” The ILVK Upper Colorado River Irrigation and Restoration Project is also listed as one of Grand County Region’s top 4 priority projects in the Colorado Basin Implementation Plan.

This project also aligns with several of the critical actions identified in Colorado’s Water Plan.

D3: “Provide grants, loans, and technical support to update and improve Colorado’s aging agricultural infrastructure, especially where improvements provide multiple benefits.”

Previous Funding: The proposed activity can be considered a continuation of the applicant’s efforts begun in 2013 with a WSRA Colorado Basin Account grant of \$50,000 approved by CWCB in September 2013, of which the applicant completed successfully.

Issues/Additional Needs:

- The applicant should provide staff with a detailed monitoring plan that describes geomorphic and vegetative monitoring methodologies.
- The monitoring plan should conform to the CWCB Measurable Results Program’s Standard Operating Procedures for Topographic Survey of Stream Channels.
http://cwcb.state.co.us/environment/watershed-protection-restoration/Documents/Survey_SOP_CWCB.pdf

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
ILVK Cash Funds	\$465,400	\$0	\$465,400
WSRA Colorado Basin Account	\$50,000	n/a	\$50,000
WSRA Statewide Account	\$415,400	n/a	\$415,400
Total Project Costs	\$930,800	\$0	\$930,800

CWCB Project Manager: Chris Sturm

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.

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.

Water Supply Reserve Account – Grant and Loan Program
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Applicant & Fiscal Agent: Upper Gunnison River Water Conservancy District
Water Activity Name: Remote Cloud Seeder for Upper Gunnison Basin
Water Activity Purpose: Multipurpose
County: Gunnison/Saguache/Hinsdale
Drainage Basin: Gunnison
Water Source: Gunnison River and tributaries
Amount Requested/Source of Funds: \$25,000 Gunnison Basin Account
Matching Funds: Basin Account Match (\$25,000) = 100% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$38,774) = 63.63% of total project costs (\$68,774)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$25,000 from the Gunnison Basin Account to help fund the project titled: Remote Cloud Seeder for Upper Gunnison Basin.
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Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Remote Cloud Seeder for Upper Gunnison Basin. The proposed activity involves purchasing a remotely operated cloud seeder that utilizes silver iodide as the seeding nuclei. Following procurement, the seeder will be delivered to and installed at the proposed site, which is about 1/2 mile northeast of Lake Irwin, around 10,600 feet near Kebler Pass between Paonia and Crested Butte, Colorado on private land. This seeder will join 2 other cloud seeders operated by North American Weather Consultants (NAWC) for the purpose of increasing snowpack levels in the Upper Gunnison Basin and other surrounding higher terrain. This particular location allows the cloud seeder to be close to the cloud bases it will target as well as be upwind of a good portion of our target area during storm events with north-northwest winds accompanying it and fills in one of the remaining “coverage gaps” in the Upper East River Basin.

NAWC has a meteorologist who monitors winter storms and will advise those running the cloud seeders in our network when to turn their seeder on and off. Criteria that must be met in order for effective cloud seeding include wind direction towards the target area, humidity greater than 90%, temperatures at cloud bases in the optimal range, and it must be snowing. Cloud seeders do not cause a snowstorm to develop, they do provide condensation nuclei for liquid water droplets present in the cloud to adhere to form more snowflakes with the right conditions. A typical winter has between 20-25 winter storms that are seedable. The cloud seeder works simply by igniting a propane-fed flame and spraying a solution of acetone containing silver iodide into the flame. The heat generated by the large burner combined with prevailing upslope winds will lift the atomized silver iodide up into the cloud.

Discussion: This project would aid in increasing precipitation and snowpack water content to benefit the natural habitat, agriculture, municipalities, recreation, tourism, and the area economy. The project would also aid in increasing the water supply in the upper Colorado River basin.

This project is consistent with goals and actions identified in the Gunnison Basin Implementation Plan as well as Colorado's Water Plan.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Lower Basin States	\$35,000	\$0	\$35,000
Upper Gunnison Stakeholders	\$5,000	\$3,774	\$8,774
Subtotal Matching Funds	\$40,000	\$3,774	\$43,774
WSRA Gunnison Account	\$25,000	n/a	\$25,000
Total	\$65,000	\$3,774	\$68,774

CWCB Project Manager: Joe Busto

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(l)

Applicant & Fiscal Agent: Young Creek Reservoir Company

Water Activity Name: Young Creek Reservoir No. 1-2 Repair and Rehabilitation

Water Activity Purpose: Multipurpose

County: Delta

Drainage Basin: Gunnison

Water Source: Young Creek, tributary to Gunnison River

Amount Requested/Source of Funds:

\$60,000	Gunnison Basin Account
\$75,000	<u>Statewide Account</u>
\$135,000	Total Grant Request

Matching Funds:

Basin Account Match (\$60,000) = 44% of total grant request (meets 5% min);

Applicant/3rd Party Match (\$58,159) = 30% of total project costs (\$193,159)

(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$60,000 from the Gunnison Basin Account and \$75,000 from the Statewide Account to help fund the project titled: Young Creek Reservoir No. 1-2 Repair and Rehabilitation.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Young Creek Reservoir No. 1-2 Repair and Rehabilitation. Young Creek Reservoir No. 1-2, situated on the Grand Mesa, has a history of sinkhole issues located on an abutment located between the dam and the spillway. These sinkholes are causing concern that the water could possibly invade the dam. This project will provide a liner covering the critical area of the abutment that could affect the dam safety. It will include all engineering aspects, construction, state and other approvals.

The objective of the project is to install a suitable barrier between the reservoir water and the abutment so as to prevent further sinkholes from occurring and endangering the dam. The project would save lost water and preserve the usefulness of the reservoir. It will also return the reservoir to a full storage capacity with no restrictions. These objectives will also help preserve decrees and continue to provide the allocated water to agriculture and municipalities.

The Division 4 Dam Safety Engineer has also approved this plan. The owners are primarily agricultural producers with the water serving orchards, hay and ranch land. The reservoir is the primary source of irrigation water for over 700 acres.

Discussion: This project serves multiple purposes and aligns with the goals and actions identified in the Gunnison Basin Implementation Plan. Additionally, this project was identified as a Tier 1 project in the Gunnison BIP.

This project also aligns with critical actions identified in Colorado’s Water Plan:

D3: “Provide grants, loans, and technical support to update and improve Colorado’s aging agricultural infrastructure, especially where improvements provide multiple benefits.”

Issues/Additional Needs: CWCB will work with applicant to complete scope of work and other information to meet Comptroller specifications. The CRWCD grant (matching funds) will be considered by the River District Board the week of March 7, and more information will be provided for the CWCB’s consideration at that time.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant’s detailed response.

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Young Creek	\$33,159	\$0	\$33,159
CRWCD	\$25,000*	\$0	\$25,000*
Subtotal Matching Funds	\$58,159	\$0	\$58,159
WSRA Gunnison Basin Account	\$60,000	n/a	\$60,000
WSRA Statewide Account	\$75,000	n/a	\$75,000
Total Project Costs	\$193,159	\$0	\$193,159

***CRWCD approval pending**

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(m)

Co-Applicants: Vern Hillis / Mary Smith
Fiscal Agent: Vern Hillis
Water Activity Name: McKoon/Blanchard Reservoir Repair Project
Water Activity Purpose: Agricultural
County: Delta
Drainage Basin: Gunnison
Water Source: tributary to Gunnison River
Amount Requested/Source of Funds: \$47,000 Gunnison Basin Account
Matching Funds: Basin Account Match (\$47,000) = 100% of total project costs (\$55,924);
Applicant/3rd Party Match (\$8,924) = 16% of total project costs (\$55,924)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:
Staff recommends approval of up to \$47,000 from the Gunnison Basin Account to help fund the project titled: McKoon/Blanchard Reservoir Repair Project

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: McKoon/Blanchard Reservoir Repair Project. The repairs to the McKoon / Blanchard Reservoir are focused on the outlet pipe. In a routine inspection of the reservoir the Dam Safety Engineer revealed that there was a hole showing on the upstream end of the pipe. He recommended that the outlet pipe be excavated back by hand to further study this hole. Once this was done, they uncovered problems with holes along the outlet pipe. An engineer was hired to further examine the situation and make his recommendations as to how to make a lasting repair to the problem. Since then, the reservoir was put under a "no fill" restriction until these issues could be addressed. The owners got involved quickly to address the problems. They completed the repairs to the exterior of the pipe and re-compacted the material around the outlet pipe replacing the soil in the dam structure. The Engineer has recommended a liner for the outlet pipe which has not been installed. Initially the Owners had problems with the U.S. Forest Service regarding access. This has been resolved.

The second phase of this project has yet to be completed and involves the lining of the outlet pipe using a sock like material that is heated once installed to expand adhering to the walls of the outlet pipe. The Engineer will be involved in selecting a suitable contractor and overseeing this task.

As long as the repairs are not completed, the Reservoir will be administrated by a "no fill" restriction meaning the valve will remain open. The Owners have relinquished any water they would have had to operate for the 2016 irrigating season. They intend to complete this final process during the

summer months of 2016 with the intention of filling the reservoir for use in 2017. This process is subject to the inspection and approval of the Dam Safety Engineer.

Discussion: This project aligns with the goals and actions identified in the Gunnison Basin Implementation Plan. Additionally, the restoration and maintenance of reservoir storage on the Grand Mesa was identified as a Tier 1 priority in the Gunnison BIP.

This project also aligns with critical actions identified in Colorado's Water Plan:

D3: "Provide grants, loans, and technical support to update and improve Colorado's aging agricultural infrastructure, especially where improvements provide multiple benefits."

