

# **Colorado Healthy Rivers Fund**

## **2013 - 2014 Report**

**December 2, 2014**

The Colorado Healthy Rivers Fund (CHRF) received \$96,225 in donations for the 2012 tax year. Tax year 2013 donations were \$91,199. The 2013 total represented 95% of the 2012 donations, and was just \$76 below the annual average. Seven new grants were approved in September of 2013 and five were approved in 2014. The projects awarded in 2013 and 2014 were granted \$87,000 and \$87,145. The Colorado Water Conservation Board was able to fund over \$82,000 of the 2013 and 2014 CHRF requests through other sources.

Sixteen projects and planning efforts were completed from July 2012 to June 2014. Project descriptions and links to the final reports are listed below. Currently, there are six active grants funded through CHRF, all of which were awarded in September 2014. A project description and brief progress report for each completed and active grant are also included below.

### **COMPLETED COLORADO HEALTHY RIVERS FUND GRANTS – FISCAL YEAR 2013 & 2014**

#### **Arkansas Headwaters Recreation Area (AHRA), Colorado State Parks – Hecla Wash Restoration and Sediment Reduction Project**

Heavy rains during August 11-12, 2006 caused several ephemeral tributaries in the upper Arkansas River valley, including a tributary flowing through Hecla Junction, to experience unusual flash flooding. Hecla Junction is within the Brown's Canyon reach of the Arkansas River Headwaters Recreation Area (AHRA), and is one of the most popular raft take-out areas in Colorado. Following the flood event, State Parks personnel repaired the most critically damaged areas in order to restore basic operations at the site, however a sustainable mitigation project was required to reduce future vulnerability.

Mitigation project tasks funded through the CHRF included protecting and restoring cottonwood/willow islands; installing biodegradable filter fabrics, silt fences and erosion control mats; installing straw bale barriers to protect water quality and prevent erosion during construction; and creating sediment basins to trap materials entrained in flood flows to reduce sediment deposition into the Arkansas and to reduce the size and frequency of the alluvial fan formation at the mouth of Hecla Wash. Project implementation began in March 2011. The final re-vegetation component of the project took place in the fall of 2012.

Hecla Wash experienced a > 100 year flood event in July 2012. Preliminary reports indicate that the project performed well, and even though there was some channel erosion, boater access was not compromised as a result of this flood event. Pre and post project monitoring is coordinated with CWCB, WQCD, and the Colorado Watershed Assembly as part of the Measurable Results Program (MRP).

\$25,000 grant awarded September 2009. Project Completion January 2013.

Final report – Hecla Junction Flood Mitigation and Stream Restoration Concept plan available at:  
<http://cwcwweblink.state.co.us/WebLink/0/doc/192020/Electronic.aspx?searchid=f5e6d74c-971f-47a9-ade2-087125c53916>

### **Colorado River Water Conservation District – Lower Gunnison Basin Salinity and Se Water Quality Monitoring**

This project expands upon and optimizes the existing water-quality monitoring network in the Lower Gunnison River Basin by adding an additional real-time specific conductance monitor in one of five strategic locations at the U.S. Geological Survey (USGS) real-time stream flow gauging stations at Colona, Colorado. The monitor is gathering salinity and selenium data for water quality analyses so that remediation can be better targeted for the purposes of meeting State water-quality standards and Endangered Species Act requirements for the protection of endangered river fish.

Achieved project goals include 1) gathering selenium data necessary for Total Maximum Daily Load development and/or refinement, 2) providing data to help refine existing modeling tools like the USGS Upper Colorado Detailed Salt Model and Spatially Referenced Regression on Watershed Attributes for Selenium and Salinity, 3) furthering the Colorado River Water Conservation District’s knowledge of water-quality impacts due to changes in land and water use, and 4) demonstrating measurable results of implemented remediation projects.

\$16,000 grant awarded September 2010. Project Completion August 2012.

Final report – Selenium and Salinity Water Quality-Monitoring available at:  
<http://cwcwweblink.state.co.us/WebLink/ElectronicFile.aspx?docid=192023&searchid=f5e6d74c-971f-47a9-ade2-087125c53916&dbid=0>

### **Groundwork Denver (GWD) – River Restoration, Riparian Re-vegetation, Education and Outreach**

The urbanized section of Bear Creek has been identified in the State’s list of impaired water bodies with high priority for E. coli contamination. This eight-mile stretch of river runs through the cities of Lakewood, Denver, and Sheridan and is not included in the purview of the existing Bear Creek Watershed Association. Before the River Restoration, Riparian Re-vegetation, Education and Outreach efforts completed by Groundwork Denver (GWD), there was no coordinated education or action to address the water pollution, invasive species, stream bank erosion, or general watershed and river stewardship.

