



Colorado's Water Supply Future



Water Supply Reserve Account Annual Report

October 31, 2011

Helping Meet Colorado's Consumptive and Non-Consumptive Water Needs



Manassa Land & Irrigation Company: Conejos River & North Branch Diversion & Stabilization Project

**To the House of Representatives Committee on
Agriculture, Livestock, and Natural Resources and the
Senate Committee on Agriculture, Natural Resources, and Energy**

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Water Supply Reserve Account

Overview and Accomplishments July 2006 through October 2011

Background

The Water Supply Reserve Account (Account) was created in 2006 by Senate Bill 06-179. The legislature created the Account to help citizens identify and meet their critical water supply and management needs. The Account may be used to:

- Identify human, environmental, or recreational water needs (also commonly referred to as "Needs Assessments")
- Evaluate available water supplies in each basin
- Build projects or identify methods to meet the water supply needs of the river basin

The authorizing legislation provides funds for a broad range of eligible activities including: construction of infrastructure (storage, pipelines, river improvements, etc.), feasibility studies, studies of human and environmental needs, and technical assistance for permitting or environmental compliance.

Overview

The Account is administered by the Colorado Water Conservation Board (CWCB) in collaboration with the Interbasin Compact Commission (IBCC) and the 9 Basin Roundtables established under House Bill 05-1177. Requests for funding begin at the Basin Roundtables. Applications approved by the appropriate Roundtable are submitted to the CWCB. To date, all requests have been for grants, though most project sponsors provide matching funds and/or leverage other monies.

Monies from the Account are distributed according to the Criteria and Guidelines, which were jointly developed by the CWCB and IBCC in collaboration with the Basin Roundtables. The Criteria and Guidelines are reviewed annually in October to consider changes to the Account's operation. The Criteria and Guidelines, application, and other materials are available on the CWCB website.

Program Highlights

- ◆ Over \$30,000,000 Granted for 186 Projects Across Colorado
- ◆ Over \$50,000,000 Leveraged with Matching Funds from Numerous Sources
- ◆ Projects Recommended by Basin Roundtables on a Consensus Basis with Final Approval by the CWCB

Accomplishments

Water Supply Reserve Account projects have been approved across the entire state. The WSRA Criteria and Guidelines split the Account into Basin and Statewide Funds. Each Basin Account has received \$1,437,250 to date.

Figure 1 shows the amount approved from each Basin Account (totaling \$10,480,077).

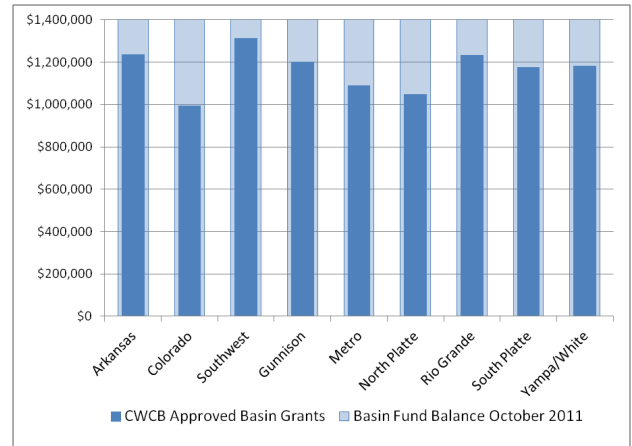


Figure 1. Basin Fund Distribution Approved per Basin

To date, the Statewide Account has received \$24,639,750 with \$20,111,720 in approved grants. The distribution of WSRA funds from the Statewide Account per basin is shown in Figure 2.

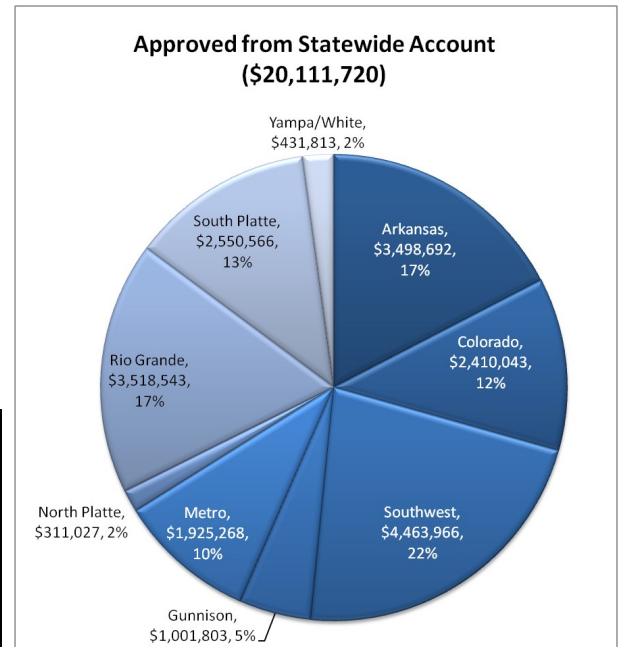


Figure 2. Statewide Fund Distribution Approved per Basin



Projects funded from the Account have addressed both consumptive (agricultural and municipal) and nonconsumptive needs (environmental and recreational) with most of the projects addressing multiple needs. Figure 3 shows the distribution of WSRA funding by primary category.

Funds from the Account provide the means to conduct both studies of water needs and actual project implementation. Figure 4 shows how the Account has supported both aspects of water projects by amount of funding as well as number of projects funded. Though the Account has funded almost an equal amount of studies and implementation projects, much more funds have been allocated towards the implementation of projects to meet critical water supply needs.

Observations

The Water Supply Reserve Account Program has been a tremendous success. The Account has funded a mix of consumptive and nonconsumptive water projects and promoted multi-purpose projects throughout the State. The Account has funded projects that help Colorado meet its water supply needs with funding that was not available until the passage of the legislation.

The annual review of the Criteria and Guidelines allows for program adjustments. Adjustments to the Criteria and Guidelines have allowed the WSRA to adapt to the changing needs of Colorado's water community.

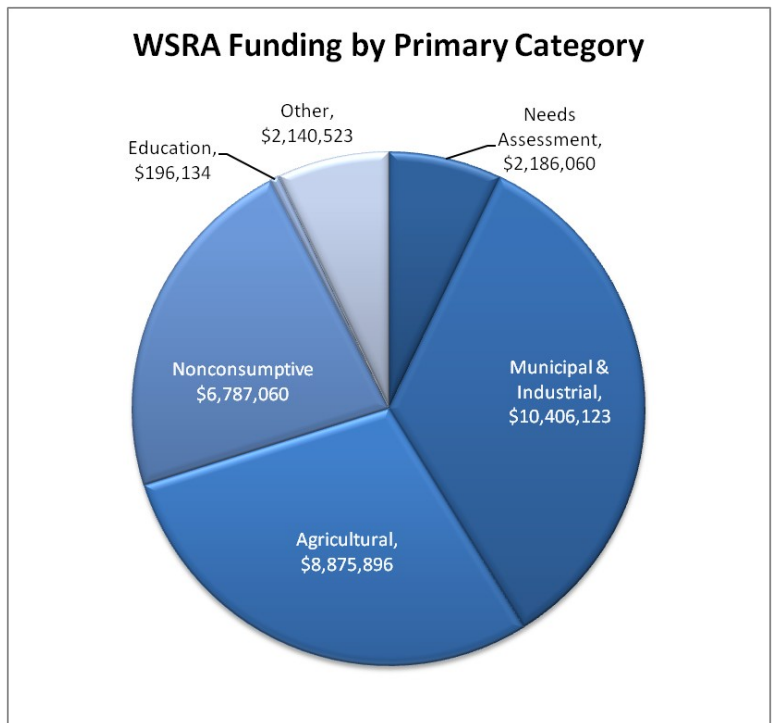


Figure 3. Funding Distribution by Primary Category

Recent Legislation and the Future of the WSRA

In 2009, the Water Supply Reserve Account Program was reauthorized in perpetuity by SB 09-106. SB 09-106 appropriates \$10,000,000 per year from the Severance Tax Trust Fund, subject to available funding. Due to budget shortfalls the WSRA has received the following funding the past 3 years: FY2008 \$6,000,000; FY2009 \$7,000,000; FY2010 \$5,775,000; FY2011 \$6,000,000. It is authorized to receive \$7,000,000 in FY2012.

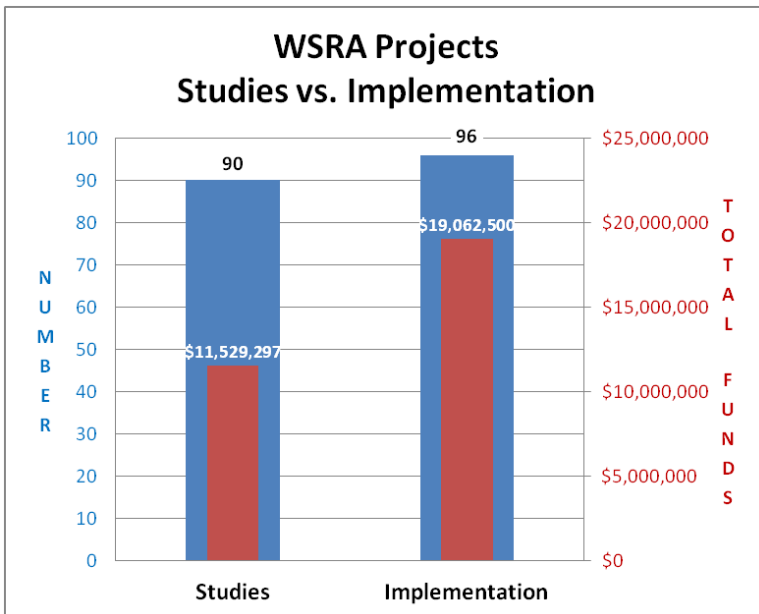


Figure 4. Funding and Project Distribution by Type

Sustaining Mineral Severance Tax Funding - Vital for Ongoing Success

Colorado has billions of dollars in funding needs for water supply and water management projects. The mineral severance tax fund was established to help local communities offset the impacts of extracting nonrenewable resources. The distribution formula for severance tax emphasizes water supply in order to provide a renewable resource – *water* – to help offset the impact from extractive natural resource development. The WSRA furthers this objective by helping to provide an adequate water supply. for Colorado's citizens and environment.