Issues/Additional Needs: No issues or additional needs were identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Hillis/Young	\$8,924	\$0	\$8,924
WSRA Gunnison Basin Account	\$47,000	n/a	\$47,000
Total Project Costs	\$55,924	\$0	\$55,924

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(n)

Co-Applicants: Western Slope Conservation Center / Trout Unlimited

Fiscal Agent: Western Slope Conservation Center

Water Activity Name: North Fork of the Gunnison Environmental/Recreation and Irrigation Infrastructure Assessment and Planning

Water Activity Purpose: Multipurpose

County: Gunnison/Delta

Drainage Basin: Gunnison

Water Source: Gunnison River and tributaries

Amount Requested/Source of Funds:

\$27,000	Gunnison Basin Account
<u>\$30,000</u>	<u>Statewide Account</u>
\$57,000	Total Grant Request

Matching Funds:

Basin Account Match (\$27,000) = 47.3% of total grant request (meets 5% min);

Applicant/3rd Party Match (\$66,000) = 53.6% of total grant request

Basin Account & Applicant Match (\$93,000) = 163% of total grant request (meets 25% min)

(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$27,000 from the Gunnison Basin Account; and \$30,000 from the Statewide Account to help fund the project titled: North Fork of the Gunnison Environmental/Recreation and Irrigation Infrastructure Assessment and Planning.
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Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: North Fork of the Gunnison Environmental/Recreation and Irrigation Infrastructure Assessment and Planning. The North Fork of the Gunnison is a major tributary to the Gunnison River that provides irrigation water for agricultural producers from the small town of Somerset to Rogers Mesa, west of Hotchkiss. Upstream of major diversions, the North Fork supports a healthy fishery and at periods of high flow the river can support recreation as well. Unfortunately, the river is heavily impacted by diversions for agriculture, leaving the river dry or seriously impaired through the middle of the watershed during the height of the irrigation season. Simultaneously, ditch and canal companies struggle to maintain and effectively use their infrastructure, much of it out-of-date and in need of repairs. While some irrigation infrastructure, including delivery canals, have been upgraded to address salinity issues, most canals have not changed in the past 100 years.

In a collaborative effort to better understand the watershed, assess irrigation infrastructure needs, and address water supply along with environmental flow needs, Trout Unlimited (TU), Western Slope Conservation Center (WSCC), and the North Fork Water Conservancy District (NFWCD) have

joined forces on the creation of a Stream Management Plan (SMP). The proposed SMP will build upon previous modeling, engineering, assessments, and master planning efforts that have been completed by individual irrigation companies and conservation organizations including Trout Unlimited. The planning process will rely heavily on feedback from irrigators and water users throughout the watershed to identify projects and determine feasibility. The partners intend for the plan to serve as a valley-wide planning resource that can be used to address structural and supply issues irrigation water users face while improving flows and habitat in the North Fork. Creation of this SMP will provide the opportunity for a wide range of water users to collaborate on projects that will improve both consumptive and non-consumptive needs.

Project Objectives

1. Reduce administrative and physical water shortages
2. Improve watershed health
3. Identify important values related to water for a variety of water users in the North Fork
4. Identify and rank important irrigation infrastructure projects
5. Create realistic flow and environmental targets and goals
6. Protect existing uses and values
7. Establish flow targets for varying runoff regimes
8. Establish ranked inventory of non-consumptive and consumptive projects associated with the North Fork of the Gunnison
9. Create productive dialogue amongst all water users about water resource management in the North Fork

Discussion: This project serves multiple purposes and aligns with the goals and actions identified in the Gunnison Basin Implementation Plan. Additionally, this project was identified as a Tier 1 project in the Gunnison BIP.

This project also aligns with critical actions identified in Colorado's Water Plan:

A1: "Support and assist the basin roundtables in moving forward priority municipal, industrial, environmental, and agricultural projects and methods identified in their BIPs through technical, financial and facilitation support when requested by a project proponent and the pertinent BRT."

D3: "Provide grants, loans, and technical support to update and improve Colorado's aging agricultural infrastructure, especially where improvements provide multiple benefits."

F6: "Provide technical and financial support to local stakeholder groups to develop watershed master plans for watersheds that are critical to consumptive or nonconsumptive water supply and quality."

Issues/Additional Needs: No issues or additional needs were identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Project Partners	\$19,000	\$19,500	\$39,500
CWCB Stream Management Plan Funds	\$27,500	\$0	\$27,500
Subtotal Matching Funds	\$46,500	\$19,500	\$66,000
WSRA Gunnison Basin Account	\$27,000	n/a	\$27,000
WSRA Statewide Account	\$30,000	n/a	\$30,000
Total Project Costs	\$103,500	\$19,500	\$123,000

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(o)

Applicant & Fiscal Agent: Lake Fork Valley Conservancy

Water Activity Name: Lake Fork of the Gunnison River Enhancement Project

Water Activity Purpose: Nonconsumptive

County: Gunnison

Drainage Basin: Gunnison

Water Source: Lake Fork of the Gunnison River

Amount Requested/Source of Funds: \$23,295 Gunnison Basin Account
 \$209,653 Statewide Account
 \$232,948 Total Grant Request

Matching Funds: Basin Account Match (\$23,295) = 10% of total grant request (meets 5% min);
Applicant / 3rd Party Match (\$367,522) = 158% of total grant request with pending funds; 66% without pending funds (meets 25% min);
Basin Account & Applicant Match (\$390,817) = 168% of total grant request with pending funds; 76% of total grant request without pending funds (meets 25% min)
(refer to *Funding Summary/Matching Funds* section)

Note: Application identifies an incorrect total project cost of \$733,545 with land acquisition and \$499,045 without land acquisition. Actual total is \$600,470 with land acquisition and \$376,674 without land acquisition.

Staff Recommendation:

Staff recommends approval of up to \$23,295 from the Gunnison Account; and \$209,653 from the Statewide Account to help fund the project titled: Lake Fork of the Gunnison River Enhancement Project.

Water Activity Summary: The Lake Fork Valley Conservancy began a planning process in 2009 to restore over 7,500 linear feet of the Lake Fork Gunnison River in Lake City. Phase I improvements were completed in October 2014. This work included 3,300 linear feet at a cost of \$500,000. Phase II covers 3,400 linear feet. Major project components include in-channel improvements, re-vegetation of riparian areas, installation of interpretive river trail system, and acquisition of properties and easements to create an open space river park. River channel and re-vegetation efforts will enhance aquatic and riparian habitats, stabilize banks, improve hydraulic function, and improve recreational experiences. Acquisition of properties for an open space river park will help preserve key riparian communities that are considered relatively rare, protect the floodway, and increase public access.

Specific objectives include increasing fish habitat quality to result in a 50% increase in trout biomass, improve hydraulic function to maintain existing base flood elevations, facilitate the transport of sediment to maintain flood capacity, stabilize banks to protect property, and improve recreational access and safety.

Discussion: This project is a Tier 1 Identified Project and Process (IPP) in Table 18 Proposed Project List) of the Gunnison BIP. It also aligns with Chapters 6.6 (Environmental and Recreational Projects and Methods) and 7.1 (Watershed Health and Management) of the Colorado Water Plan. The project has the potential to improve ecological and flood resilience in the Lake City reach of the Lake Fork of the Gunnison River.

Issues/Additional Needs:

- The applicant should provide staff with a detailed monitoring plan that describes vegetative monitoring methodologies.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
CWCB WSRP (confirmed)	\$19,950	\$0	\$19,950
Upper Gunnison Water Conservancy District (confirmed)	\$12,500	\$0	\$12,500
DWP FIF (confirmed)	\$33,000	\$0	\$33,000
Lake Fork Valley Conservancy (confirmed)	\$43,695	\$0	\$43,695
Upper Gunnison Water Conservancy District (pending)	\$47,500	\$0	\$47,500
American Rivers (pending)	\$23,300	\$0	\$23,300
EPA Five Star (pending)	\$37,377	\$0	\$37,377
Gates Family Foundation (pending)	\$105,000	\$0	\$105,000
Trail Volunteers	\$0	\$3,500	\$3,500
Town of Lake City	\$0	\$4,200	\$4,200
Silver River	\$0	\$37,500	\$37,500
Subtotal matching	\$322,322	\$45,200	\$367,522
WSRA Gunnison Basin Account	\$23,295	n/a	\$23,295
WSRA Statewide Account	\$209,653	n/a	\$209,653
Total Project Costs	\$555,270	\$45,200	\$604,470

CWCB Project Manager: Chris Sturm

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
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Co-Applicants: Cottonwood Water and Sanitation District (CWSD) & Arapahoe County Water and Wastewater Authority (ACWWA)

Fiscal Agent: Cottonwood Water and Sanitation District

Water Activity Name: Biological Treatment to Remove Selenium from Water Treatment Plant Concentrate

Water Activity Purpose: M&I

County: Arapahoe & Douglas

Drainage Basin: South Platte

Water Source: Non-tributary Ground Water (Denver Basin Aquifers) and Cherry Creek (tributary alluvial)

Amount Requested/Source of Funds: \$25,000 Metro Account
\$375,000 Statewide Basin Account
\$400,000 Total Grant Request

Matching Funds: Basin Account Match (\$25,000) = 6.3% of total grant request (meets 5% min);
Basin Account & Applicant Match (\$4,675,000) = 1,170% of total grant request (meets 25% min);
Applicant/3rd Party Match (\$4,650,000) = 92% of total project costs (\$5,050,000)
(refer to *Funding Summary/Matching Funds* section)

Note: The apparent discrepancy between the \$475,000 Statewide Account request indicated in the application and the \$375,000 Statewide Account request represented herein (and on the spreadsheet accompanying the Memo) can be attributed to the applicant agreeing to reduce their Statewide Account request by \$100,000 to accommodate the Statewide Account funding shortfall.