Groundwork Denver (GWD) engaged stakeholders throughout the grant period in various ways. Some of the activities completed in Bear Creek by GWD Youth Green Teams in conjunction with volunteers included removing invasive Russian olive trees over a two mile stretch (approximately 40 acres) in the Denver section of Bear Creek; taking inventory of Purple Loosestrife in the Bear Creek Natural Area as part of invasive management control; applying a sand/paint mixture to protect native trees from beavers; removing an estimated 2,000 pounds of trash from riparian areas; and collecting data on the size and health of 219 native cottonwood trees.

\$15,000 grant awarded September 2011. Project Completion November 2012.

Final report – Healthy Rivers Grant Final Report available at:

<http://cwcwebblink.state.co.us/WebLink/0/doc/192109/Electronic.aspx?searchid=0b2331f7-89f6-4c79-b3d2-c257eefd368d>

### **Chatfield Watershed Authority – Water Quality Monitoring – Plum Creek**

Nearly thirty years of inflow data indicates that approximately 70 percent or more of the inflow to Chatfield Reservoir is from the South Platte River with the remaining inflow from Plum Creek. While only 30 percent of the flow comes from Plum Creek, it contributes approximately 80 percent of the phosphorus load to the reservoir from nonpoint sources. Water Quality Control Commission (WQCC) Control Regulation #73 for Chatfield Reservoir limits the pounds of phosphorus allowable to the reservoir, as well as concentrations of total phosphorus and chlorophyll-a. Nonpoint pollutant sources are not well understood in the Plum Creek basin, which lead the Chatfield Watershed Authority to complete the Plum Creek Sampling and Analysis Plan (SAP).

The SAP was refined in March 2012 and sampling in the Plum Creek watershed commenced in April 2012. Monthly flow, water quality measurements and water samples were collected in the watershed at nine sites. Data from monthly laboratory results were compiled and analyzed. Seasonal changes in quality and flow were evaluated, as well as water quality trends within the watershed, and potential pollutant sources. Data is posted at [www.chatfieldwatershedauthority.org](http://www.chatfieldwatershedauthority.org).

\$20,000 grant awarded September 2012. Project Completion June 2013.

Final report – Plum Creek Watershed Monitoring Report available at:

<http://cwcwebblink.state.co.us/WebLink/0/doc/192027/Electronic.aspx?searchid=f5e6d74c-971f-47a9-ade2-087125c53916>

### **Coal Creek Watershed Coalition – Sediment Analysis – Slate River**

The Upper Slate River Watershed is located near Crested Butte in southwestern, Colorado. The watershed drains approximately 34 square miles on the east side of the Ruby Mountain Range, in Gunnison County. Grant funding was used to perform the Upper Slate River Geomorphic Assessment to identify and mitigate sediment pollution in the Watershed. Funding also covered the cost of two Office of Surface Mining/ AmeriCorps Volunteers in Service to America (OSM/VISTA) members for one year. The OSM/VISTAs assisted the Coal Creek Watershed Coalition (CCWC) in capacity building, watershed research, water quality monitoring, public outreach and education (i.e. riparian floodplain protection workshops), and community revitalization.

EcoMetrics and AlpineEco performed the Geomorphic Assessment in the summer of 2012 using the Watershed Assessment of River Stability and Sediment Supply (WARSSS) methodology developed by Dave Rosgen in 2006. The Assessment was completed in November 2012. Reaches experiencing

sedimentation, erosion and other impairments were classified (high, medium and low priority) and mitigation measures were recommended. However, the majority of the Upper Slate River Watershed was found to be in very good condition. The watershed contains extensive areas of excellent riparian habitat with stable, functioning streams. Significant stream stability and sedimentation impacts are a result of past land uses, mainly gravel mining. Recommendations include protecting as many of the existing functional reaches and adjacent habitats as possible to ensure that reaches considered very good remain that way.

\$13,500 grant awarded September 2012. Project Completion November 2012.