Funding Summary

Table 1 displays the legislative appropriations and actual funds received by the Water Supply Reserve Account Program since its inception in 2006. As a Severance Tax “Tier II” program appropriated funds are distributed on a 3-part schedule as available with 40% on July 1, 30% on January 1, and the final 30% on April 1 of the fiscal year. In Fiscal Year 2008/ 2009 the final 30% installment was not received due to the state’s budgetary shortfall. Table 1 also shows the breakdown of funds between the Basin and Statewide Accounts as directed by the Criteria and Guidelines. The Basin Account funds are then distributed evenly among the 9 basin roundtables.

Figure 5 summarizes the status of all approved WSRA projects. Per the WSRA Criteria and Guidelines applications for the Basin Account are considered at each of the CWCB’s bi-monthly board meetings once they have received approval from the appropriate basin roundtable as documented in a letter from the roundtable’s chair. Applications

to the Statewide Account are considered either once a year in September or twice a year in September and March.

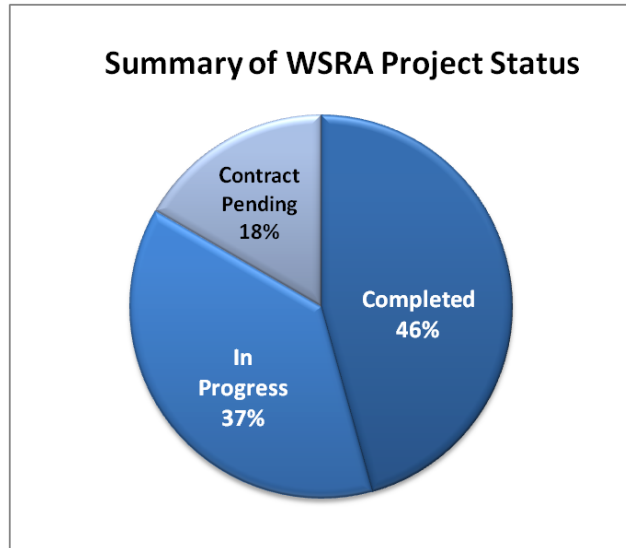


Figure 5. Summary of WSRA Project Status

WSRA Fund Appropriation and Receipts				
October 2011				
Fiscal Year	Legislative Appropriation	Actual Funds Received		
		Total	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	\$2,800,000	\$2,044,000	\$756,000
TOTAL	\$44,775,000	\$37,575,000	\$24,639,750	\$12,935,250

Note: WSRA is a Severance Tax Tier II program with 40% of funds distributed July 1, 30% on Jan. 1, and 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.

Currently, only the first 40% installment for FY 2011/2012 has been received.

Table 1. Summary of WSRA Appropriations and Receipts





Water Supply Reserve Account Applications Approved by the CWCB

Name of Water Activity	Basin Account	Statewide Account	Total
Arkansas Basin Total Request	\$1,237,550	\$3,498,692	\$4,736,242
Arkansas Valley Conduit		\$200,000	\$200,000
Southeastern Colorado Water Conservancy District: Tamarisk Project		\$50,000	\$50,000
Upper Black Squirrel Creek Aquifer Recharge Investigation	\$45,200		\$45,200
Ground Water Conference	\$24,721		\$24,721
Fountain Creek Vision Task Force	\$75,000		\$75,000
Round Mountain Water & Sanitation District Water System Improvements Project	\$120,000		\$120,000
Rotational Land Following-Water Leasing Program -Lower Arkansas Super Ditch Company	\$150,000		\$150,000
Upper Big Sandy Water Balance	\$45,000		\$45,000
Model Transfers- Agriculture to Urban, Arkansas Basin	\$23,860		\$23,860
Arkansas Headwaters Diversion Structure Improvement Project		\$57,955	\$57,955
City of Las Animas Water System Improvements	\$100,000	\$200,000	\$300,000
Colorado State Parks Zebra Mussel Response		\$1,000,000	\$1,000,000
Geospatial decision support system for integrated water mgmt	\$100,000	\$500,000	\$600,000
Telemetry data collection platforms at six reservoirs plus flow control equipment and gauging at six reservoir outlet channels & nine streams w/in the upper Ark River basin	\$75,000	\$210,332	\$285,332
Demonstration of Membrane Zero Liquid Discharge Process for Drinking Water Systems (Joint Appl. with SP & Metro)	\$25,000	\$233,333	\$258,333
John Martin Wetlands and Neenoshe Reservoir Nonconsumptive Needs Quantification	\$148,975		\$148,975
Upper Arkansas Water Conservancy District Hydrologic Water Balance Study		\$180,000	\$180,000
City of Pueblo - Bedload/Sediment Collection and Removal Technology - Fountain Creek	\$75,000	\$150,000	\$225,000
Flaming Gorge Project Task Force Assessment	\$20,000		\$20,000
Stakeholders' Cooperative Mgmt Analysis for the Upper Arkansas River Basin	\$33,600		\$33,600
Flathead chub movement associated with the Clear Springs Ranch diversion structure in Fountain Creek	\$7,000	\$28,000	\$35,000
Trinidad/Purgatorie River Reach 4 Demonstration Project	\$75,000		\$75,000
Helena Diversion Structure/BV Boat Chute Improvement Project	\$35,000	\$290,000	\$325,000
Raising Awareness in 2012: A Statewide Celebration of Colorado Water		\$30,515	\$30,515
Super Ditch Delivery Engineering		\$225,837	\$225,837
Blue Mesa Reservoir - Use of Excess Storage Capacity	\$24,500	\$98,000	\$122,500
A Multi-Media Program for Reporting Crop and Turf Water Use Estimates from the Colorado Agricultural Meteorological Network (CoAgMet)	\$9,394	\$37,577	\$46,971
Rotating Agricultural Following Public Policy Working Group	\$20,000		\$20,000
Basin Roundtable Project Exploration Committee: Flaming Gorge	\$5,300	\$7,143	\$12,443
Colorado Basin Total Request	\$995,656	\$2,410,043	\$3,405,699
Energy Development Water Needs Assessment		\$150,000	\$150,000
Enlargement of Eagle Park Reservoir		\$250,000	\$250,000
Roaring Fork Watershed Assessment	\$40,000		\$40,000
Upper Colorado Endangered Fish Recovery Alternatives (10,825)		\$200,000	\$200,000
Vail Ditch Project		\$1,500,000	\$1,500,000
Bull Creek Reservoir No. 5 Spillway Adequacy Analysis	\$50,000		\$50,000
Basalt WCD - Missouri Heights	\$25,000		\$25,000
Grand County Stream Flow Management Plan	\$100,000		\$100,000
Old Dillon Reservoir	\$100,000		\$100,000
Fraser Sedimentation Basin	\$60,000	\$127,900	\$187,900
Roaring Fork Watershed Assessment - Phase 2	\$40,000		\$40,000
Feasibility and Design Assessment of Off-Channel Reservoir Sites in the Crystal River Watershed	\$40,000		\$40,000

Water Supply Reserve Account Applications Approved by the CWCB



Name of Water Activity	Basin Account	Statewide Account	Total
Colorado Basin Continued			
Battlement Reservoir #3 Dam Reconstruction to Enhance Recreational & Environmental Opportunities	\$80,000		\$80,000
Colorado Basin Nonconsumptive Needs Quantification	\$315,171		\$315,171
Solicitation of stakeholders input and advice through a Colorado River Basin edition of Headwater Magazine Colorado	\$25,000		\$25,000
Grand River Ditch Pipeline	\$25,000		\$25,000
Gypsum - L.E.D.E. Ditch and Reservoir Reconstruction Project	\$50,000	\$175,000	\$225,000
Small Acreage Irrigation Audit Program – Grand Valley	\$18,273		\$18,273
Canal #1 Check Structure Pilot Project @ Dalton, Kiefer & Springer Properties	\$25,212		\$25,212
Basin Roundtable Project Exploration Committee: Flaming Gorge	\$2,000	\$7,143	\$9,143
Southwest Basin Total Request	\$1,314,946	\$4,463,966	\$5,778,912
Dry Gulch Reservoir/San Juan Reservoir Land Acquisition		\$1,000,000	\$1,000,000
Goodman Point: Pipeline Environmental Assessment	\$7,700		\$7,700
Goodman Point Phase 2	\$20,000	\$240,000	\$260,000
Jackson Gulch Reservoir Expansion Project	\$61,735		\$61,735
Bauer Lakes Water Co. Dam Outlet Structure Upgrade	\$40,000		\$40,000
La Plata West Rural Water Supply System	\$100,000	\$1,000,000	\$1,100,000
Town of Sawpit – Water System Engineering/Planning	\$25,000		\$25,000
MVIC Summit Irrigation Company feasibility study	\$39,300		\$39,300
Happy Scenes Water System Upgrades	\$50,000		\$50,000
La Plata Archuleta WD: Water System Master Planning	\$100,000		\$100,000
Molas Lake Ditch Rehabilitation and Diversion Structures	\$95,000		\$95,000
Lower Blanco River Restoration Project	\$100,000	\$150,000	\$250,000
Florida Mesa Canal Companies	\$100,000		\$100,000
Red Mesa Dam IDA and EAP	\$29,000		\$29,000
Park Ditch Company Improvements	\$85,000		
Town of Sawpit - Domestic Water System Construction	\$25,000		
La Plata Archuleta Water District - Permitting		\$400,000	\$400,000
Animas River Needs Assessment	\$57,000		\$57,000
Mancos River Diversion Project, Phase I	\$24,753		\$24,753
Protecting Irrigated Agricultural Lands and Water Rights for Agricultural Production	\$31,500		\$31,500
Florida Mesa Canal Companies - Canal Seepage Reduction Project		\$225,000	\$225,000
Town of Norwood - Raw Water System Update and Future Needs Study	\$58,458		\$58,458
Florida Mesa Canal Companies - Canal Seepage Reduction Project		\$775,000	\$775,000
A Way Forward: The Dolores River Below McPhee Reservoir	\$25,000		\$25,000
La Plata River and Cherry Creek Ditch Company - Diversion Improvement Project	\$25,000		\$25,000
Recreational Plan for Lake Nighthorse	\$25,000		\$25,000
Totten Reservoir Hydrographic Survey	\$29,500		\$29,500
Aspen Springs Metro Water Filling Station	\$30,000		\$30,000
La Plata River Water Resources Operations Model		\$148,823	\$148,823
Groundhog Reservoir Bathymetric Survey	\$35,000		\$35,000
Lake Durango Water Authority - Source Water Infrastructure Project	\$50,000	\$450,000	\$500,000
Town of Rico Alluvium Pipeline Water Supply Project - Well Drilling and Water Quality Testing	\$20,000	\$68,000	\$88,000
Pagosa Lakes Area Village Dam Outlet Pipe Repair Project	\$25,000		\$25,000
Basin Roundtable Project Exploration Committee: Flaming Gorge	\$1,000	\$7,143	\$8,143