Staff Recommendation:
Staff recommends approval of up to \$25,000 from the Metro Account; and \$375,000 from the Statewide Account to help fund the project titled: Biological Treatment to Remove Selenium from Water Treatment Plant Concentrate.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the construction of a biological treatment system in the existing Joint Water Purification Plant (JWPP) to reduce selenium concentrations in the concentrate discharge from RO. The biological system also causes chemical reactions to occur, and treatment can be enhanced through the addition of chemicals. The primary benefit of the project is to make the renewable water supply from Cherry Creek available to

CWSD and ACWWA for first use and reuse, and to reduce the reliance on non-tributary ground water. The goals of the project are as follows:

1. Reduce dependence on non-renewable supply;
2. Reuse available renewable supply;
3. Utilize a \$30 million investment;
4. Meet aquatic protection standards for selenium;
5. Not impacting the Cherry Creek Reservoir by maintaining phosphorous discharge standards;
6. Maintain home values through a secure water supply;
7. Reduce the cost burden on a small water provider and its customers;
8. Provide high quality and safe water supply (TDS, hardness, ECE).

To accomplish these goals the applicants will undertake the following tasks:

1. Pilot Study and Preliminary Design (in process, costs not a part of the proposed project)
2. Land Purchase
3. Revise Discharge Permit
4. Biochemical Reactor Final Design
5. Treatment Plant Design of Modifications
6. CDPHE Plan Approvals

In 2010, CWSD and ACWWA completed the JWPP, a \$30 million water treatment plant utilizing reverse osmosis (RO) and advanced oxidation process (AOP) to effectively treat water from Cherry Creek. This enabled the entities to fully use and reuse their water rights on Cherry Creek which now include in-priority water rights and the reuse of these rights as well as imported water from the WISE and ACWWA Flow Projects. However, the JWPP was subsequently converted to a microfiltration plant because of a violation due to selenium concentration in the concentrate discharge from the plant. As a microfiltration plant, quality is poor due to high total dissolved solids (TDS -700 ppm), and a lack of treatment of chemicals of emerging concern (CECs). As a consequence, the plant is very underutilized by ACWWA and CWSD does not utilize the plant at all.

Means of restoring the RO process through efficient and cost effective treatment of selenium in the discharge concentrate of the Joint Water Purification Plant have been studied for several years without identification of an economically viable alternative. Recently, a new study was completed to evaluate the potential for treatment using a biological treatment system called a biochemical reactor ("BCR"). This reactor could be constructed on about 6 acres of vacant land behind the JWPP. It is constructed by developing treatment cells buried in the ground.

Selenium loading will be reduced to the Cherry Creek Watershed and to Cherry Creek Reservoir through gasification and immobilization. This will help to protect the lower portions of the watershed that are currently selenium compliant, and will reduce loading to the Cherry Creek Reservoir where selenium levels are a concern to fish and especially the Walleye Fishery. The system also has the ability to remove/reduce nitrates and phosphorous and will also break down CECs that are in the concentrate. The removal of nutrients such as phosphorous and nitrogen is beneficial for Cherry Creek Reservoir as evidenced by studies completed by the Cherry Creek Basin Water Quality Authority.

Further, high selenium concentrations are an obstacle to water use in many locations in Colorado. This is the result of naturally occurring selenium levels that frequently exceed the aquatic protection

standard, and because of efforts to use and reuse water supplies high in TDS. By furthering the advancement of treatment capability to remove selenium from water, there is benefit statewide to increase water supply and protect the environment. Therefore, the project has multiple benefits including water supply development, watershed protection, and protection of Cherry Creek State Park Reservoir through water quality and recreational enhancement.

In addition, if permitted through the CDPHE, water discharged after biological treatment could be released above the existing water quality pond on Windmill Creek owned by the Southeast Metropolitan Stormwater Authority. This could greatly enhance the existing wetland in this pond that is marginal today because of a lack of baseflow. In doing this, there is a large potential for additional removal of selenium, nitrogen and phosphorous in water tributary to the watershed and Cherry Creek Reservoir.

Discussion: This project aligns well with several of the Goals and Measurable Outcomes as addressed in the South Platte Basin Implementation Plan. For example, Goal 1.9.2: Municipal Water Conservation, Reuse and Efficiency and its associated Measurable Outcome #3 promotes “Enhance current levels of municipal water reuse and consider studies to quantify the effects of: 1) additional municipal water conservation on water available for reuse; 2) additional municipal water reuse in relation to water available for exchanges; 3) reuse and successive uses of water downstream including effects on agricultural water shortages” (SPBIP; Section 1.9.2, page 1-27). Furthermore, the SPBIP lists this effort as an IPP in Section 4.3.2.1: Reuse Identified Projects and Processes; Table 4-10: South Platte and Metro Provider’s Reuse IPPs; page 4-25.

In addition this effort advances Colorado’s Water Plan Reuse options as a means to close the supply-demand gap as highlighted in Chapter 6.3.2: Reuse (CWP; Chapter 6.3.2: Reuse; pages 6-75 thru 6-81), and promotes Water Quality goals as emphasized in Chapter 7.3: Water Quality (CWP; Chapter 7.3: Water Quality; pages 7-17 thru 7-33).

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Cottonwood Water & Sanitation District	\$3,100,000	\$0	\$3,100,000
ACWWA	\$1,550,000	\$0	\$1,550,000
Subtotal matching funds	\$4,650,000	\$0	\$4,650,000
WSRA Metro Account	\$25,000	n/a	\$25,000
WSRA Statewide Account	\$375,000	n/a	\$375,000
Total Project Costs	\$5,050,000	\$0	\$5,050,000

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(q)

Applicant & Fiscal Agent: Rio Grande Headwaters Land Trust

Water Activity Name: Nash Ranch Conservation Easement Project

Water Activity Purpose: Nonconsumptive

County: Rio Grande

Drainage Basin: Rio Grande

Water Source: Rio Grande River

Amount Requested/Source of Funds: \$10,000 Rio Grande Basin Account
\$90,000 Statewide Account
\$100,000 Total Grant Request

Matching Funds: Basin Account Match (\$10,000) = 10% of total grant request (meets 5% min);
Applicant Match (\$400,000) = 400% of total grant request (meets 25% min);
Basin Account & Applicant (\$410,000) = 410% of total project costs (\$500,000)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:
Staff recommends approval of up to \$10,000 from the Rio Grande Basin Account and \$90,000 from the Statewide Account to help fund the project titled: Nash Conservation Easement Project.

Water Activity Summary: WSRA funds, if approved, will be expended to provide matching funds towards the purchase of a conservation easement on the Nash Ranch, a 198-acre working ranch, which includes both banks of almost one mile of the north channel of the Rio Grande river on the “Rio Grande Island,” just east of the town of Del Norte in Rio Grande County.

This conservation opportunity will directly protect a senior surface water right in order to help sustain the historic water use patterns along the Rio Grande, while securing agricultural productivity, which is the economic base in the San Luis Valley. The protection of river corridor ranches is also important for wildlife habitat, the flood plain function of the river corridor, and beauty of the scenic landscape. The conservation easement will tie 1 cfs of Rio Grande #2 water rights to the property. This water right supports the sprinkler irrigation of about 50 acres of alfalfa and grass mix and the flood irrigation of 35 acres of pasture. Much of the remainder of the property is riparian area near the river and remains productive for livestock grazing due to sub-irrigation.

The Rio Grande Initiative provides vital benefits to both consumptive and non-consumptive water needs in the Rio Grande Basin and contributes to the overall goal of the Roundtable to achieve water sustainability. The Rio Grande Initiative is a collaborative, community-based, landscape-scale effort

to protect the land and water along the Rio Grande river corridor through voluntary, incentive-based, permanent conservation easements, with over 25,000 acres and 47 river miles protected to date.

Discussion: This project aligns well with several of the Goals and Measurable Outcomes as addressed in the Rio Grande Basin Implementation Plan (Chapter 3: Rio Grande Basin Goals #1, #2, #5, #6, #11, #12 & #13, pages 58-59). This effort is also specified as a Project and Method to meet the Basin's needs and goals (Chapter 6.2: Projects Fact Sheets, Rio Grande Initiative: Conservation Easements, page 142; & Chapter 6.3: Projects Meeting Basin's Needs and Goals, Table 8, #22, page 151). In addition this effort advances Agricultural Viability (CWP Chapter 6.5.2, pages 6-138 thru 6-144) and the Critical Goals and Actions of Colorado's Water Plan (CWP Chapter 10.3, page 10-12), such as: F. Critical Watershed Health, Environment, and Recreation Actions.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Great Outdoors Colorado	\$200,000	\$0	\$200,000
Nash Ranch Landowners	\$200,000	\$0	\$200,000
Subtotal matching funds	\$400,000	\$0	\$400,000
WSRA Rio Grande Basin Account	\$10,000	n/a	\$10,000
WSRA Statewide Account	\$90,000	n/a	\$90,000
Total Project Costs	\$500,000	\$0	\$500,000

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16 - 17, 2016
Agenda Item 14(r)

Applicant & Fiscal Agent: South Metro WISE Authority

Water Activity Name: WISE Partnership: Conjunctive Use Infrastructure

Water Activity Purpose: Municipal/Industrial

County: Douglas & Arapahoe

Drainage Basin: Metro

Water Source: Denver Basin Aquifer (Willows Wells)

Amount Requested/Source of Funds: \$10,000 Rio Grande Account
\$105,000 Multiple Basin Accounts (approved Sept 2015)
\$115,000 Total Basin Account Requests
\$800,000 Statewide Account (approved Sept 2015)
\$915,000 Total Grant Request

Matching Funds: Basin Accounts Match: \$115,000 = 12.6% of total grant request (meets 5% min);
Basin Accounts & Applicant Match: \$5,603,022 = 612% of total grant request (meets 25% min);
Applicant Match: \$5,488,022 = 85.7% of total grant request
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$10,000 from the Rio Grande Basin Account.