Final report – Upper Slate River Geomorphic Assessment available at:

<http://cwcwebelink.state.co.us/WebLink/0/doc/192033/Electronic.aspx?searchid=eb6595f1-2f29-4581-b7ba-7a7b9c21d73c>

### **Coalition for the Upper South Platte (CUSP) – Sugar Creek Restoration Pilot Project**

The Sugar Creek Restoration Pilot Project (SCPP) was a three year effort to substantially reduce the amount of sediment entering Sugar Creek and restore the ecological function of this small stream. Sugar Creek is a tributary to the South Platte River, which in the past has provided refuge for young-of-the-year trout spawning. Five miles of gravel road are immediately adjacent to Sugar Creek and the road contributes chronic levels of sediment into the stream and ultimately into the South Platte River. The SCPP is part of the larger Sugar Creek Restoration Project funded by Nonpoint Source (NPS) 319 program, Chatfield Water Providers, South Platte Enhancement Board and others, with a significant in-kind match coming from Douglas County, US Forest Service, CUSP and Trout Unlimited. Five sites were selected for the SCPP to represent the diverse scale of difficulty of the Sugar Creek Restoration Project.

The SCPP installed four concrete sediment containment structures along Sugar Creek Road, also known as County Road 67. Project accomplishments include reduced sediment impacts to Sugar Creek and the South Platte River, and an assessment of technical aspects of constructing sediment collection and erosion control structures in a remote and mountainous environment. The project serves as a pilot project for sediment mitigation for similar road and river corridors, and for future mitigation of Preble's Meadow Jumping Mouse riparian habitat impacts, associated with the Chatfield Reservoir Reallocation Project. Monitoring of the SCPP is ongoing and consists of observing the sites for revegetation establishment, potential areas of erosion, and tracking sediment accumulation in the sediment containment structures. As of September 2013, three of the four sediment traps were filled. Douglas County is responsible for removing all sediment using a vacuum truck.

\$25,000 grant awarded September 2012. Project Completion June 2014.

Final report- Sugar Creek Pilot Project Lessons Learned:

<http://cwcwebelink.state.co.us/WebLink/0/doc/192113/Electronic.aspx?searchid=5af60aab-1ad7-4aa8-b388-ace965069ac6>

### **Colorado Watershed Assembly – River Watch Macroinvertebrate Sampling**

River Watch has incorporated benthic macroinvertebrate sample analysis as an indicator of watershed health. Monitoring macroinvertebrates is particularly beneficial to a comprehensive watershed monitoring program because it can help characterize ecosystems and identify actual aquatic life impairments. This is especially the case with the use of specific multi-metric indices created by the Water Quality Control Division for Colorado's xeric, mountain, and plains eco-regions.

Grant funding allowed River Watch to provide six additional volunteer water quality monitoring groups with macroinvertebrate collection equipment. Macroinvertebrate collection supplies were provided for a special study on Medano Creek (one set of equipment provided three new sampling sites), and a new macroinvertebrate sampling site was added on the Snake river and Kiowa creek, providing equipment to four new schools for collection in the 2012 season. 56 macroinvertebrate samples were analyzed and results were uploaded to the River Watch Database and the Colorado Data Sharing Network. Data can be viewed at:

<http://www.coloradowaterdata.org/>

\$20,000 grant awarded September 2012. Project Completion November 2012.

Final report – River Watch Macroinvertebrate Bio-Indicator Assessment Project available at:

<http://cwcwebblink.state.co.us/WebLink/0/doc/192141/Electronic.aspx?searchid=7e88dae6-7456-4715-9056-20966982e203>

### **Tomichi Creek Stakeholders Group – Riparian Conditions Assessment – Tomichi Creek**

Tomichi Creek drains the eastern portion of Gunnison County along Highway 50 and is tributary to the Gunnison River with headwaters near Monarch Pass and a terminus west and south of the City of Gunnison. In 2009 and 2010 water quality assessments using the new multi-metric index for aquatic life were completed through a cooperative agreement between the Water Quality Control Division (WQCD) and the Upper Gunnison River Water Conservancy District. Tomichi Creek barely attained aquatic life standards in 2009 and 2010 with the cause of the impairments poorly understood. The riparian assessment is only one component of a proposed study that includes surface water quality, quantity, physical characteristics and macroinvertebrate collection. The project investigates the roles that return flows, warm springs, riparian habitat, and irrigation diversions have on water quality.