Water Supply Reserve Account Applications Approved by the CWCB

Name of Water Activity	Basin Account	Statewide Account	Total
Gunnison Basin Total Request	\$1,202,732	\$1,001,803	\$2,204,535
Lake San Cristobal Controlled Outlet Structure	\$35,000		\$35,000
Safety and Serviceability Needs Inventory for Reservoirs in the Leroux Creek Drainage Basin	\$60,000		\$60,000
Orchard City Water Reservoir Project	\$60,000	\$380,000	\$440,000
Off-System Raw Water Storage Project 7 Water Authority/Uncompahgre Valley Water Users Association	\$56,700		\$56,700
Paonia-Feldman Diversion Reconstruction	\$48,000	\$62,700	\$110,700
Sedimentation Management Study For Paonia Reservoir	\$79,000	\$230,000	\$309,000
Overland Reservoir Dam Expansion/Restoration		\$68,000	\$68,000
Phase II Engineering for Lake San Cristobal Outlet Modification	\$75,265		\$75,265
Lake San Cristobal Outlet Structure Modification--Phase III		\$120,960	\$120,960
Ridgway Ditch and Lake Otonawanda Improvement Project	\$109,500		\$109,500
Juniata Reservoir Spillway Modification	\$97,000		\$97,000
Hartland Diversion Dam Fish Passage Feasibility Study	\$22,100		\$22,100
City of Ouray: Development of Augmentation Supplies	\$50,000		\$50,000
75 Ditch Diversion Improvements and Feature Enhancements	\$46,100		\$46,100
Lake San Cristobal Outlet Structure	\$150,000		\$150,000
Hanson Reservoir Outlet Rehabilitation	\$50,000		\$50,000
The Rehabilitation of Blanche Park Reservoir	\$75,000		\$75,000
Valley View Irrigation Improvement Project	\$11,817		\$11,817
Blue Mesa Reservoir - Use of Excess Storage Capacity	\$24,500	\$98,000	\$122,500
Relief Ditch Diversion Dam Design	\$20,650		\$20,650
Basin Roundtable Project Exploration Committee: Flaming Gorge	\$2,000	\$7,143	\$9,143
Hartland Dam Improvements	\$53,100		\$53,100
Agricultural Weather Data Delivery Improvements to Uncompahgre Valley Irrigators	\$77,000	\$35,000	\$112,000
Metro Basin Total Request	\$1,089,929	\$1,925,268	\$3,015,197
Chatfield Reallocation EIS/FR (Joint Appl. with South Platte)	\$103,000		\$103,000
Zero Liquid Discharge Pilot Study	\$200,000	\$200,000	\$400,000
Parker Water and San. And Colo. State University Joint Project on the Rural/Urban Farm Model	\$150,000		\$150,000
Upper Mountain Counties Water Needs Assessment	\$43,587		\$43,587
Solicitation of Stakeholder Input through a South Platte Edition of Headwaters	\$16,019		\$16,019
South Metro Water Supply Authority - Regional Aquifer Supply Assessment	\$100,540		\$100,540
South Platte River Recreation and Habitat Feasibility Study	\$150,000		\$150,000
Demonstration of Membrane Zero Liquid Discharge Process for Drinking Water Systems (Joint Appl with SP & Ark)	\$50,000	\$233,333	\$283,333
Lost Creek Aquifer Recharge and Storage Study	\$80,000		\$80,000
South Metro Aquifer Recharge Pilot Study		\$425,000	\$425,000
DCWRA - Feasibility Study for BOR Funding from the National Rural Water Supply Act	\$100,000	\$500,000	\$600,000
Flaming Gorge Project Task Force Assessment	\$20,000		\$20,000
South Metro Water Supply Authority - Aquifer Recharge Pilot Study		\$125,000	\$125,000
Douglas County Water Resource Authority - Rotary Sprinkler Nozzle Retrofit		\$250,000	\$250,000
Rural Douglas County groundwater-level monitoring network	\$28,263	\$84,792	\$113,055
Educating Denver Metro Elected Officials & Decision Makers on Solution-Oriented Water Supply Planning	\$14,820		\$14,820
Basin Roundtable Project Exploration Committee: Flaming Gorge	\$8,700	\$7,143	\$15,843
South Platte River Recreation and Habitat Improvement Preliminary Design	\$25,000	\$100,000	\$125,000

Water Supply Reserve Account Applications Approved by the CWCB



Name of Water Activity	Basin Account	Statewide Account	Total
North Platte Basin Total Request	\$1,048,583	\$311,027	\$1,359,609
New Pioneer Ditch Diversion Reconstruction Project	\$116,000		\$116,000
Town of Walden Water Supply Improvement Project	\$385,000		\$385,000
Effects of Mountain Pine Beetle and Forest Management on Water Quantity, Quality, and Forest Recovery	\$212,306	\$164,618	\$376,923
Identification and Assessment of Important Wetlands	\$86,000	\$96,000	\$182,000
Monitoring the Effects of Weather Conditions on the Evapotranspiration in North Platte River Basin	\$50,409	\$50,409	\$100,818
North Park Irrigated Meadow Conservation Program – Phase I	\$20,000		\$20,000
Walden Reservoir Company - Structure for Water Control	\$36,000		\$36,000
Solicitation of Stakeholder Input Through Production of a NP Basin Education Package	\$14,040		\$14,040
Jackson County Water Conservancy District - Structures for Water Control: Headgates and Diversion	\$128,828		\$128,828
Rio Grande Basin Total Request	\$1,233,450	\$3,518,543	\$4,751,993
Alamosa River In-stream Flow Project	\$64,500		\$64,500
Preliminary Design Multi-use Rio Grande Reservoir Rehabilitation and Enlargement		\$288,000	\$288,000
Rio Grande Basin Conservation Reserve Enhancement Program	\$36,750		\$36,750
Romero-Guadalupe Channel Rectification Project	\$83,700		\$83,700
Rio Grande Initiative	\$200,000	\$1,300,000	\$1,500,000
Santa Maria and Continental Reservoirs: Rehabilitation and Multiple Use Studies	\$50,000	\$141,700	\$191,700
2008 Rio Grande Riparian Stabilization Project	\$35,000	\$250,000	\$285,000
Platoro Reservoir Restoration	\$50,000	\$200,000	\$250,000
Conejos River and North Branch Diversion and Stabilization	\$50,000	\$333,700	\$383,700
Rio Grande Reservoir Multi-Use Rehabilitation: Refinement and Enhancement of Reservoir Reoperation and Optimization Model	\$100,000		\$100,000
El Codo Ditch Diversion and Rehabilitation	\$65,000	\$0	\$65,000
Lower Willow Creek Restoration Project	\$50,000	\$200,000	\$250,000
Sangre de Cristo Trinchera Diversion Canal Restoration	\$50,000	\$150,000	\$200,000
Rio Grande Conservation Reserve Enhancement Program (CREP) Phase II - Implementation	\$31,500		\$31,500
Shortfall Request - Sangre de Cristo Trinchera Diversion Canal Restoration	\$54,000		\$54,000
2009 Rio Grande Riparian Stabilization Project - Phase 4	\$50,000	\$98,000	\$148,000
Educating Today to Balance Tomorrow's Water Supplies & Needs	\$25,000		\$25,000
San Luis Peoples Ditch Upgrade and Rehabilitation Project - Phase I	\$40,000		\$40,000
Conejos North Branch Water Conservation and Management	\$75,000		\$75,000
The McDonald Ditch and Plaza project, Phase I Planning	\$40,000		\$40,000
Rio Grande Initiative: North Rio Grande Ranch Conservation Easement	\$15,000	\$55,000	\$70,000
Santa Maria & Continental Reservoirs: Priority Studies to Restore Capacity	\$22,000		\$22,000
Basin Roundtable Project Exploration Committee: Flaming Gorge	\$1,000	\$7,143	\$8,143
Platoro Reservoir Crest of Dam Repair	\$15,000	\$135,000	\$150,000
Sanchez Reservoir Rehabilitation - Phase I Assessment & Upgrade	\$10,000	\$85,000	\$95,000
Plaza Project Phase 2 - McDonald Ditch	\$20,000	\$275,000	\$295,000
South Platte Basin Total Request	\$1,175,857	\$2,550,566	\$3,726,423
Chatfield Reallocation EIS/FR (Joint Appl. with Metro)	\$27,000		\$27,000
Clear Creek Water Banking/High Altitude Storage	\$52,000		\$52,000
Ovid Reservoir Comprehensive Feasibility Study	\$176,000		\$176,000
Lower South Platte Wetland Initiative Phase I South Platte River, CO		\$278,476	\$278,476
Stage Discharge Data Loggers and Telemetry	\$48,800		\$48,800
Upper Mountain Counties Water Needs Assessment	\$130,763		\$130,763