This approval will supplement the following previously approved grant funding:

- Metro Account: \$40,000
- North Platte Basin Account: \$10,000
- South Platte Basin Account: \$15,000
- Colorado Basin Account: \$10,000
- Arkansas Basin Account: \$10,000
- Gunnison Basin Account: \$10,000
- Yampa/White/Green Basin Account: \$10,000

and \$800,000 from the Statewide Account to help fund the implementation of the water project titled: WISE Partnership: Conjunctive Use Infrastructure

Water Activity Summary: The Water Infrastructure and Supply Efficiency (WISE) Partnership is a regional water supply project between Aurora Water, Denver Water and the South Metro WISE Authority (WISE Authority) to combine available water supplies and system capacities to create a sustainable new water supply. Through WISE, Aurora Water and Denver Water will provide up to 10,000 AF annually (on average) of fully treated water to the WISE Authority for distribution to its

members on a permanent basis. Aurora's Prairie Waters system will provide the infrastructure for delivering water from the South Platte River when Aurora and Denver Water have available water supplies and Aurora's Prairie Waters system has available capacity. WISE will also enable Denver Water to access its supplies as a new emergency and backup supply. Denver Water and Aurora Water will supply water to the WISE Authority at a master meter to be located near Aurora's Binney Water Purification Facility (BWPF). The WISE Authority will develop infrastructure within their area for further distribution to their members.

To distribute WISE water to its members, the WISE Authority is developing the Western Pipeline system (see attachment #1 WISE Project Conveyance Alignments). The backbone of this system is the Western Pipeline recently purchased by the WISE Authority and Denver Water from ECCV. However, ECCV retained 8 MGD of capacity in the pipeline to move Denver Basin Aquifer water from the Willows Wells to their service area. In order maximize the use of this existing piece of infrastructure and conjunctively use nonrenewable groundwater and renewable WISE water, treatment and additional pipeline infrastructure needs to be constructed. A treatment facility providing chloramine disinfection and iron and manganese removal for the groundwater is needed in order to comingling this water with WISE water in the Western Pipeline.

The WISE Authority is seeking a WSRA grant to help with the construction of the infrastructure needed to allow conjunctive use of the Willows Wells and WISE water within the Western Pipeline system. This infrastructure includes a treatment plant and piping needed to by-pass an existing pump station. This infrastructure is estimated to cost \$6.4 million. The WSRA grant is for 14.3% of the construction cost.

Construction of this infrastructure will allow full implementation of the WISE Partnership, maximize the use of the existing Western Pipeline, and allow the conjunctive use of Denver Basin Aquifer water with renewable surface water. Ultimately this will allow South Metro entities to change the way they use the Denver Basin Aquifer going from an unsustainable base supply, to a sustainable and conjunctively used drought supply.

Objectives:

- Allow conjunctive use of Willows Wells supplies in the Western Pipeline system
- Construct necessary treatment plant and piping for connection to the Western Pipeline system
- Help to reduce the M&I Gap
- Support implementation of identified projects and processes (IPPs).

Discussion: The proposed effort complies with the stated Goals and Measurable Outcomes as indicated in the South Platte/Metro Basin Implementation Plan (Section 1.9.2, MO#3, page 1-26), assists the South Platte Basin and Metro Roundtables meet their M&I gap and is identified as a Reuse IPP (Section 4.3.2.1, Table 4-10, page 4-25).

A previous WSRA Grant totaling \$1,570,000 was awarded to the South Metro WISE Authority for the *Western Pipeline Connection Engineering/Design* project; in addition, a total of 16 loans were approved by the Board, four each for four individual WISE Authority members in May of 2014.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation. Staff has determined that it satisfies the Evaluation Criteria. Please refer to the WSRA Application for the applicant's detailed response.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
WISE Authority	\$5,488,022	\$0	\$5,488,022
Metro Basin Account	\$40,000	n/a	\$40,000
North Platte Basin Account	\$10,000	n/a	\$10,000
South Platte Basin Account	\$15,000	n/a	\$15,000
Colorado Basin Account	\$10,000	n/a	\$10,000
Arkansas Basin Account	\$10,000	n/a	\$10,000
Gunnison Basin Account	\$10,000	n/a	\$10,000
Yampa/White Basin Account	\$10,000	n/a	\$10,000
Rio Grande Basin Account ⁽¹⁾	\$10,000	n/a	\$10,000
WSRA Statewide Account	\$800,000	n/a	\$800,000
Total	\$6,403,022		\$6,403,022

Notes:

(1) Only the Rio Grande Basin Account contribution is under consideration with this agenda item; all other basin account contributions were approved previously.

CWCB Project Manager: Derek Johnson

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 must 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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(s)

Applicant & Fiscal Agent: Rio Grande Watershed Conservation and Education Initiative (RGWCEI)

Water Activity Name: Implementing Public Education and Public Outreach in the Rio Grande River Basin: Education to Implement

Water Activity Purpose: Education

County: Multiple throughout Rio Grande

Drainage Basin: Rio Grande

Water Source: Rio Grande River and tributaries

Amount Requested/Source of Funds: \$90,000 Rio Grande Basin Account

Matching Funds: Applicant & 3rd Party Match (\$7,500 cash; \$42,000 in-kind)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$90,000 from the Rio Grande Basin Account to help fund the project titled: Implementing Public Education and Public Outreach in the Rio Grande River Basin: Education to Implement Project.

Water Activity Summary: WSRA funds, if approved, will be expended to provide funding to hire a Coordinator to manage a three year outreach and education effort within the Rio Grande Basin. The coordinator will implement, and administer outreach and education activities under direction of the PEPO and the Rio Grande Basin Roundtable Education Committee. The objectives of this effort are to: showcase the collaborative work of the Rio Grande Basin Roundtable Education Committee and that of water users of all types across the Rio Grande Basin; begin a mentoring program that will pave a pathway for younger community members to engage with the water community and to provide them with an opportunity to step forward and become water leaders; continue long established newspaper articles, the Rio Grande Basin Roundtable webpage and radio interviews; project tours to provide a connection between constituents and water project funding, and produce nine video vignettes. Targeted audiences for the vignettes may include: local and regional governments; universities and schools, and private organizations

Discussion: This project aligns with well with the Rio Grande Basin Implementation Plan's Basin Goal #8: *Establish a long-term education and outreach effort for water use and needs in the San Luis Valley/Rio Grande Basin* (Chapter 3, page 59). This effort is also specified as a Project and Method to meet the Basin's needs and goals (Chapter 6.5: Other Projects and Methods; Table 10; #5: Basin-wide Water Public Education Program; page 156). In addition this effort advances Outreach, Education and Public Engagement goals (CWP Chapter 9.5, pages 9-53 thru 9-61) and the Measurable Objectives and Adaptive Management goals of Colorado's Water Plan (CWP Chapter 10.2, page 10-5 thru 10-7), such as: H. Education, Outreach, and Innovation.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
RGWCEI	\$7,500	\$27,000	\$34,500
RGBRT Partners ⁽¹⁾	\$0	\$15,000	\$15,000
Subtotal matching funds	\$7,500	\$42,000	\$49,500
WSRA Rio Grande Basin Account	\$90,000	n/a	\$90,000
Total Project Costs	\$97,500	\$42,000	\$139,500

(1) RGBRT Partners include: USFS, Colorado State Forest Service, Colorado DWR, CPW, BLM, NRCS, & NPS.

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(t)

Co-Applicants: Valley Floor Preservation Partners & Town of Telluride

Fiscal Agent: Valley Floor Preservation Partners

Water Activity Name: Valley Floor River Restoration Reach One

Water Activity Purpose: Nonconsumptive

County: San Miguel

Drainage Basin: Southwest

Water Source: San Miguel River

Amount Requested/Source of Funds: \$45,000 Southwest Account
\$399,021 Statewide Account
\$444,021 Total Grant Request

Matching Funds: Basin Account Match (\$45,000) = 10% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$1,291,782) = 291% of total grant request (meets 5% min);
Basin Account & Applicant Match (\$1,336,782) = 301% of total grant request
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$45,000 from the Southwest Account; and \$399,021 from the Statewide Account to help fund the project titled: Valley Floor River Restoration Reach One.

Water Activity Summary: The San Miguel River within the project area is a manmade linear channel with severely degraded habitat according to the U.S. Fish & Wildlife Service's Habitat Suitability Index. The intent of project is to create a naturally functioning river system and mitigate past impacts to the San Miguel River within and below the linear reach. Improvements will be made to hydrology, channel morphology and water quality. The main components of the \$1.7M project are the creation of a new 4,250 foot meandering river channel, connection of the new channel to its historic floodplain, restoration and re-vegetation of the current linear channel, removal and remediation of mine tailings, and construction of two sewer line crossings. Objectives include construction of a multi-stage channel to improve channel/floodplain connectivity, stream geomorphology, ecosystem function, and habitat conditions. The project will also protect existing infrastructure and reclaim the existing linear channel.

Discussion: This project is an Identified Project and Process (IPP) in Section 4.7 (Environmental Projects and Processes) of the Southwest BIP. It also aligns with Chapters 6.6 (Environmental and Recreational Projects and Methods) and 7.1 (Watershed Health and Management) of Colorado's Water Plan. The project has the potential to improve ecological and flood resilience in the San

Miguel River corridor. It also has the potential to increase base flows in the river basin by attenuating flood flows in the floodplain.