The assessment took place over approximately six river miles of Tomichi Creek from the base of Tenderfoot Mountain to its confluence with the Gunnison River, and considered vegetation, soils, stream classification, and riparian areas. Assessment conclusions recommend planned, science based land use management between entities upstream of degraded riparian reaches, in addition to the protection and maintenance of streamflows in the lower Tomichi Creek.

\$6,000 grant awarded September 2012. Project Completion December 2012.

Final report – Riparian and Aquatic Habitat Assessment of Lower Tomichi Creek, Gunnison County, Colorado available at:

<http://cwcwebblink.state.co.us/WebLink/0/doc/192032/Electronic.aspx?searchid=f5e6d74c-971f-47a9-ade2-087125c53916>

## **Coal Creek Watershed Coalition (CCWC) – Water Quality Monitoring – Slate River**

While working to complete the Upper Slate River Watershed Plan, The Coal Creek Watershed Coalition (CCWC) found that the watershed lacked data to characterize macroinvertebrate (MI) communities and E. coli concentrations. To address these data gaps, CCWC applied for funding to collect baseline MI and E. coli data in a two-stage effort. In 2011, baseline samples were collected from selected locations in the Upper Slate River Watershed. In 2013 the original locations were re-sampled along with additional sites to further improve the baseline characterization. The CHRF grant awarded in 2012 supported the monitoring activities completed in 2013.

The monitoring project developed a more robust data set and filled data gaps related to MI, E. coli, and overall water quality data in the watershed. Successful completion of this objective has resulted in data collection, processing, and analysis that meet all quality assurance and quality control criteria previously established by the CCWC in their Sampling and Analysis Project Plan. The data has also provided a baseline of water quality conditions in the watershed to document changes from restoration activities or new developments. Additionally, this data has been incorporated into the final Upper Slate River Watershed Plan and will be used to prioritize restoration and protection activities. The Watershed Plan was completed and released to the public in May 2014.

\$3,000 grant awarded September 2013. Project Completion April 2014.

Final Report- 2013 Slate River Water Sampling: Macroinvertebrate & E. coli Final Report:

<http://cwbweblink.state.co.us/WebLink/0/doc/192085/Electronic.aspx?searchid=aadf5790-66ca-4ded-924f-11d355a082a8>

## **Colorado Watershed Assembly – River Watch Macroinvertebrate Sampling**

The primary objective River Watch has for collecting benthic macroinvertebrate data is to compile a species list over time and space to identify missing, additional and indicator species that might signify changes in community structure or function. A secondary objective is to employ this data into the Clean Water Act nutrient and bio-criteria standard development and implementation.

River Watch analyzed 41 macroinvertebrate samples from regular volunteer sites (not selecting sites based on regulatory need). These sites are providing data that helps protect Colorado's rivers versus collection from impaired sites and monitoring for levels of impairment or success of regulation, resulting in a more broad sampling approach. Additionally, River Watch worked with the WQCD to select priority sites where data was needed for Clean Water Act management purposes. A total of 60 samples were analyzed.

\$15,000 grant awarded September 2013. Project Completion January 2014.

Final Project- River Watch Macroinvertebrate Bio-Indicator Assessment Project:

<http://cwbweblink.state.co.us/WebLink/0/doc/192089/Electronic.aspx?searchid=5ff3fd20-051f-474b-b989-ca22c1d94e1d>

## **Crested Butte Land Trust – Bank Stabilization and Riparian Re-vegetation**

The Crested Butte Land Trust's Rice property encompasses 0.12 miles of the Slate River. This section of river is vulnerable as it takes a drastic bend in between two head gates that are in use for irrigation. In addition, historic grazing has eroded riverbanks and deteriorated riparian flora beyond the point of natural repair. A past geomorphic assessment completed by Eco Metrics and AplineEco confirmed the site was a high priority for mitigation and restoration, and indicated that on and around the Rice property, this sedimentation has been aggravated by human impacts. On multiple occasions, both upstream and downstream headgate owners armored the structures with riprap which compounded some of the erosion problems. After discussions with the landowners and experts, the Land Trust contracted with the District Conservationist to create an erosion control plan for this section of river. The plan included the constructing three j-hooks, blending a gravel bar in with a point bar on the west side of the river, and repairing the upstream headgate.