Water Supply Reserve Account Applications Approved by the CWCB

Name of Water Activity	Basin Account	Statewide Account	Total
South Platte Continued			
Weld County School Dist RE1 Wetland Partnership	\$42,110		\$42,110
Solicitation of Stakeholder Input Through a South Platte Edition of Headwaters	\$16,019		\$16,019
South Platte Water Protection and Restoration		\$825,552	\$825,552
Arickaree River Well Retirement Program, Republican River Basin	\$19,984	\$79,936	\$99,920
Halligan Seaman Water Mgmt project share vision planning model	\$25,435	\$76,305	\$101,740
Demonstration of Membrane Zero Liquid Discharge Process for Drinking Water Systems (Joint Appl with Metro & Ark)	\$25,000	\$233,333	\$258,333
Lost Creek Aquifer Recharge and Storage Study	\$80,000		\$80,000
Central South Platte Wetland Partnership	\$93,769		\$93,769
FMRICo Recharge & Wetlands Project	\$250,000	\$420,000	\$670,000
NCWCD - Data Logger and Telemetry Installation Project	\$46,000		\$46,000
Colorado Ag Meteorological Network	\$20,000		\$20,000
Lower South Platte Water Cooperative South Platte Basin	\$60,977	\$200,000	\$260,977
Development of a decision support model for Identifying and Ranking Waterfowl and Wildlife Related Recharge Projects along the SP		\$99,821	\$99,821
Alluvial Aquifer Accretion/Depletion Analysis Tool		\$200,000	\$200,000
Basin Roundtable Project Exploration Committee: Flaming Gorge	\$2,000	\$7,143	\$9,143
South Platte River Recreation and Habitat Improvement Preliminary Design	\$25,000	\$100,000	\$125,000
South Platte River Phreatophyte Control Pilot	\$35,000	\$30,000	\$65,000
Yampa Basin Total Request	\$1,181,374	\$431,813	\$1,613,187
Energy Development Water Needs Assessment (300,000 Joint Application see Colorado)		\$150,000	\$150,000
Morrison Creek Reservoir Feasibility Study	\$49,500		\$49,500
Agricultural Water Needs Assessment	\$201,410		\$201,410
Common Data Repository	\$106,600		\$106,600
Sparks Reservoir	\$16,000		\$16,000
Town of Yampa Water Facilities Plan and Storage Tank Upgrades	\$61,062		\$61,062
Sandwash Basin Coalbed Methane Production Depletive Effects on Water Resources	\$20,000	\$98,835	\$118,835
CFWE - Headwaters Magazine - January 2010	\$20,000		\$20,000
Community Agricultural Alliance - Development and Implementation of Water Forums, Workshop, and/or Tours	\$10,000		\$10,000
Bear Reservoir Company - Stillwater Reservoir Seepage Project	\$189,000		\$189,000
Yellow Jacket Water Conservancy District - Water Storage Feasibility	\$220,800		\$220,800
Yampa White Basin Nonconsumptive Needs Assessment Watershed Flow Evaluation Tool	\$169,002		\$169,002
Improvement of Lysimeter Operations and Consumptive Use Quantification in High-Altitude Irrigated Meadows	\$10,000	\$10,978	\$20,978
Yampa River/Walker Ditch River Restoration Project	\$20,000	\$20,000	\$40,000
Yampa-White Basin Projects and Methods Analysis	\$38,000	\$152,000	\$190,000
Yampa River Structures Project	\$50,000		\$50,000

For more information, please contact:

Eric Hecox
1580 Logan St., Suite 200
Denver, CO 80203

Phone: 303-866-3441 • Fax: 303-861-4272

Internet: www.ibcc.state.co.us

eric.hecox@state.co.us

Todd Doherty
1580 Logan St., Suite 200
Denver, CO 80203

Phone: 303-866-3441 • Fax: 303-861-4272

Internet: www.cwcb.state.co.us

todd.doherty@state.co.us



Water Supply Reserve Account

Project Summaries - November 2010 to October 2011

Project summaries listed by basin are provided for all projects approved by the Colorado Water Conservation Board from November 2010 to October 2011. Summaries of earlier projects can be found in previous annual reports available upon request.

Arkansas Basin

Trinidad/Purgatorie River Reach 4 Demonstration Project

APPLICANT: Purgatorie River Water Conservancy District

APPROVED: January 2011

STATUS: IN PROGRESS

WSRA FUNDS: \$75,000 (Basin Account)

MATCHING FUNDS: \$88,980

DESCRIPTION:

This project improves the aquatic habitat and riparian areas of approximately 2,750 ft (1/2 mile) of the Purgatoire River in downtown Trinidad, Colorado. Improvements provide velocity shelter, cover, and quality usable habitat for resident trout during the high flow summer months through the installation of in-channel habitat features. The project includes a new handicap accessible trail along the river to provide fishing access for persons with disabilities. Three handicap accessible river fishing sites are also included adjacent to newly installed habitat features. This demonstration project is part of a larger effort to enhance the Purgatoire River from the Trinidad State Park lake dam through the town of Trinidad, to the Highway 160 Bypass, over nearly 5 miles of river.

Helena Diversion Structure/BV Boat Chute Improvement Project

APPLICANT: Arkansas Headwaters Recreation Area

APPROVED: March 2011

STATUS: Contracting

WSRA FUNDS: \$325,000 (\$35,000 Basin Account; \$290,000 Statewide Account)

MATCHING FUNDS: \$25,320

DESCRIPTION:

The Helena Diversion Structure at Buena Vista is navigated by private and commercial boaters and is extremely dangerous due to portions of the structure that have shifted over time. The shift created an unpredictable spillway, leading to a boating fatality in the summer of 2007. The structure also prohibits the safe passage of aquatic

species both up and down the river during the spawning season. The Arkansas Headwaters Recreation Area (AHRA) is engineering and constructing a new structure that will allow for safe recreational boat passage and improved fish migration with an appropriate fish ladder. The new structure will also improve water delivery efficiency at all water levels.

Raising Awareness in 2012: A Statewide Celebration of Colorado Water

APPLICANT: Colorado Foundation for Water Education

APPROVED: March 2011

STATUS: In Progress

WSRA FUNDS: \$30,515 (Statewide Account)

MATCHING FUNDS: \$52,070

DESCRIPTION:

The year 2012 is a milestone for Colorado water. What started as anniversary celebrations of several Colorado Water organizations has since grown into a statewide celebration of the uses and value of water. In 2012, events throughout Colorado will educate citizens on water's history and basic science, create awareness of current issues, highlight careers in water, create avenues for greater volunteerism, and grow Colorado's culture of stewardship. The key objectives of the project include:

- Raise awareness of Colorado water as a valuable, limited resource in 2012 through educational events and "celebrations" at the statewide and local level;
- Increase support for efforts to manage and protect Colorado's water by raising the visibility of Colorado organizations working in this area and the challenges they face;
- Create opportunities for education about local water supplies and involvement in water decisions through volunteerism and other engagement mechanisms;
- Set the stage for a sustained awareness campaign on the value of Colorado water beyond 2012.



Super Ditch Delivery Engineering

APPLICANT: Lower Arkansas Valley Water Conservancy District

APPROVED: March 2011

STATUS: Contracting

WSRA FUNDS: \$225,837 (Statewide Account)

MATCHING FUNDS: \$56,460

DESCRIPTION:

This project is an extension of previous work performed by and for the Lower Arkansas Valley Water Conservancy District to advance the Super Ditch following project. The LAVWCD and the Super Ditch Company seek to preserve irrigated agriculture in the Lower Arkansas Basin with temporary water transfers and other methods than can benefit both the municipal interests and those of the local agricultural based economy. This additional engineering work will enable a better understanding of the water resources in the Lower Arkansas Basin and better modeling of the operations. The key objectives of the project include: analysis of reservoir operations in the lower Arkansas basin, analysis of Pueblo Reservoir operations, analysis of the Winter Water Storage Program, recovery of non-exchangeable supplies, system calibration and optimization and engineering and economic integration.

A Multi-Media Program for Reporting Crop and Turf Water Use Estimates from the Colorado Agricultural Meteorological Network (CoAgMet)

APPLICANT: Sangre de Cristo RC&D Council, Inc.

APPROVED: May 2011

STATUS: Contracting

WSRA FUNDS: \$46,971 (\$9,394 Basin Account; \$37,577 Statewide Account)

MATCHING FUNDS: \$9,394

DESCRIPTION:

This project employs a multi-media approach to communicate crop and turf water use reports to irrigators in the Arkansas Basin (in particular the areas served by the Colorado Agricultural Meteorological Network (CoAgMet) in this basin). It consists of a multi-media approach over a three year period to expand the CoAgMet with improvements to allow other types of media (i.e. cell phones) to be used as not all farmers have access to computers in the field. The other project component will develop a telemetric system for distributing daily (or weekly) ET reports through cellular telephone text-messaging. This novel approach reflects other farming trends towards greater efficiency in the use of time and resources, and warrants a pilot program to test its extension to irrigation practices.