Issues/Additional Needs:

- The applicant should provide staff with a detailed monitoring plan that describes geomorphic and vegetative monitoring methodologies.
- The monitoring plan should conform to the CWCB Measurable Results Program's Standard Operating Procedures for Topographic Survey of Stream Channels.
http://cwcb.state.co.us/environment/watershed-protection-restoration/Documents/Survey_SOP_CWCB.pdf
- All proposed river channel work should conform to the CWCB Rules and Regulations for Regulatory Floodplains in Colorado.
http://cwcb.state.co.us/Documents/FloodplainRulesRegsUpdate/CWCB_Adptd_FP_Rules_BasisPurp_%2011172010.pdf

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Town of Telluride	\$1,041,782	\$0	\$1,041,782
San Miguel Watershed Coalition (pledged)	\$140,000	\$0	\$140,000
Valley Floor Preservation Partners (pledged)	\$100,000	\$0	\$100,000
Trout Unlimited (pledged)	\$10,000	\$0	\$10,000
Subtotal matching funds	\$1,291,782	\$0	\$1,291,782
WSRA Metro Account	\$45,000	n/a	\$45,000
WSRA Statewide Account	\$399,021	n/a	\$399,021
Total Project Costs	\$1,735,803	\$0	\$1,735,803

CWCB Project Manager: Chris Sturm

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(u)

Applicant & Fiscal Agent: San Juan Resource Conservation & Development Council

Water Activity Name: Phase 3 of the Southwest Basin Roundtable's
Implementation Plan: Implementation and Outreach

Water Activity Purpose: Education

County: Multiple w/in Southwest Basin

Drainage Basin: Southwest

Water Source: Multiple w/in Southwest Basin

Amount Requested/Source of Funds: \$87,562 Southwest Basin Account
\$43,781 Statewide Account
\$131,343 Total grant request

Matching Funds: This request is a BIP related activity and is a Southwest Basin Roundtable initiated effort, therefore applicant and 3rd party matching funds are not applicable, required, or provided; furthermore the Basin:Statewide Account ratio of 2:1 is consistent with the ratios established for BIP preparation.
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$87,562 from the Southwest Basin Account, and \$43,781 from the Statewide Account to help fund the project titled: Phase 3 of the Southwest Basin Roundtable's Implementation Plan: Implementation and Outreach.
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Water Activity Summary: WSRA funds, if approved, will be expended to provide funding to: Conduct outreach efforts advancing the implementation of the Colorado's Water Plan and Basin Implementation Plan at sub-basin and statewide levels; and to provide technical and process support for implementation of the Colorado's Water Plan and Basin Implementation and related IPPs pertaining to priority projects as identified by the Southwest Basin Roundtable. More specifically the purpose of this effort is to: conduct workshops and present at local meetings that have an interest in water. The educational workshops will focus on providing the general publics with information on key topics that the roundtable agrees are pertinent to implementation of the CWP and BIP. Outreach will include BIP goals, strategies, and measurable outcomes, CWP action items, resources available through the Roundtable, and specific information on key implementation topics such as water conservation, agricultural efficiency, alternative transfer methods, municipal infrastructure, among other activities. The outreach will be conducted throughout the 9 sub-basins and will range from large formal meetings to meetings with individuals and groups regarding their specific interests/needs. The BIP's measurable outcomes outline a series of educational workshops that will focus on specific topics at each workshop; and to provide technical and process support to the Roundtable in

implementing the BIP. Dependent upon direction given by the Roundtable, this task will included implementing a project and/or process in each of the follow categories: 1) multi-basin projects; 2) multi-benefit projects; 3) projects that refine methods for defining and/or quantifying environmental and recreational needs; and 4) IPPs that fulfill a water supply gap that could come to fruition with added technical support and access to resources.

Discussion: The proposed effort aligns with well with many of the Southwest Basin Implementation Plan's Basin Goal's; such as Goal A: Balance all needs and reduce conflict; Goal B: Meet Agricultural Needs; Goal C: Meet Municipal and Industrial Water Needs, Goal D: Meet Recreational Water Needs; Goal E: Meet Environmental Needs (Section 1: Basin Goals and Measurable Outcomes; Table 1: Goals and Measurable Outcomes for the Southwest Basin Implementation Plan, pages 120-16). In addition this effort advances Outreach, Education and Public Engagement goals (CWP Chapter 9.5, pages 9-53 thru 9-61) and the Measurable Objectives and Adaptive Management goals of Colorado's Water Plan (CWP Chapter 10.2, page 10-5 thru 10-7), such as: H. Education, Outreach, and Innovation.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
WSRA Southwest Basin Account	\$87,562	n/a	\$87,562
WSRA Statewide Account	\$43,781	n/a	\$43,781
Total Project Costs	\$131,343	\$0	\$131,343

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(v)

Applicant & Fiscal Agent: Mountain Studies Institute
Water Activity Name: Animas River Community Forum
Water Activity Purpose: Education & Outreach
County: La Plata & San Juan
Drainage Basin: Southwest
Water Source: Animas River
Amount Requested/Source of Funds: \$37,850 Southwest Basin Account
Matching Funds: Applicant & 3rd Party Match = \$42,920 (\$17,000 cash; \$25,920 in-kind) of total project costs (\$80,770)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$37,850 from the Southwest Basin Account to help fund the project titled: Animas River Community Forum.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the efforts of the Animas River Community Forum. These one year efforts include: sharing and disseminating information related to the Gold King Mine spill and recovery; provide venues for the community and stakeholders both within the basin and statewide to learn from the spill and benefit from the opportunity to learn about watershed risk, response, and recovery; conduct 1-2 conferences, develop a communications plan, conduct 2-3 educational talks/outreach events to share lessons from the spill and recovery process; inventory baseline information both historical and current, and identify priorities for new monitoring focusing on monitoring questions related to public health, public concerns, and ecosystem resilience; and hire a part time Coordinator to guide the group in achieving its goals and activities listed above, and to manage funds and track in-kind contributions, draft reports and evaluate impacts.

Discussion: This project aligns well with many of the Southwest Basin Implementation Plan's Basin Goals, such as: Goal A2: Support specific and unique new IPPs important to maintaining the quality of life in this region, and to address multiple purposes including municipal, industrial, environmental, recreational, agricultural, risk management, and compact compliance needs; Goal A4: Promote dialogue, foster cooperation and resolve conflict among water interests in every basin and between basins for the purpose of implementing solutions to Southwest Colorado's and Colorado's water supply challenges; Goal C2: Provide safe drinking water to Southwest Colorado's citizens and visitors; Goal D1: Maintain, protect and enhance recreational values and economic values to local and statewide economies derived from recreational water uses, such as fishing, boating, hunting, wildlife watching, camping, and hiking; Goal E2: Protect, maintain, monitor and improve the condition and natural function of streams, lakes, wetlands, and riparian areas to promote self-

sustaining fisheries, and to support native species and functional habitat in the long term, and adapt to changing conditions; Goal F1: Monitor, protect and improve water quality for all classified uses (SWBIP, Section 1: Basin Goals and Measurable Outcomes, Table 1: Goals and Measurable Outcomes for the Southwest Basin Implementation Plan, pages 12-17).

In addition this effort advances the Environmental and Recreational goals of Colorado's Water Plan by: protecting and enhancing economic values to local and statewide economies that rely on environmental and recreational water uses, such as fishing, boating, waterfowl hunting, wildlife watching, camping, and hiking; understand, protect, maintain, and improve conditions of streams, lakes, wetlands, and riparian areas to promote self-sustaining fisheries and functional riparian and wetland habitat to promote long-term sustainability and resiliency; maintain watershed health by protecting or restoring watersheds that could affect critical infrastructure and/or environmental and recreational areas (CWP, Chapter 6.6, page 6-157).

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
ARCF Partners ⁽¹⁾	\$17,000	\$25,920	\$42,920
WSRA Southwest Basin Account	\$37,850	n/a	\$37,850
Total Project Costs	\$54,850	\$25,920	\$80,770

(1) DOLA, tribes, Animas Watershed Partnership, San Juan Basin Health, Trout Unlimited, City of Durango, federal land management agencies, CPW, and the Mountain Studies Institute.

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(w)

Applicant & Fiscal Agent: Mancos Conservation District

Water Activity Name: Mancos River Habitat and Diversion Project – Phase III

Water Activity Purpose: Agricultural/Implementation

County: Montezuma

Drainage Basin: Southwest

Water Source: Mancos River

Amount Requested/Source of Funds: \$59,000 Southwest Basin Account

Matching Funds: Applicant & 3rd Party Match = \$26,646 (\$18,200 cash; \$8,446 in-kind) of total project costs (\$85,646)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:
Staff recommends approval of up to \$59,000 from the Southwest Basin Account to help fund the project titled: Mancos River Habitat and Diversion Project - Phase III.

Water Activity Summary: WSRA funds, if approved, will be expended to complete two simultaneous efforts. One effort will physically improve the agricultural and ecological function of a 2-mile reach of the East Mancos River, by installing improved diversion structures at 3 irrigation ditch headings. The improved structures will save irrigators annual maintenance costs of irrigating 413 acres, while also allowing fish and sediment passage at higher flows, and promoting channel stability. The other effort will convene a collaborative process to integrate existing data into an assessment of the resiliency of the Mancos River in light of a changing climate. This stakeholder assessment will be useful to land owners and managers interested in where/how to invest resources to maintain/improve the value of the Mancos River for multiple uses into the future. The Mancos River Habitat and Diversion Project – Phase III is a multipurpose project building on and integrating the products of Phases I and II. Phase III will continue to implement the findings developed in the Mancos River Diversion Project- Phase I to improve the ecological and agricultural function of an additional 1.5-mile reach of the lower East Mancos River.