After materials were delivered, the first j-hook was installed. The next step was blending the gravel bar into the west bank. After blending, the middle j-hook and upstream j-hook were installed. Finally, banks were re-sloped and re-vegetated both by hand and with machinery. Anticipated project results include slowing water flows and directing water away from the damaged bank; correcting the course of the river and helping to reduce the sediment load; protecting the damaged riverbank and restoring it to its natural condition; improving water quality; maintaining or improving proper function of headgates; and improving visual values. Future plans for the property include cattle exclusion fencing to maintain riparian area, noxious weed control and enrollment in the CWCB's Measureable Results Program. The Land Trust hopes that this restoration work will promote optimum hydrological and riparian health and protect the two functional head gates in an effort to improve the condition of the Slate River.

\$15,000 grant awarded September 2013. Project Completion December 2012.

Final report – Slate River Wetlands Preserve Erosion Control:

<http://cwcbeblink.state.co.us/WebLink/0/doc/192079/Electronic.aspx?searchid=f2441a86-475a-4fa2-bb7e-0dbf022b8a55>

## **Rio Grande Headwaters Land Trust – Identification of Conservation Opportunities, Education and Outreach**

This grant supported core planning, education and implementation of Rio Grande Headwaters Trust's (RiGHT) "*Conserving the Conejos: A Colorado Treasure*" program to advance conservation along the Conejos river in Colorado. The Conejos River is one of Colorado's major mountain rivers with significant intact private farm and ranch land and substantial opportunity to conserve important wildlife habitat (including habitat for the endangered Southwestern Willow Flycatcher), senior surface water rights, internationally important wetlands, scenic views, and agriculturally productive farmland.

With the help of the Healthy Rivers Fund, RiGHT was able to acquire Geographic Information System data to create a comprehensive map book of the Conejos River Corridor. The data will be used to analyze landownership, set conservation priorities, work on existing projects and develop new projects. Funds

were also used to update the group's website to conduct outreach and education efforts, and helped to complete a conservation easement on 790 acres (500 of the 790 acres are wetland).

\$10,000 grant awarded September 2013. Project Completion December 2013.

<http://cwcwweblink.state.co.us/WebLink/0/doc/192740/Electronic.aspx?searchid=901a5d82-6e52-4857-8174-a4d8b4c42bda>

### **Routt County Conservation District – Upper Yampa River Watershed Plan**

The Upper Yampa State of the Watershed Report is a summary of the current health of the watershed. The watershed boundary includes the headwaters of the Yampa through Elkhead Reservoir, encompassing the West Park Range and the North Flattops drainages. Through the State of the Watershed Report writing process, the Upper Yampa River Technical Committee held four sub-basin meetings to speak candidly with water users and land managers on their views of issues impacting both water quality and quantity.

The final State of the Watershed Report is intended to be a well-rounded, publically accessible introduction to the health of the watershed. It summarizes existing data and includes maps and prioritization of needs, in addition to the compilation of geologic and land-use information within said boundary, and a summary of water management.

\$15,000 grant awarded September 2013. Project Completion June 2014.

Final Project- Upper Yampa River State of the Watershed Report Final:

<http://cwcwweblink.state.co.us/WebLink/0/doc/192114/Electronic.aspx?searchid=a180bed3-e7b2-4d3e-a1b9-1edc1b2fe367>

### **South West Conservation Corps – Rio Grande Restoration Project**

The Rio Grande Restoration Project is a riparian restoration project that is the second such project based on the collaboration between the Southwest Conservation Corps (SCC), the Rio Grande Headwaters Restoration Project (RGHRP), and the Rio Grande Headwaters Land Trust (RiGHT). This collaboration was formed in order to carry out recommendations for the restoration and management of the Rio Grande through the San Luis Valley as identified in the 2001 Study and the 2007 Rio Grande Watershed Strategic Plan.