Rotating Agricultural Following Public Policy Working Group

APPLICANT: Pikes Peak Regional Water Authority

APPROVED: July 2011

STATUS: Contracting

WSRA FUNDS: \$20,000 (Basin Account)

MATCHING FUNDS: None

DESCRIPTION:

This project is to conduct a facilitated dialogue with interested stakeholders regarding the need for legislation to facilitate alternative agricultural water transfers (e.g. agricultural following) based on research into existing statutes. The Arkansas basin roundtable is committed to furthering alternative water transfer methods and hopes to have an active following program in their basin to help minimize their water supply gap. The goals of the working group are straight forward and include: the review existing statutory law concerning agricultural transfers; identification of pertinent citations that might be modified for expediting agricultural transfers; conducting a facilitated dialogue with the stakeholders; and producing a summary report of the process.

Colorado Basin

Small Acreage Irrigation Audit Program - Grand Valley

APPLICANT: Mesa Conservation District

APPROVED: March 2011

STATUS: In Progress

WSRA FUNDS: \$18,273 (Basin Account)

MATCHING FUNDS: \$8,000

DESCRIPTION:

This project improves irrigation water management among small acreage owners. During the 1990s and 2000s The Grand Valley experienced unprecedented population growth resulting in the sale and subdivision of many large commercial

farms, particularly in the Grand Valley area. These small parcels of agricultural land (usually 40 acres or less in size) have often been purchased by individuals not familiar with western irrigation. Many new irrigators have struggled with the subtleties inherent in the art of setting gates or moving a side-roll. Their irrigation efforts can create problems for themselves and their community, often without their knowledge. This program is designed to close that knowledge gap for small acreage irrigators and improve irrigation water management by reducing water waste and addressing water quality concerns such as weeds, nutrient loading to waterways, and salt and selenium percolation.

Canal #1 Check Structure Pilot Project: Dalton, Kiefer & Springer Properties

APPLICANT: Orchard Mesa Irrigation District

APPROVED: May 2011

STATUS: Contracting

WSRA FUNDS: \$25,212 (Basin Account)

MATCHING FUNDS: \$22,750

DESCRIPTION:

This pilot project will demonstrate how new flume gate technology can be used in the larger canal project. The Bureau of Reclamation provides Federal cost sharing for the Upper Colorado River Endangered Fish Recovery Program. The overall project consists of installation of check structures,

pipelines and other water infrastructure appurtenances, and will ultimately conserve an average of 17,000 AF of water annually. These facilities will enable the District to reduce its irrigation diversions while enhancing system reliability and water supply for its users. The saved water can be redirected to increase instream flows in most years in the 15-mile reach of the Colorado River, which has endangered fish critical habitat that has experienced near dry conditions in the past. The saved water will also generate additional hydropower, improve water quality in the Colorado River, and, in severe drought years, improve water supply reliability for other Colorado River water users in the State of Colorado.

Gunnison Basin

The Rehabilitation of Blanche Park Reservoir

APPLICANT: Grand Mesa Water Conservancy District,
Water Enterprise Fund

APPROVED: March 2011

STATUS: Contracting

WSRA FUNDS: \$75,000 (Basin Account)

MATCHING FUNDS: \$95,539

DESCRIPTION:

The District is rebuilding the Blanche Park dam structure under an US Army Corps of Engineers Nationwide Exempt Permit #3. To accomplish this, the project will require additional fill material to enlarge the existing dam structure to meet the current specifications. The project will rebuild the breached reservoir site placing it in full utilization for water storage. This will allow District to restore historical use and put approximately 130 acre feet of its conditional decree to use by the Town of Orchard City, the Town of Cedaredge, Upper Surface Creek Domestic Water Company, and/or Coalby Domestic Water Company. In addition, it will allow the District to have available additional augmentation water to meet the needs for its service area.

for the right of way. By completing the bore and connecting the irrigation system, the Valley View system now entirely avoids public easements. In addition, this project contributed to the completion of piping the whole system to enable increased efficiency and pressure delivery. The Association provided in-kind labor and equipment for the pipe work. This project is a two part improvement to the existing delivery system for irrigation of subdivided land northwest of Montrose. Part two includes piping from the bore and connecting to the existing system.

Relief Ditch Diversion Dam Design

APPLICANT: Gunnison Gorge Anglers / Trout Unlimited

APPROVED: May 2011

STATUS: In Progress

WSRA FUNDS: \$20,650 (Basin Account)

MATCHING FUNDS: \$11,500

DESCRIPTION:

This project will design a sustainable diversion structure for the Relief Ditch and remove existing hazardous instream infrastructure as well as minimizing bank erosion. It will eliminate the need for annual bulldozing of the channel bed which will reduce costs for the Relief Ditch Company while allowing for fish passage and safe boater passage. It will rehabilitate and stabilize eroded areas and restore riparian habitat by decreasing downstream sedimentation. The design will be approved by the Relief Ditch board of directors and reviewed by the independent engineering firm of Flywater, Inc. This grant request is for \$5,000 to match the \$11,000 already committed for developing design alternatives and \$15,650 to provide support services using HEC-RAS modeling, conduct a review of the design by an independent engineering firm resulting in PE certification.

Valley View Irrigation Improvement Project

APPLICANT: Valley View Irrigation Association

APPROVED: March 2011

STATUS: Completed

WSRA FUNDS: \$11,817 (Basin Account)

MATCHING FUNDS: \$1,600

DESCRIPTION:

The Valley View Irrigation Association needed to connect its delivery system to a bore under Marine Drive. Montrose County requested that this bore replace an existing culvert that causes problems



Agricultural Weather Data Delivery Improvements to Uncompahgre Valley Irrigators

APPLICANT: Colorado State University Extension

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$112,000 (\$77,000 Basin Account; \$35,000 Statewide)

MATCHING FUNDS: \$27,660

DESCRIPTION:

his project’s objective is to pilot improvements in the Colorado Climate Center’s CoAgMet (Colorado Agricultural Meteorological) weather station network with agricultural irrigators in the Uncompahgre Valley. Funds would be spent over two years to install or transfer additional weather stations, improve the website1 functionality, and provide more options for receiving irrigation scheduling information. Efficiency improvements in on-farm irrigation are considered essential to complete a long term overhaul of water delivery and irrigation management within the Uncompahgre Valley. This is in part being driven by population growth but mostly by the recovery of four endangered fish species in the Lower Gunnison. Improved irrigation efficiency and management are considered a prudent and reasonable alternative to a “take” or injury to the fish which could jeopardize all water rights in the basin. An accurate, meaningful, and user-friendly CoAgMet is a key tool for making such improvements possible. Improvements will include: (1) Providing the agricultural irrigator with a personalized CoAgMet.com account. This allows the producer to setup crop, soil, planting, and acreage information prior to the irrigation season. (2) Tracking water use throughout the season and calculating an estimate of consumptive

use and efficiency. (3) Providing corn growth degree days (GDD) and real time temperature and wind speed for easier harvest scheduling and more effective aerial pesticide application. (4) Coordinating on-farm soil moisture sensor readings with weather station outputs.

Hartland Diversion Dam – Partial Dam Removal and Stabilization

APPLICANT: Painted Sky Development and Resource Council

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$51,300 (Basin Account)

MATCHING FUNDS: \$1,200,000

DESCRIPTION:

The project eliminates the last major fish blockage issue for the entire Lower Gunnison River drainage. The removal of this fish migration barrier will significantly improve river system health by reconnecting fragmented river habitat for the direct benefit of three fish species of special concern. Research indicates that the three focus species populations will increase. It is anticipated that the general fish population also will increase along with increases in wildlife populations that depend on fish. At the same time, the implementation of this project will insure that the Hartland Irrigation Company maintains complete access to their senior pre-Colorado River Compact water decree. In addition, the project will greatly improve safety on the river (in 2002, two young boys drowned while swimming at the base of the dam), while eliminating boater trespassing issues on private property. This project also includes removal of a portion of the dam and stabilization of the remaining dam.

Metro Basin

Educating Denver Metro Elected Officials & Decision Makers on Solution-Oriented Water Supply)Planning

APPLICANT: Colorado Foundation for Water Education

APPROVED: January 2011

STATUS: In Progress

WSRA FUNDS: \$14,820 (Basin Account)

MATCHING FUNDS: None

DESCRIPTION:

The Metro basin roundtable’s Education Action Plan targets the need for decision-makers to understand the water supply needs in the Metro area. In order to assist in the implementation of the Education

Action Plan, this proposal aims to education decision-makers and elected officials on solutions-oriented water supply planning. The Metro basin roundtable and the application, Colorado Foundation for Water Education, hosted a public meeting in the spring of 2011. About 200 attendees discussed the Metro areas needs and how those needs interface with agriculture, recreation, and the environment. The Metro Roundtable is planning a follow-up workshop this winter.



Structure for Water Control

APPLICANT: Walden Reservoir Company
 APPROVED: January 2011
 STATUS: In Progress
 WSRA FUNDS: \$36,000 (Basin Account)
 MATCHING FUNDS: \$7,900

DESCRIPTION:

The Walden Reservoir Company replaced a deteriorated structure on the Reservoir Delivery Ditch. The structure plays a critical role in controlling water flow into the reservoir and preventing water from back flowing during peak storage. The old structure could not regulate water as needed. The new check structure effectively and efficiently controls water entering into the reservoir and prevents back-flow. This higher degree of control and efficiency benefits all consumptive and non-consumptive uses of the reservoir water. Engineering and technical assistance was provided by the NRCS.