Discussion: This project aligns well with several of the Southwest Basin Implementation Plan's Basin Goals and Measurable Outcomes as indicated in the grant application; such as B. Meet Agricultural Needs; B2: Implement efficiency measures to maximize beneficial use and production; and B3: Implement IPPs that work towards meeting agricultural water supply need; D. Meet Recreational Water Needs; D1: Maintain, protect and enhance recreational values and economic values to local and statewide economies from recreational water uses, such as fishing, boating, hunting, wildlife watching, camping, and hiking; E. Meet Environmental Water Needs; E2: Protect, maintain, monitor and improve the condition of natural function of streams, lakes, wetlands, and riparian areas to promote self-sustaining fisheries, and to support native habitat in the long term, and

adapt to changing conditions (Section 1: Basin Goals and Measurable Outcomes, Table 1, pages 12-16). While this effort has not been specifically identified as an IPP in the Southwest Basin Implementation Plan, it could be considered a continuation of the Mancos River Habitat and Diversion Project – Phase 2 (SWBIP, Appendix A, Mancos River Basin IPP List, ID # 3-M, page 12 of 18). In addition this effort advances the Critical Goals and Actions to: Maintain Agricultural Viability, and Support Agricultural Conservation and Efficiency (CWP Chapter 10.3, D. Agriculture; page 10-10); and F. Watershed Health, Environment, and Recreation (CWP Chapter 10.3, page 10-12).

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Mancos Conservation District	\$15,700	\$1,348	\$17,048
US National Park Service	\$2,500	\$877	\$3,377
Mountain Studies Institute	\$0	\$2,148	\$2,148
Other Entities & Volunteers	\$0	\$4,073	\$4,073
Subtotal matching funds	\$18,200	\$8,446	\$26,646
WSRA Southwest Basin Account	\$59,000	n/a	\$59,000
Total Project Costs	\$77,200	\$8,446	\$85,646

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(x)

Applicant & Fiscal Agent: Dolores Water Conservancy District

Water Activity Name: SW Colorado Weather Modification Strategic Plan for Winter Snow Pack Augmentation

Water Activity Purpose: Strategic Planning (Ag, M&I, Rec & Env)

County: All w/in Southwest Basin

Drainage Basin: Southwest

Water Source: Atmosphere

Amount Requested/Source of Funds: \$55,620 Southwest Basin Account

Matching Funds: n/a (none provided)

Staff Recommendation:

Staff recommends approval of up to \$55,620 from the Southwest Basin Account to help fund the project titled: SW Colorado Weather Modification Strategic Plan for Winter Snow Pack Augmentation.
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Water Activity Summary: WSRA funds, if approved, will be expended to provide funding to: Establish a local oversight group that can actively assist and support the cloud seeding program development and improvements, and to request new sources for additional funding. This group may only meet once per year or possibly only through conference calling to control travel & time commitment. This group should also actively coordinate with CWCB and the Lower Basin funding partners; and Contract with an appropriate independent weather modification professional to help a local group develop a strategic plan for the southwest Colorado programs. The plan will focus on program improvements and efficiencies, and assist the basin in meeting “gaps” identified in our Basin Implementation Plan by adding additional or augmented water supplies. These objectives will be accomplished by: enabling the Strategic Planning Group (via the Dolores Water Conservancy District) to solicit, review, select and contract with an appropriate qualified weather modification firm, individual or team; conduct representative plume studies to guide other questions necessary to complete the strategic plan; inventory, map and evaluate existing program equipment and placement, technology and practices; review available technologies and modernize equipment then prioritize with current cost estimates; and conduct local meetings with Strategic Planning Team to review Final Reports, exhibits and conclusions.

The current Southwest cloud seeding efforts are supported by nine (9) local sponsors, the State of Colorado, neighboring New Mexico Interstate Stream Commission and three Lower Basin states. The local sponsors have committed \$151,900 with another \$86,000 from the other parties to the 2015 cloud seeding programs. The local sponsors have provided similar levels of funding for many years along with CWCB while New Mexico and the Lower Basin California, Arizona and Nevada parties are more recent contributors to the San Juan programs.

Multiple parties currently fund the existing operations, but do not have a formal organized structure to proceed as a group to guide program improvements. This funding will focus and guide the group towards an actionable plan that will improve the current weather modification programs. It will provide efforts that no single party would undertake alone. The combined \$237,900 input by the local, state and out of state participants over multiple years demonstrates significant commitments to continuing these cloud seeding programs. Additional participation of time guiding the strategic planning efforts will likewise show further interest and commitment. The end result of the plan would lead participants to increase funding sources for improving the current programs.

Discussion: This project aligns well with several of the Southwest Basin Implementation Plan's Basin Goals and Measurable Outcomes; such as: A2. Support specific and unique IPPs important to maintaining the quality of life in this region, and to address multiple purposes including municipal, industrial, environmental, recreational, agricultural, risk management, and compact compliance needs (SWBIP, Section 1: Basin Goals and Measurable Outcomes; Table 1: Goals and Measurable Outcomes for the Southwest Basin Implementation Plan, page 12). While this effort has not been specifically identified as a Project or Methods, or an IPP in the SWBIP, funding opportunities should include efforts that have been initiated subsequent to the submission of the SWBIP.

In addition this effort advances the Critical Goals and Actions to Meet Colorado's Water Gaps (CWP Chapter 10.3, A. Supply – Demand Gap, 10-9).

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds: n/a

CWCB Project Manager: Joe Busto

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(y)

Applicant & Fiscal Agent: Colorado Ag Water Alliance
Water Activity Name: CAWA Agricultural Water Workshop
Water Activity Purpose: Educational
County: n/a
Drainage Basin: South Platte
Water Source: n/a
Amount Requested/Source of Funds: \$2,550 South Platte Basin Account
Matching Funds: Applicant/3rd Party Match (\$2,550) = 50% of total project costs (\$5,100)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$2,550 from the South Platte Basin Account to help fund the project titled: CAWA Agricultural Water Workshop.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: CAWA Agricultural Water Workshop. The Colorado Ag Water Alliance (CAWA), is an association of agricultural organizations that represent a variety of producers across the state and in the South Platte Basin. CAWA aims to disseminate information so that producers can make better choices in regard to Colorado’s water resources. CAWA has worked to advance knowledge concerning water issues facing the agricultural sector in Colorado. A lot of attention has been devoted to water conservation and increasing irrigation efficiency. We have worked to better communicate the legal, physical, and economic factors that constrain farmers who are trying to conserve water to be transferred for other uses. It is necessary to specify what agricultural water can be conserved and transferred and what cannot, especially when there is a significant water supply gap to be met.

This request for funding seeks \$2,550 to run a day-long workshop in the South Platte Basin for agricultural producers and professionals interested in agricultural water conservation. The focus of his meeting will be about the finalized Colorado Water Plan and a “Use it or lose it” component that discusses misconceptions and issues about the implications of agricultural water conservation in Colorado. This project will require an event coordinator to organize and implement a day-long workshop at Morgan County Fairgrounds in Brush. The budget will include food, event materials, and accommodations for speakers.

OBJECTIVES

The project objectives are:

1. Further the involvement and learning for all South Platte Basin/Colorado citizens as we move towards 2050.

2. Implement a day-long workshop to further understanding of water conservation and irrigation efficiency in the agricultural sector, and disseminate information from the finalized Colorado Water Plan. It is CAWA's long-term goal to implement this same workshop throughout the state.
3. Work to support the future of Ag in Colorado and close the "Ag water gap" through water-use efficiency improvement.

Discussion: This project aligns with the goals and actions identified in the South Platte Basin Implementation Plan.

This project also aligns with actions related to education and outreach identified in Colorado's Water Plan.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria: n/a

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
CAWA	\$2,550	\$0	\$2,550
WSRA South Platte Basin Account	\$2,550	n/a	\$2,550
Total Project Costs	\$5,100	\$0	\$5,100

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(z)

Applicant & Fiscal Agent: City of Greeley

Water Activity Name: Greeley Area Cache la Poudre Greenway Corridor Project

Water Activity Purpose: Multipurpose

County: Weld

Drainage Basin: South Platte

Water Source: Cache la Poudre

Amount Requested/Source of Funds: \$15,000 South Platte Basin Account
\$25,000 Statewide Account
\$40,000 Total Grant Request

Matching Funds: Basin Account Match (\$15,000) = 37.5% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$35,000) = 87.5% of total grant request (meets 5% min)
Basin Account & Applicant Match (\$50,000) = 125% of total grant request (meets 25% min)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:
Staff recommends approval of up to \$15,000 from the South Platte Basin Account and \$25,000 from the Statewide Account to help fund the project titled: Greeley Area Cache la Poudre Greenway Corridor Project.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Greeley Area Cache la Poudre Greenway Corridor Project. This project will complete a Cache la Poudre Greenway Corridor Master Plan in the Greeley/Windsor Reach of the river to align and blend a number of existing studies, guides and plans into a single corridor and water activity planning tool. Over recent years, a number of river plans and studies have collected considerable and useful data and information but with limited scope, resulting in projects that may unintentionally be at cross purpose or that, conversely, do not realize their full potential. With limited resources, and especially using public funds, it is critical to provide good stewardship of such resources and to support creative and innovative approaches to achieve imaginative, beneficial, and supported water activities. This Plan will overlay information from a variety of existing resources to create a single reference framework and common language to describe the river corridor and leverage objectives defined for flood hazard mitigation, agricultural, recreational, environmental, land use, educational, water quality and storage, transportation, and preservation to form the basis of a coordinated and complementary approach to its future development and use.