SCC crews completed two weeks of work on restoration projects along the Rio Grande at the River Valley Ranch II near Monte Vista, CO. Crews used a multi-faceted re-vegetation approach and used a nearby reference ecosystem to inform plant choices. Methods included sloping vertical streambanks to a 2:1 slope, installing willow bundles, and installing tree revetments. There was no seeding. A total of 0.12 acres were improved; 0.25 miles of river corridor were improved; 308 willow bundles were harvested and planted; 79 tree revetments were installed; and four downed trees were removed. Monitoring for the River Valley Ranch project will be completed by land owner Steve Massey, RiGHT and RGHRP. RGHRP will monitor the site with photo points, Stream Visual Assessment Protocols (SVAP), and semiannual cross-section transects. This will allow partners to determine the long-term success of methods used and stability of the Project site.

\$15,000 grant awarded September 2013. Project Completion December 2012.

Final report- Rio Grande Restoration Project Final Report:

<http://cwcwebblink.state.co.us/WebLink/0/doc/192081/Electronic.aspx?searchid=5cc1e7a8-96e5-4cb9-a6b4-2189c8738572>

### **Uncompahgre Watershed Partnership (UWP) – Community Outreach and Education**

When the Uncompahgre Watershed Partnership completed the Uncompahgre Watershed Plan, public input was solicited from Ouray County citizens to generate an unbiased and community-supported document. One of the primary goals expressed by the community was the creation of a stable stakeholder group to provide input and support for UWP's assessments and projects related to restoration and protection of land and natural resources. The UWP needed additional funding to further facilitate critical capacity building among local stakeholders to ultimately propose, define, support and contribute to future watershed projects and initiatives.

Colorado Healthy Rivers Funding was used towards planning, which helped create a strong stakeholder group through outreach and education at local river events, open stakeholder meetings and workshops, educational presentations, social media outlets, newsletters, and other informational materials. Key outcomes from the group's planning and outreach include the development of stakeholder surveys and a stakeholder update on the Red Mountain Creek project by Idarado Mining Corporation, water quality monitoring through the River Watch program and related activities with Ridgway Elementary Schools, and participation in educational programs such as the Ridgway River Festival, Earth Day, and Lake Appreciation Day. Additionally, the group was able to host two AmeriCorps OSM/VISTA members who helped to further enhance community awareness through education and outreach, build capacity, and conduct watershed research, water-quality monitoring and project development.

\$14,000 grant awarded September 2013. Project Completion March 2014.

Final Report- Community Outreach and Education Final Report:

<http://cwcwebblink.state.co.us/WebLink/0/doc/192086/Electronic.aspx?searchid=b128d866-6869-4c9a-87bf-8fc54b0cee9e>

### **Roaring Fork Conservancy – Lower Crystal River Watershed Flow Assessment**

Spurred by “Urgent Action” recommendations made by the multi-jurisdictional 2012 *Roaring Fork Watershed Plan*, the Roaring Fork Conservancy and its partners held a series of meetings designed to begin work with major water rights holders in the Lower Crystal River on short- and long-term solutions to the river's flow, water quality and habitat issues. During the course of these meetings, it became evident that insufficient data existed to answer some of the most basic questions being posed by the public, and to develop creative, scientifically-sound water conservation solutions compliant with Colorado water law. However, there are serious stream flow alterations, water quality issues, and riparian and instream habitat degradation being experienced on the Lower Crystal River, which are well known. These conditions have existed for years, and are only being exacerbated by the current drought.

The Lower Crystal River Watershed Flow Assessment worked to collect, analyze and disseminate the critical hydrological and biological information necessary for the informed identification, development

and implementation of water conservation measures by the Town of Carbondale and other Lower Crystal River water users and decision makers in the watershed.

\$15,000 grant awarded September 2014. Project Completion June 2014.

Final Project- Water Rights Allocation and Accounting Model Development for the Lower Crystal River:  
<http://cwcbweblink.state.co.us/WebLink/0/doc/192116/Electronic.aspx?searchid=8313f761-0759-48ad-836b-67cdf3135b8d>

## **ACTIVE COLORADO HEALTHY RIVERS FUND GRANTS**

### **Colorado Rio Grande Restoration Foundation – Lower Rio Grande Watershed Study – Phase 1**

The Lower Rio Grande Study is a planning project that includes study and analysis of the reach of the Rio Grande between the Alamosa National Wildlife Refuge and the state line. This area was not included in the Rio Grande Headwaters Restoration (RGHRP) Project 2001 Study. Designated the Rio Grande Natural Area (RGNA) by Congress in 2006, this 33-mile reach of the Rio Grande is home to spectacular wildlife, cultural, and historical resources. While some areas of concern are documented, the entire reach had not been previously inventoried.