Solicitation of Stakeholder Input: Production of a NP Basin Education Package

APPLICANT: Colorado Foundation or Water Education
 APPROVED: January 2011
 STATUS: In Progress
 WSRA FUNDS: \$14,040 (Basin Account)
 MATCHING FUNDS: None

DESCRIPTION:

The North Platte basin roundtable’s Education Action Plan focuses on developing a speaker’s bureau and providing high-quality tools for speakers to use. In order to assist in the implementation of the Education Action Plan, this project includes both a written educational

resource document and a related public outreach PowerPoint presentation to be used by Roundtable members and posted online.

Structures for Water Control: Headgates and Diversion

APPLICANT: Jackson County Water Conservancy District
 APPROVED: September 2011
 STATUS: Contracting
 WSRA FUNDS: \$128,828 (Basin Account)
 MATCHING FUNDS: \$26,383

DESCRIPTION:

This project replaces four old, deteriorating headgate structures and installs one new, permanent diversion structure. Each of the structures is critical in the delivery of irrigation water to storage and/or to irrigated ground. The old headgate structures were in extremely poor condition. They were deteriorated and incapable of safely, effectively and efficiently controlling and regulating water flow into the Bostwick, Mutual, Staples 1, and Squibob ditches. In addition, there is no permanent diversion structure in the Michigan River. A temporary combination of rocks, sod, pipe, and wire panels are annually installed in order to divert water into the Richmond Ditch. The new headgate structures will allow the water users to safely, effectively, and efficiently control and regulate the amount of water entering each of the associated ditches. The new diversion structure will serve as a permanent check structure, thus eliminating annual damage to the streambanks and reducing sediment discharge. Installing these improved structures will not only help to maintain the current agricultural economic base, but will also help meet the identified consumptive need of increasing irrigated acres within the county.

Conejos North Branch Water Conservation and Management

APPLICANT: Manassa Land and Irrigation Company
 APPROVED: January 2011
 STATUS: In Progress
 WSRA FUNDS: \$75,000 (Basin Account)
 MATCHING FUNDS: \$119,000

DESCRIPTION:

This project addressed major water management issues in the MLI irrigation system, where decades of channel and diversion instability took a heavy toll on the condition of headgates. Deterioration of the two principal 100-year-old headgates required weekly and sometimes daily maintenance. In high flow regimes these headgates clogged with

debris and sediment, requiring a backhoe to frequently clear out the ditches. In low flows, MLI constructed an earthen dam to get its decreed rights, which frequently washed out creating a constant maintenance problem. Matching funds from MLI and NRCS were used to replace the #3 Headgate and Core. WSRA funds helped replace Headgate #98 and install Parshall flumes on the five laterals in the system, enabling MLI to properly quantify flows within its system.

The McDonald Ditch and Plaza Project, Phase I Planning

APPLICANT: The Colorado Rio Grande Restoration Foundation and McDonald Ditch Company



APPROVED: January 2011

STATUS: In Progress

WSRA FUNDS: \$40,000 (Basin Account)

MATCHING FUNDS: \$50,000

DESCRIPTION:

The Plaza Project - Phase I was a 5-month collaborative analysis of potential restoration and structural approaches to rehabilitate the McDonald, Silva, Atencio, and Prairie ditch diversions and to address riparian degradation in approximately 2.8 miles of the Sevenmile Plaza reach of the Rio Grande. Conducted as a scoping and feasibility study, the project gathered stakeholders to analyze options available to meet the needs of the four ditch companies, while improving the condition and function of the riparian areas, bends, and main channel of the Rio Grande in this reach. The project also integrated the rehabilitation of the McDonald Ditch Diversion with the multiple objectives of a 2001 study on the condition of the Rio Grande, the restoration of the neighboring diversions, the stabilization of the riparian areas, and the best available science. The project produced the Plaza Plan for implementation in Phase II. The Plan aligns future actions with the interests of landowners and residents in one of Colorado's oldest communities, identifying and addressing the multiple objectives of stakeholders on the river.

Rio Grande Initiative: North Rio Grande Ranch Conservation Easement

APPLICANT: Rio Grande Headwaters Land Trust

APPROVED: March 2011

STATUS: Contracting

WSRA FUNDS: \$70,000 (\$15,000 Basin Account: \$55,000 Statewide Account)

MATCHING FUNDS: \$445,000

DESCRIPTION:

This project enables acquisition of a conservation easement on an important 320-acre Rio Grande river corridor ranch in Alamosa County, including securing the senior water rights to the property. It is a continuation of the successful Rio Grande Initiative, which benefits both consumptive and non-consumptive water needs in the Rio Grande Basin. As an element of an ongoing, collaborative, community-based project, this conservation opportunity will directly protect senior surface water rights in order to help sustain the historic water use patterns along the Rio Grande river corridor by linking the water rights to the land through a permanent conservation easement. This is accomplished through a willing-seller/willing-buyer process for a voluntary conservation easement, which is purchased through a bargain sale and includes a substantial charitable donation

of value (approximately 50%) by the landowner.

Specific benefits of the project include:

- Preserving agriculture and irrigation on 260 - 320 acres with 300 to 400 acre-feet of water
- Protecting Wildlife Habitat on irrigated lands, riparian corridor and 100 acres of designated wetlands
- Preserving historic water use patterns by maintaining return flows
- Preserving floodplain for flood mitigation and public safety

Santa Maria & Continental Reservoirs: Priority Studies to Restore Capacity

APPLICANT: Santa Maria Reservoir Company

APPROVED: May 2011

STATUS: In Progress

WSRA FUNDS: \$22,000 (Basin Account)

MATCHING FUNDS: \$22,000

DESCRIPTION:

This project addresses the necessary continuation and expansion of an existing contract (Contract) between Santa Maria Reservoir Company (SMR) and the Colorado Water Conservation Board (CWCB). The project involves additional high priority engineering, surveying, and geotechnical studies at Continental Reservoir (Continental) and the 100 year old conveyance system between Continental and Santa Maria Reservoir (Santa Maria). The need arises in part from the findings of recent hydrology studies at Continental, performed under the Contract. Findings from these studies provided a more thorough understanding of the complexities involved in restoring full capacity to Continental and Santa Maria, suggesting several alternative approaches to implementation, each of which requires full investigation. These studies will continue to address the following: Inadequate spillway capacity and left abutment seepage issues at Continental Dam; structural deterioration and potential re-design options for the diversion gate on the conveyance system; potential failure of the siphon support system with a focus on alternative methods to reduce movement and resist lateral loads from the adjacent slide area; and surveys and hydraulic analyses of the severely deteriorated open ditch and underground pipeline conveyance system to determine the best means of restoring its full capacity from the Diversion Gate through the Open Ditch to Santa Maria Reservoir.

Platoro Reservoir Crest of Dam Repair

APPLICANT: Conejos Water Conservancy District

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$150,000 (\$15,000 Basin Account; \$135,000 Statewide)

MATCHING FUNDS: \$35,000

DESCRIPTION:

The Platoro Reservoir dam crest is in need of restoration due to a gradual slumping from the original designed grade. The depressed area runs the full length of the crest, approximately 1,475 feet, tapering from 0 feet to as much as 2' feet below the original dam crest elevation. This top portion of the dam has deteriorated over time, requiring pre-emptive action in order to meet Colorado dam safety requirements in the event of high inflows to the reservoir. In the 2008 Comprehensive Facility Review, the Bureau's Technical Response Team studied static, seismic, and hydrologic potential dam failure modes. The hydrologic analysis found that the core is 4 feet below the dam crest, indicating the potential for "[e]rosion through the upper portion of the embankment during an extreme flood that causes the reservoir to rise above the top of the core." To prevent further deterioration and protect the structural integrity of the semi-permeable area at the top of the dam, the District will restore the crest by placing additional rock along its full length. This project will restore the crest of the dam to its designed grade and enable the District to meet the road access requirements of the U.S. Forest Service.

Sanchez Reservoir Rehabilitation - Phase I Assessment & Upgrade

APPLICANT: Sanchez Ditch & Reservoir Company

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$95,000 (\$10,000 Basin Account; \$85,000 Statewide)

MATCHING FUNDS: \$33,160

DESCRIPTION:

This project is Phase 1 of a 4-phase plan. Phase 1 addresses human safety, deteriorating infrastructure, along with efficiency and operational improvements that are critical in operating and maintaining the reservoir. This project evaluates the current configuration of Sanchez Reservoir Gate Tower and Gondola in terms of current, continued, and long term operational viability. This feasibility study will determine the best means of upgrading or replacing the existing system along with a preliminary assessment of hydropower potential. In addition, the project includes a new hydraulic operating system with solar power, enabling remote electronic observation and operation of the reservoir from the SDRC office in San Acacio. This fully automated system will greatly reduce labor and maintenance costs, increase accuracy and control, reduce water loss, and virtually eliminate dependence on the dangerous Gondola system for access to the Gate Tower. Because of the remote

location of the project, SDRC will install security systems to protect these new installations. In the future, Phase 2 will implement the recommendations made in Phase 1 relating to the configuration of the system. Phase 3 will repair the concrete exterior of the Gate Tower and deteriorated concrete on the outlet structure. Finally, Phase 4 will conduct a much more comprehensive feasibility study of the potential for hydropower generation.