Key objectives of this study:

- A. Recognition of the comprehensive range of entities engaging with the Cache la Poudre corridor and their respective roles;
- B. Development of a common platform/dashboard from which to share information about the river corridor to leverage beneficial research, information and land use and limit supply shortages;
- C. Complete a Cache la Poudre Greenway Corridor Master Plan to guide the use and development of the corridor for perpetually beneficial purposes, aligned with the partnership entities.

Discussion: This project serves multiple purposes and aligns with the goals and actions identified in the South Platte Basin Implementation Plan.

This project also aligns with critical actions identified in Colorado’s Water Plan:

A1: “Support and assist the basin roundtables in moving forward priority municipal, industrial, environmental, and agricultural projects and methods identified in their BIPs through technical, financial and facilitation support when requested by a project proponent and the pertinent BRT.”

F4: “Develop common metrics for assessing the health and resiliency of watersheds, rivers, and streams.”

Issues/Additional Needs: No issues or additional needs were identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This proposal has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant’s detailed response.

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
City of Greeley	\$17,240	\$17,760	\$35,000
WSRA South Platte Basin Account	\$15,000	n/a	\$15,000
WSRA Statewide Account	\$25,000	n/a	\$25,000
Total Project Costs	\$57,240	\$17,760	\$75,000

CWCB Project Manager: Brent Newman

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(aa)

Applicant & Fiscal Agent: City of Fort Collins, Natural Areas Dept.

Water Activity Name: Poudre River Downtown Project – Reach 3

Water Activity Purpose: Nonconsumptive

County: Larimer

Drainage Basin: South Platte

Water Source: Cache la Poudre River

Amount Requested/Source of Funds: \$50,000 South Platte Account
\$250,000 Statewide Account
\$300,000 Total Grant Request

Matching Funds: Basin Account Match (\$50,000) = 17% of total grant request (meets 5% min);
Applicant/3rd Party Match (\$8,200,000) = 2,733% of total grant request (meets 5% min);
Basin Account & Applicant Match (\$8,250,000) = 2,750% of total grant request (meets 25% min);
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:
Staff recommends approval of up to \$50,000 from the South Platte Basin Account and \$250,000 from the Statewide Account to help fund the project titled: Poudre River Downtown Project – Reach 3.

Water Activity Summary: Construction of Reach 3 of the Downtown Poudre River Master Plan is the second in a series of Poudre River projects in Fort Collin. Grant funds will pay for a portion of the costs of site demolition, excavation of the river channel and stream bank stabilization. The low flow channel will be narrowed throughout the reach which will improve the flow depth for fish, flood flow conveyance and recreational use. Structures, including the Coy Diversion, that block flood flows will be removed. The Coy Diversion is a barrier to upstream fish migration. Removal and reconstruction of the Coy Diversion will substantially improve aquatic habitat and connectivity for all species, including threatened species and species of concern in this transitional habitat zone.

The project includes agreements between water providers that will optimize water supply infrastructure. This project will protect public infrastructure at College Avenue Bridge and private property. Recreation infrastructure (funded by private dollars) will be improved with the installation of whitewater wave features. Objectives include construction of a multi-stage channel to mitigate flood hazards, improve channel connectivity, provide recreational access, and enhance habitat.

Discussion: This project aligns with well with several of the Goals and Measurable Outcomes in the South Plate BIP as addressed in Section 1.9.3 and 1.9.7 (IPP Implementation, Environmental and Recreational). It also aligns with Chapters 6.6 (Environmental and Recreational Projects and

Methods) and 7.1 (Watershed Health and Management) of the Colorado Water Plan. The project has the potential to improve ecological and flood resilience in the Cache la Poudre River corridor.

Issues/Additional Needs:

- The applicant should provide staff with a detailed monitoring plan that describes geomorphic and vegetative monitoring methodologies.
- The monitoring plan should conform to the CWCB Measurable Results Program's Standard Operating Procedures for Topographic Survey of Stream Channels.
http://cwcb.state.co.us/environment/watershed-protection-restoration/Documents/Survey_SOP_CWCB.pdf
- All proposed river channel work should conform to the CWCB Rules and Regulations for Regulatory Floodplains in Colorado.
http://cwcb.state.co.us/Documents/FloodplainRulesRegsUpdate/CWCB_Adptd_FP_Rules_BasisPurp_%2011172010.pdf

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

<u>Funding Sources</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
City of Fort Collins	\$3,000,000	\$0	\$3,000,000
Citizens of Fort Collins-Building on Basics tax	\$4,000,000	\$0	\$4,000,000
Poudre Whitewater Fund, NCCF	\$150,000	\$0	\$150,000
Private Funds	\$750,000	\$0	\$750,000
Private Family Foundation (pending)	\$300,000	\$0	\$300,000
Subtotal matching funds	\$8,200,000	\$0	\$8,200,000
WSRA South Platte Basin Account	\$50,000	n/a	\$50,000
WSRA Statewide Account	\$250,000	n/a	\$250,000
Total Project Costs	\$8,500,000	\$0	\$8,500,000

CWCB Project Manager: Chris Sturm

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(ab)

Applicant & Fiscal Agent: Crosho Lake Corporation

Water Activity Name: Crosho Lake and Reservoir (Simon #1) Dam Outlet Replacement

Water Activity Purpose: Implementation/Consumptive (Ag) & Nonconsumptive

County: Rio Blanco

Drainage Basin: Yampa/White/Green

Water Source: Crosho Lake & North and Middle Hunt Creeks

Amount Requested/Source of Funds: \$30,000 Yampa/White/Green Basin Account
 \$108,380 Statewide Account
 \$138,380 Total Grant Request

Matching Funds: Basin Account Match (\$30,000) = 21.7% of total grant request (meets 5% min);
 Applicant Match (\$61,620) = 44.5% of total grant request (meets 5% min);
 Basin Account & Applicant Match (\$91,620) = 66% of total grant request (meets 25% min)
 (refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$30,000 from the Yampa/White/Green Basin Account; and \$108,380 from the Statewide Account to help fund the project titled: Crosho Lake and Reservoir (Simon #1) Dam Outlet Replacement.
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Water Activity Summary: WSRA funds, if approved, will be expended to complete the replacement of the outlet works at Crosho Lake Reservoir, known also as the Simon #1 Dam, which was constructed in 1917. The age of the outlet infrastructure, inspection observations, and previous observations and knowledge lead to the conclusion that the outlet works are severely deteriorated and in need of replacement. Their current state and the observations of leakage into the tower and seepage around the outlet headwall represent an active failure mode that will eventually lead to failure of the dam. The current deteriorated state of the outlet works is advanced enough that it is a significant dam safety concern and needs to be addressed as immediately as possible.

The proposed outlet will include an 18” PVC pipe conduit encased in concrete flow fill with an upstream control gate. An inclined slide gate will be installed on a new concrete intake structure. The gate stem and an air vent will be encased in a concrete grade beam on the upstream dam embankment. A lockable handwheel will be mounted to a new concrete block on the dam crest, preventing unauthorized operation of the outlet. A new staff gage will be installed on the concrete grade beam. A sand filter diaphragm will be installed towards the downstream end of the conduit to intercept any seepage traveling along or near the conduit. Seepage entering the diaphragm will be

collected in a perforated drain pipe and carried to the downstream toe of the dam. The outlet pipe will discharge into a concrete structure located at the dam toe. From this point discharge water will be conveyed in a new 24 inch PVC pipe that will tie into the existing ditch pipe downstream.

Discussion: This project aligns well with several of the Goals and Measurable Outcomes as addressed in the Yampa/White/Green Basin Implementation Plan, such as: Protect and encourage agriculture uses of water in the YWG Basin within the context of private property rights; Improve agricultural water supplies to increase irrigated land and reduce shortages (The agricultural needs study of the YWG BRT identified an additional 14,805 acres of potential new agricultural production in the future); Quantify and protect environmental and recreational water uses at locations identified in the non-consumptive needs study of the YWG BRT; Restore, maintain, and modernize water storage and distribution infrastructure; Develop an integrated system of water use, storage, administration and delivery to reduce water shortages and meet environmental and recreational needs (YWG BIP; Section 1.2.2: YWG Basin Goals, page 1-7). While this project has not been identified as an IPP in the YWG BIP, it is staff's opinion that this activity furthers the Goals of the YWG BIP and Colorado's Water Plan.

In addition this effort advances Agricultural Viability as presented in Colorado's Water Plan by: Develop and implement policies and strategies that support meaningful agricultural viability statewide; and upgrading irrigation and diversion systems (CWP; Chapter 6.5.2, pages 6-138 thru 6-144). Furthermore, this activity supports the storage goals of Colorado's Water Plan as presented in Section 6.5.3: Storage, and Section 6.5.4: Maintenance of Existing Projects and Methods (CWP; pages 6-145 thru 6-156). The proposed Crosho Lake improvements also furthers several of the Measurable Objectives, such as: D. Agriculture & E. Storage (CWP; Chapter 10.2: Measurable Objectives and Adaptive Management; pages 10-5 thru 10-7); and Critical Goals and Actions introduced in Colorado's Water Plan, such as: A. Supply-Demand Gap: Meet Colorado's Water Gaps: Use a grassroots approach to formulate projects and methods that avoid some of the undesirable outcomes of the supply-demand gaps. The plan addresses the gap from multiple perspectives (e.g., water storage, reuse, recycling, integrated water management, restoration, and conservation); D. Agriculture: Maintain Agricultural Viability: Maintain Colorado's agricultural productivity, support of rural economies, and food security (through meaningful incentives and grassroots efforts); and Support Agricultural Conservation and Efficiency: Support Colorado's agricultural industry to make it more efficient, resilient, and able to reduce water consumption without impacting agricultural productivity; and E. Storage: Promote Additional Storage and Infrastructure: Assess and promote opportunities for multipurpose and multi-partner storage projects that address strategic needs. (CWP: Chapter 10.3: Critical Goals and Actions; pages 10-8 thru 10-15).