Plaza Project Phase 2 - McDonald Ditch

APPLICANT: The Colorado Rio Grande Restoration Foundation and McDonald Ditch Company

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$295,000 (\$20,000 Basin Account; \$275,000 Statewide)

MATCHING FUNDS: \$593,000

DESCRIPTION:

The Plaza Project - Phase 2: McDonald Ditch Implementation Project will implement the findings of the Plaza Plan. The Plaza Plan, finalized in August 2011, was completed in the Plaza Project - Phase 1: Plaza Planning Project. Phase 1 was funded with a \$40,000 grant from the Rio Grande Basin WSRA Account. Phase 1 was a 5-month collaborative scoping and feasibility study of potential biological and structural approaches to rehabilitate the streambanks, diversion and headgate structures, and a wetland within the approximately 2.8 mile reach of the Rio Grande near the Sevenmile Plaza. Alternatives for rehabilitation included different diversion types, micro-hydropower generation, automated headgates, and multiple streambank stabilization, riparian rehabilitation, and wetland reclamation techniques. The project area is located within the Sevenmile Plaza in Rio Grande County. This reach was ranked "poorest" in channel stability and condition of the floodplain, and was identified as a high priority for restoration. The channel at Sevenmile Plaza is greatly impacted by piers and concrete rubble from the old Sevenmile Plaza Bridge, which were left in place to form part of the McDonald Ditch diversion. This diversion obstructs flood flows, causes channel movement and instability, and negatively impacts downstream reaches. Phase 2 will specifically address these issues.



South Platte Basin

South Platte Phreatophyte Control Pilot

APPLICANT: Ducks Unlimited, Inc.
APPROVED: September 2011
STATUS: Contracting
WSRA FUNDS: \$65,000 (\$35,000 Basin Account;
\$30,000 Statewide)
MATCHING FUNDS: \$183,000
DESCRIPTION:

This project removes undesirable phreatophytic vegetation from targeted properties in the Basin. Phreatophyte control will decrease consumptive use of river water, increase water supply, improve wildlife habitat quality and reduce the incidence of invasive Russian olive and salt-cedar infestations. The scope includes the South Platte from Denver to the State line. Goals include: (1) to determine the cost-effectiveness of different phreatophyte-treatment techniques and their related permitting requirements and (2) achieve a measurable amount of on-the-ground work to achieve the water supply, invasive weed management, and habitat benefits. Work will be performed on nine properties between Greeley and Julesburg with an estimated 12 demonstration sites/plots.

Alluvial Aquifer Accretion/Depletion Analysis Tool

APPLICANT: Colorado Division of Water Resources
APPROVED: March 2011
STATUS: Contracting
WSRA FUNDS: \$200,000 (Statewide)
MATCHING FUNDS: \$50,467
DESCRIPTION:

This project develops a tool to be used by the Division Engineer's Office, water commissioners and water users to quickly determine an augmentation plan's excess accretions or depletions on a daily basis. This will allow assessment of whether excess accretions are available for diversion or if other water rights are being impacted by the out-of-priority diversions associated with the augmentation plan. The Alluvial Aquifer Accretion/Depletion Analysis Tool (AAADAT) will use HydroBase as the primary source of input data but will store any additional information that is not currently maintained in Hydrobase.

Southwest Basin

A Way Forward: The Dolores River Below McPhee Reservoir

APPLICANT: San Juan Citizens Alliance
APPROVED: November 2010
STATUS: Contracting
WSRA FUNDS: \$25,000 (Basin Account)
MATCHING FUNDS: \$55,000
DESCRIPTION:

This project explores the status of native fish on the Lower Dolores River combined with a multi-stakeholder consensus-building process. It seeks to create "doable" alternatives to improve the status of native fish below McPhee Reservoir while honoring water rights and Dolores Project allocations. The native fish in the lower Dolores, such as the Roundtail Chub, are declining and there is potential for one or more of these fish to become federally listed. This is balanced with an interest to permanently remove the Wild and Scenic River "suitable" status, which, if designated, could result in a federal reserve water right that would hurt local economies. Should the stakeholders adopt one of these alternatives, it would complete a "nonconsumptive IPP. The project is spearheaded by a subcommittee of the Dolores River Dialogue, specifically the Lower Dolores Plan Working Group's Legislative Subcommittee. The alternatives resulting from this project will be pursued on a

stand-alone basis, and in conjunction with the legislative process.

Diversion Improvement Project

APPLICANT: La Plata River and Cherry Creek Ditch Company
APPROVED: November 2010
STATUS: Contracting
WSRA FUNDS: \$25,000 (Basin Account)
MATCHING FUNDS: \$119,000
DESCRIPTION:

This project seeks to reconstruct the La Plata Cherry Creek Ditch headgate for more efficient diversions. The point of diversion is located on the La Plata River upstream of the Town of Hesperus. The existing headgate is a gravel berm which diverts water from the La Plata River into a 10-foot wide channel containing a 5 foot Parshall flume which typically washes out in the spring run-off. The proposal is to construct a more permanent diversion structure, sluiceway and headgates. The existing diversion structure is currently unable to divert water when flows are below 30 cfs. By constructing a new headgate, the water users will be able to divert their legally entitled water when they otherwise would be limited by the physical limitations of the existing structure.



Recreational Plan for Lake Nighthorse

APPLICANT: Animas La Plata Water Conservancy District

APPROVED: November 2010

STATUS: In Progress

WSRA FUNDS: \$25,000 (Basin Account)

MATCHING FUNDS: \$50,000

DESCRIPTION:

The Lake Nighthorse Recreation Plan will produce design elements for recreation at the lake while ensuring that land and water usage for this purpose is efficient and environmentally sound. The plan will incorporate and structure public stakeholder meetings to gather input in determining the type of recreational opportunities to be included. It will also outline all the infrastructure requirements such as roads, parking lots, and utilities.

Totten Reservoir Hydrographic Survey

APPLICANT: Dolores Water Conservancy District

APPROVED: November 2010

STATUS: In Progress

WSRA FUNDS: \$29,500 (Basin Account)

MATCHING FUNDS: \$5,500

DESCRIPTION:

The Dolores Water Conservancy District (DWCD) must update the Totten Reservoir area capacity data as required under Colorado Law. DWCD used the United States Geological Survey (USGS) to perform the Hydrographic Survey Report. This work included: performing a bathymetry survey; land surveying for additional volume above the current lake level; processing the surveys to remove anomalies; generating single-mesh, construct maps of the reservoir area; generating a stage-storage-surface area rating table; and completing a Scientific Investigative Report (SIR).

Aspen Springs Metro Water Filling Station

APPLICANT: Aspen Springs Metro District

APPROVED: November 2010

STATUS: Contracting

WSRA FUNDS: \$30,000 (Basin Account)

MATCHING FUNDS: \$5,500

DESCRIPTION:

The Aspen Springs Metro District (ASMD) provides water and road maintenance services to about 1,400 people in the Aspen Springs Subdivision of Archuleta County. This project involves the construction of a water treatment facility and filling station for the ASMD. The ASMD invested \$68,000 to complete a number of project tasks including: purchasing site property; preliminary engineering and hydrological studies; preparation of the well site facility; and drilling, permitting, and testing an artesian well. WSRA funds are used

to partially fund construction of the treatment and filling station facility, combined with an additional \$70,000 from the ASMD.

La Plata River Water Resources Operations Model

APPLICANT: La Plata Water Conservancy District

APPROVED: March 2011

STATUS: In Progress

WSRA FUNDS: \$148,823 (Statewide Account)

MATCHING FUNDS: \$29,765

DESCRIPTION:

This project provides a means to optimize the use of Long Hollow Reservoir (LHR) both for compact compliance and for exchange. The publically available La Plata River Water Resources Operations Model will be a robust and accurate baseline model for the La Plata River that provides an invaluable tool integrating groundwater and surface water modeling. The model allows water users to optimize water resources planning in the basin by: evaluating alternative Compact compliance delivery conduits, assessing impacts on water users, optimizing LHR operations, optimizing anticipated upstream exchanges, quantifying exchange water by ditch, developing an Allocation Plan for the exchange water, and evaluating alternative water development strategies that do not injure existing water users.

Groundhog Reservoir Bathymetric Survey

APPLICANT: Montezuma Valley Irrigation Company

APPROVED: March 2011

STATUS: In Progress

WSRA FUNDS: \$35,000 (Basin Account)

MATCHING FUNDS: \$122,500

DESCRIPTION:

This project consisted of a USGS bathymetric survey using integrated multi-beam and motion sensor sonar technology. The multi-beam created a complete 3D model of the reservoir's bottom then used to calculate the elevation-storage curve and create a map of the modeled surface below water line. WSRA funding for this survey helped to accurately establish the volume of Groundhog Reservoir via an accurate stage-storage-surface area rating table. As such, this project improves irrigation efficiency and increases water available for agricultural use in the MVIC system.

Town of Rico Alluvium Pipeline Water Supply Project - Well Drilling and Water Quality Testing

APPLICANT: Town of Rico

APPROVED: March 2011

STATUS: In Progress



WSRA FUNDS: \$88,000 (\$20,000 Basin Account; 68,000 Statewide Account)

MATCHING FUNDS: \$90,000

DESCRIPTION:

A process begun in 1996 to identify a more secure alternate water source identified an alluvial well near the Dolores River about two miles upstream of Rico as the best alternative source. This SWSI IPP has executed 2 test wells near the proposed production well, which demonstrated adequate production and treatment. This project involves: drilling a new production well; pump and water quality testing of the well; construction of a disinfection facility; and construction of a 2-mile pipeline to connect with the distribution system.

Source Water Infrastructure Project

APPLICANT: Lake Durango Water Authority

APPROVED: Mar 2011 (Statewide) Sept 2011 (Basin)

STATUS: Contracting

WSRA FUNDS: \$500,000 (\$50,000 Basin Account; \$450,000 Statewide Account)

MATCHING FUNDS: \$2,525,000 (CWCB Loan)

DESCRIPTION:

This project provides infrastructure to deliver raw water from the Animas La Plata Project (ALP, aka Lake Nighthorse) to Lake Durango Reservoir. Additional water supply will allow the Lake Durango Water Authority (Authority) to meet its current 1435 tap commitments and to serve existing and projected future demand in the Authority's geographic service area.

A previous Safe Yield Report determined that the firm yield of the Authority's existing water rights are not sufficient to meet the current commitment of 1435 taps; the safe yield is adequate to serve approximately 792 taps in drought conditions. A

Source Water Evaluation report has identified options for increased water supply of which ALP was the preferred supply alternative. The ALP water supply alternative includes construction of a 500-gpm pump station at the existing Lake Nighthorse intake structure, a 4,170 foot access road, and a 4.6 mile 8-inch supply pipeline. The pump station and pipeline would be able to convey 780 acre-feet of water annually from Lake Nighthorse to Lake Durango.

Pagosa Lakes Area Village Dam Outlet Pipe Repair Project

APPLICANT: Pagosa Lakes Property Owners Association

APPROVED: July 2011

STATUS: Contracting

WSRA FUNDS: \$25,000 (Basin Account)

MATCHING FUNDS: \$158,338

DESCRIPTION:

This project seeks to rehabilitate a failing outlet pipe on the Village Lake Reservoir and Dam (aka Town Center Dam). In 2007, a video inspection of the pipe revealed serious decay and corrosion. In 2008, the Colorado Division of Water Resources issued a Conditional Full Storage status to the structure, conditional on the outlet pipe being repaired in the near future. The outlet pipe is a 172 foot long, 24 inch diameter horizontal corrugated metal pipe (CMP) that runs underneath the dam and allows for the safe drawdown and reservoir level control. The State Engineer has determined that the degradation of this CMP could lead to potential dam failure. The Association has been required to make a repair to maintain use of this 700 acre-foot reservoir.

Yampa/White Basin

Yampa River/Walker Ditch River Restoration Project

APPLICANT: The Upper Walker Ditch Company

APPROVED: March 2011

STATUS: Contracting

WSRA FUNDS: \$40,000 (\$20,000 Basin Account; \$20,000 Statewide Account)

MATCHING FUNDS: \$92,250

DESCRIPTION:

Since 1985, due to migration of the Yampa River channel the Walker Ditch must use temporary gravel dams to get water in low flows. Due to ongoing movement of the channel, more and bigger seasonal gravel dams are required to divert late summer low flows. This project seeks to create an obstruction of the new north side channel with root

wads, boulders and other approved natural materials that will create an effective floodplain in the newly created north channel, decrease the rate of river migration, and maintain low flows in the south channel that feeds the Walker Ditch head gate. In addition to the north channel obstruction, two low head boulder diversion structures and a new concrete head gate structure will be installed to provide a long-term and sustainable diversion system that is not a barrier to fish migration and recreational boating, but will deliver a full decree of reliable irrigation water to local ranches, the Town of Hayden, and other ditch members.

Yampa-White Basin Projects and Methods Analysis

APPLICANT: Moffat County

APPROVED: March 2011

STATUS: In Progress

WSRA FUNDS: \$190,000 (\$38,000 Basin Account; \$152,000 Statewide Account)

MATCHING FUNDS: None

DESCRIPTION:

This project seeks to build on the findings of the Basin's needs assessments to identify potential projects and methods to meet the future needs for both consumptive and nonconsumptive needs. Spatial representation of consumptive and nonconsumptive needs will be created. Information from previous WSRA studies (Energy Study, Agricultural Needs Study and Watershed Flow Evaluation Tool Study), SWSI 2010, and Basin Needs Assessment reports will be used to develop a comprehensive summary of the basins water needs. This will enable a feasibility analysis to identify projects and methods to meet future needs. The project will also develop a river operations model to assist the basin in evaluating potential projects and methods to meet the basin's future water needs. Finally, this project will review priorities for water rights of statewide alternatives to examine their potential benefits or impacts in the basin.

Yampa River Structures Project

APPLICANT: The Friends of the Yampa

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$50,000 (Basin Account)

MATCHING FUNDS: \$50,600

DESCRIPTION:

he grant will help meet a portion of the nonconsumptive needs identified by the Yampa/White Basin Roundtable. The affected section of river has the "Highest recreation use along the entire Yampa River allowing for multiple recreational opportunities and maintains the only RICD in entire Yampa/White/Green Basin", according to Phase I of the NCNA. The Yampa River Structures Project will carry out a portion of the City of Steamboat Springs' Yampa River Structures Master Plan (YRSMP) approved in November 2008 by the City of Steamboat Springs. The project will focus on seven locations and includes: 1) improvement of riparian and fisheries habitat; 2) creation of formalized access points; 3) repair and enhancement of existing recreational structures; and 4) installation of a new recreational structure.

Multi-Basin Projects

Blue Mesa Reservoir - Use of Excess Storage Capacity to Avoid or Reduce the Impact of a Colorado River Compact Curtailment in Colorado

APPLICANT: Southeastern Colorado Water Conservancy District

APPROVED: March 2011

STATUS: Contracting

WSRA FUNDS: \$245,000 (\$24,500 Arkansas Basin; \$24,500 Gunnison Basin; \$196,000 Statewide Account)

MATCHING FUNDS: \$49,000

DESCRIPTION:

This project seeks to assess the effectiveness of using excess capacity storage in Blue Mesa Reservoir to avoid, forestall and/or mitigate the magnitude and duration of potential Colorado River Compact curtailment. A principle objective is to evaluate the use of the Reservoir as a potential storage location for a water bank. The analysis may also consider and use the potential output of the Water Banking Study (partially funded by the CWCB through the ATM grant program) as input reflecting

potentially available supplies (e.g., pre-1922 consumptive use credits) which might be deposited in a water bank. The project will contribute to better understanding of circumstances surrounding a potential curtailment of Colorado River diversions and the effectiveness of utilizing excess storage capacity in the Reservoir as a water bank. A draft report will summarize conclusions and recommendations and include potential water banking operations and guidelines in the Reservoir. The study seeks to create an operational framework for a water bank that could be the basis for an excess storage capacity contract at the Reservoir.

South Platte River Recreation and Habitat Improvement Preliminary Design

APPLICANT: The Greenway Foundation

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$250,000 (\$25,000 Metro Basin; \$25,000 South Platte Basin; \$200,000 Statewide)

MATCHING FUNDS: \$675,000

DESCRIPTION:



This project implements prioritized recreation and habitat improvements identified over the last three years in the River North Greenway Master Plan (RINO) and the River South Greenway Master Plan (RISO). Specifically, it establishes design criteria, prepares preliminary design drawings and specifications and identifies required permits for river improvements in the following reaches described in the South Platte RVIP: Grant Frontier Park and Overland Regional Park reach, and the Vanderbilt and Johnson-Habitat Park reach. Improvements target non-consumptive needs including boating, tubing, fishing and wildlife enhancements in this urban environment. This Preliminary Design is the next step in a sequence of events that will lead to the realization of these non-consumptive use benefits. Improvements in these two reaches include multi-use river access facilities, channel bank modifications to provide additional habitat, and modification of existing drop structures to provide state-of-the-art boating and fishing experiences through the length of the park. This project greatly improves limited river access and wildlife habitat, while providing improved water quality in these reaches. The project includes design development of pool and riffle habitat and recreation opportunities, bank stabilization and additional riparian habitat. By decreasing the side slopes along the river, new wetland and riparian habitats will be created with self-sustaining native vegetation. In addition to providing recreation and habitat benefits, these areas will be designed to help treat urban stormwater runoff from adjacent neighborhoods that previously discharged directly into the South Platte River.

Basin Roundtable Project Exploration Committee: Flaming Gorge

APPLICANT: Pikes Peak Regional Water Authority

APPROVED: September 2011

STATUS: Contracting

WSRA FUNDS: \$72,000 (\$50,000 Statewide Account; \$8,700 Metro Basin; \$5,300 Arkansas Basin; \$2,000 South Platte Basin; \$2,000 Gunnison Basin; \$2,000 Colorado Basin; \$1,000 Rio Grande Basin; \$1,000 Southwest Basin)

MATCHING FUNDS: \$2,500

DESCRIPTION:

This grant establishes the Basin Roundtable Project Exploration Committee to serve as a venue for roundtable-to-roundtable discussions of potential water supply projects, with the Flaming Gorge Pipeline project serving as a test case or starting point. The Basin Roundtable discussions will not seek consensus on whether or not to build a Flaming Gorge project, but rather they will examine the issues involved in the project, the challenges or barriers to such a project, and potential benefits of such a project. This grant builds on the Flaming Gorge Task Force Situation Assessment WSRA grant approved by the Board in May 2010. The Assessment grant asked independent facilitators to assess the timeliness and merits of a discussion on the topic of a Flaming Gorge project. The Assessment concluded that a discussion would have value to the majority of the individuals interviewed, that the discussion should be roundtable-to-roundtable, and that the Basin Roundtables should focus on the benefits and challenges with a potential Flaming Gorge project not whether or not to build it.

For more information, please contact:

Eric Hecox

1580 Logan St., Suite 200
Denver, CO 80203

Phone: 303-866-3441 • Fax: 303-861-4272

Internet: www.ibcc.state.co.us

eric.hecox@state.co.us

Todd Doherty

1580 Logan St., Suite 200
Denver, CO 80203

Phone: 303-866-3441 • Fax: 303-861-4272

Internet: www.cwcb.state.co.us

todd.doherty@state.co.us