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Colorado River Water Conservation District	\$20,000	\$0	\$20,000
Upper Yampa Water Conservancy District	\$16,000	\$0	\$16,000
Crosho Lake Company	\$25,435	\$185	\$25,620
Subtotal Applicant & 3 rd Party Matches	\$61,435	\$185	\$61,620
WSRA Yampa/White/Green Basin Account	\$30,000	n/a	\$30,000
WSRA Statewide Account	\$108,380	n/a	\$108,380
Total Project Costs	\$199,815	\$185	\$200,000

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14 (ac)

Co-Applicants: CSU Colorado Climate Center & Colorado Division of Water Resources

Fiscal Agent: CSU Colorado Climate Center

Water Activity Name: Continuation of lysimeter operations and consumptive use quantification in high-altitude, irrigated meadows in the Yampa/White Basin.

Water Activity Purpose: Agricultural & Needs Assessment

County: Basin-wide

Drainage Basin: Yampa/White/Green

Water Source: Basin-wide

Amount Requested/Source of Funds: \$11,304 Yampa/White/Green Basin Account
\$11,304 Statewide Account
\$22,608 Total Grant Request

Matching Funds: Basin Account Match (\$11,304) = 50% of total grant request (meets 5% min);
Applicant Match (\$26,854) = 118% of total grant request (meets 5% min);
Basin Account & Applicant Match (\$38,158) = 168% of total grant request (meets 25% min)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$11,304 from the Yampa/White/Green Basin Account; and \$11,304 from the Statewide Account to help fund the project titled: Continuation of lysimeter operations and consumptive use quantification in high-altitude, irrigated meadows in the Yampa/White Basin.
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Water Activity Summary: WSRA funds, if approved, will be expended to continue efforts to improve lysimeter operations in the Yampa Basin and to come up with better crop coefficients that can be applied to weather-based calculations of grass-reference ET. In late 2010, the Yampa-White Roundtable provided support for instrumentation, operation and maintenance for an integrated data collection system consisting of an automated weather station specifically designed for estimating evapotranspiration via the ASCE Standardized Penman-Monteith method and small bucket lysimeters designed to directly measure the amount of water lost from the soil due to evapotranspiration. The weather station was purchased and installed in 2011. Severe drought conditions in 2012 limited vegetation growth and establishment, delaying the lysimeters use, but by 2013 the vegetation was established enough to allow representative ET measurements to begin.

This project will allow 5 years of uninterrupted lysimeter data to be collected and another lysimeter load cell to be purchased for accurate weighing of the buckets. From the lysimeter data a more accurate crop coefficients can be calculated, which can then be applied to the weather station data for accurate ET estimates for the Yampa basin.

Objectives

- Review lysimeter data collection to date and identify data quality issues and the likely causes of data quality deficiencies.
- Review lysimeter operations plan and instructions.
- Obtain new load cell to assure high quality bucket weight measurements.
- Perform daily quality control assessment of Hayden CoAgMet (Colorado Agricultural Meteorological Network) weather station data.
- Conduct annual maintenance and calibration of all meteorological sensors.
- Perform emergency maintenance and calibration as needed based on weather station performance to assure high quality and continuous data collection, particularly during the growing season.
- Based on lysimeter measurements and in collaboration with the staff of the Colorado Division of Water Resources Division 6, compute crop water use for each bucket at the end of each growing season year. Intercompare data and compare to weather station ET (Evapotranspiration) estimates. Also compare with preliminary results from the ongoing North Platte Roundtable ET study.
- As opportunities appear, also use data to assist and support other ET research currently underway in the Upper Colorado River Basin (in collaboration with Dr. Perry Cabot).
- Make annual estimates of hay meadow consumptive use, sample variability and relationship to weather data-based methods. Estimate appropriate crop coefficients and compare to other available estimates. Provide updates to the Yampa-White Roundtable.

Discussion: This project aligns well with several of the Goals and Measurable Outcomes as addressed in the Yampa/White/Green Basin Implementation Plan, such as: Protect and encourage agriculture uses of water in the YWG Basin within the context of private property rights; Improve agricultural water supplies to increase irrigated land and reduce shortages (The agricultural needs study of the YWG BRT identified an additional 14,805 acres of potential new agricultural production in the future); Develop an integrated system of water use, storage, administration and delivery to reduce water shortages and meet environmental and recreational needs (YWG BIP; Section 1.2.2: YWG Basin Goals, page 1-7). While this project has not been identified as an IPP in the YWG BIP, it is staff's opinion that this activity furthers the Goals of the YWG BIP and Colorado's Water Plan.

In addition this effort advances Agricultural Viability as presented in Colorado's Water Plan by: Develop and implement policies and strategies that support meaningful agricultural viability statewide (CWP; Chapter 6.5.2, pages 6-138 thru 6-144). Furthermore, this activity supports the goals of Colorado's Water Plan as presented in Section 6.5.4: Maintenance of Existing Projects and Methods (CWP; pages 6-153 thru 6-156). The continuation of this activity also furthers several of the Measurable Objectives, such as: D. Agriculture (CWP; Chapter 10.2: Measurable Goals and Adaptive Management; pages 10-5 thru 10-7); and Critical Goals and Actions introduced in Colorado's Water Plan, such as: A. Supply-Demand Gap: Meet Colorado's Water Gaps: Use a grassroots approach to formulate projects and methods that avoid some of the undesirable outcomes of the supply-demand gaps. The plan addresses the gap from multiple perspectives (e.g., water storage, reuse, recycling, integrated water management, restoration, and conservation); and D. Agriculture: Maintain Agricultural Viability: Maintain Colorado's agricultural productivity, support of rural economies, and food security (through meaningful incentives and grassroots efforts); and

Support Agricultural Conservation and Efficiency: Support Colorado’s agricultural industry to make it more efficient, resilient, and able to reduce water consumption without impacting agricultural productivity (CWP: Chapter 10.3: Critical Goals and Actions; ages 10-8 thru 10-15).

Previous WSRA funding for this activity, approved by CWCB in Sept 2010 consisted of: \$10,000 Yampa/White/Green Basin Account funds, and \$10,978 Statewide Account funds; for a total of \$20,978. This project component was completed in June 2015.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria: The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Colorado Division of Water Resources	\$0	\$26,854	\$26,854
WSRA Yampa/White/Green Basin Account	\$11,304	n/a	\$11,304
WSRA Statewide Account	\$11,304	n/a	\$11,304
Total Project Costs	\$22,608	\$26,854	\$49,462

CWCB Project Manager: Craig Godbout

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.

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.

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
Request for Change of Fiscal Agent
March 16-17, 2015
Agenda Item 14 (ad)

Current Applicant & Fiscal Agent: Ducks Unlimited

Proposed Fiscal Agent: United States Fish & Wildlife Service

Water Activity Name: MacFarlane Dam Rehabilitation

Water Activity Purpose: Reservoir Rehabilitation

County: Jackson

Drainage Basin: North Platte

Water Source: Soap Creek

Amount Requested/Source of Funds: \$500,000 North Platte Basin Account
\$100,000 Statewide Account
\$600,000 Total Grant Request

Matching Funds: Basin Account Match: \$500,000 = 83% of total grant request (meets 5% min);
Basin Account & Applicant Match: \$1,586,465 = 264% of total grant request (meets 25% min);
Applicant & 3rd Party Match: \$1,086,465 = 64% of total project costs
(refer to *Funding Summary/Matching Funds*)

Staff Recommendation
Staff recommends approval of change of fiscal agent from Ducks Unlimited to the United States Fish & Wildlife Service for the project titled:

Water Activity Summary: Built in 1915, and reconstructed in 1962, MacFarlane Dam impounds at least 6,500 AF of water. This water is decreed for irrigation, recreation, wildlife habitat, and piscatorial purposes, and is used to irrigate more than 1,600 acres of pasture and wet meadow in North Park. Thousands of acres of wetlands and wet meadow are associated with the water stored and delivered from the reservoir. DU believes that this area contains some of the highest quality waterfowl and sage grouse production areas in the state. The MacFarlane Reservoir is owned by the Evans Land and Cattle, Inc (ELC) (50%) and the Department of the Interior (DOI) (50%) including United States Fish and Wildlife Service (USFWS), and the Bureau of Land Management (BLM).

WSRA funds, if approved, will be expended to fund this collaborative effort for the MacFarlane Dam Rehabilitation Project (the Project), which will repair the outlet pipe and toe drains as necessary to avoid a State Engineer's Office, Dam Safety storage restriction order. MacFarlane Dam has a history of seepage and slope stability problems, including a slope failure near the left abutment of the dam which was repaired in 1975. A 2014 field investigation noted several dam safety deficiencies

including: (1) Wave erosion damage along the upstream slope of the north embankment; (2) Inadequate seepage control along both embankments; (3) Localized slope instability in the downstream slope of both embankments; (4) A severely deteriorated outlet works terminal structure; and, (5) No emergency spillway control section to minimize scour during large spillway discharges.

The Project goal is to address the identified dam safety deficiencies. The following are objectives to meet that goal: (1) Ensure dam safety by repairing the existing embankment and associated outlet structures; (2) Ensure longevity of the dam by reconstructing the emergency spillway; (3) Provide adequate storage volumes matching existing water rights; and, (4) Provide reliable access to the site.

Discussion: Subsequent to several project coordination meetings among the applicant, the fiscal agent, USFWS and CWCB staff it has been determined that a change in fiscal agent from Ducks Unlimited to the USFWS would better serve the project objectives by reducing the number of participants involved in the reimbursement process and provide a leaner managerial structure.

CWCB Project Manager: Jonathan Hernandez