Phase 1 of the Lower Rio Grande Study is underway. Throughout the 2014 summer, project partners floated the entire project reach and completed target surveying and inventory of streambank stability, riparian habitat condition, geomorphology, in-stream structures, aquatic habitat, and sediment transport. Data was collected in collaboration with the RGHRP, the Bureau of Land Management (BLM), and Riverbend Engineering, LLC. This data will be compiled, summarized and analyzed this fall, completing Phase 1 of the project.

Phase 2 of the Lower Rio Grande Study will use the inventory of data from Phase 1 to complete an analysis of conditions of sub reaches, and develop and prioritize restoration projects for the lower 33-miles of the Rio Grande in Colorado. These projects will improve the health and continuity of the Rio Grande by complementing work that has been completed upstream by the RGHRP in the 2001 Study Reach.

\$10,000 grant awarded September 2014. Invoiced \$0.

### **Colorado Watershed Assembly – River Watch Macroinvertebrate Sampling**

River Watch prioritized its macroinvertebrate collection sites using Colorado Parks and Wildlife's sensitive, threatened and endangered species maps and Water Quality Control Division's annual monitoring priority list. Due to the 2013 flood, the majority of River Watch sites were under water when the sampling season occurred, only allowing for samples from 33 of the 40 proposed sites to be collected and analyzed. To date, the raw data from these 33 sites has been sent to the CWCB. River Watch worked with the CWCB to collect data on seven additional sites before the end of October 2014. The data collected from these sites will be shared with Colorado Parks and Wildlife and the Colorado Department of Public Health and Environment's Water Quality Control Division. The data will also be provided to the Colorado Water Conservation Board when invoices are submitted.

\$15,000 grant awarded September 2014. Invoiced \$0.

### **Land Trust of the Upper Arkansas – Monitoring Water Quality on South Arkansas River**

The Land Trust of the Upper Arkansas in partnership with the Collegiate Peaks Anglers Chapter of Trout Unlimited created the South Arkansas Watershed Coalition to help restore in-stream, riparian, and water quality characteristics important for people and wildlife. The Coalition is working to complete an overall assessment of the South Arkansas River. This assessment is addressing the physical, biological, and chemical conditions of the South Arkansas. As a component of the assessment, the Land Trust started water monitoring in the South Arkansas in 2012 and is working to develop this effort into a long-term comprehensive baseline data source.

Five sites identified at various points along the South Arkansas River are being tested a total of three times over 18 months. Additional water samples will be collected twice during storm events to be compared with normal flow conditions. Testing during storm events will help identify problem areas to address point and non-point source pollution locations. Funding will be used towards the purchase of a water meter to test pH, temperature and dissolved oxygen, and for lab results for samples tested by the Colorado State University and Pueblo Department of Health. Monitoring efforts are almost complete and equipment purchases are still being finalized.

\$3,837 grant awarded September 2014. Invoiced \$0.

### **National Forest Foundation – Camp Hale – Eagle River Headwaters Restoration Project**

In 1942, the Eagle River headwaters and 240,000 surrounding acres became a warfare training camp, known as Camp Hale, for over 17,000 World War II soldiers. The camp was deactivated in 1964 and returned to the U.S. Forest Service for management. When Camp Hale was established, the large wetlands meadow complex surrounding the Eagle River was drained. 200,000 cubic yards of fill was imported and the meandering East and South Forks of the Eagle River headwaters were channeled into a three mile linear ditch. These activities left the river channel much steeper and 40 percent shorter than its natural course. Today, the Eagle River headwaters are essentially “disconnected” from their natural floodplain.

The National Forest Foundation (NFF) is committed to restoring the site through a five-year, multi-stakeholder conservation campaign. The project has brought together stakeholders and interested parties to collaboratively develop a shared vision for future improvements to the site. Grant funding has been awarded to support the group in the facilitation of stakeholder meetings, facilitation of working group meetings, hosting stakeholder field trips, and the development of a project master plan. To date, NFF successfully conducted three stakeholder meetings and six formal working group meetings to identify consensus-based recommendations, which were used to further develop and approve the stakeholder group’s overall master plan. Following the second stakeholder meeting (March 2014), the group began to develop the project master plan document, which is now complete. The document was developed via Google Docs, allowing stakeholders to comment and edit in real time. The master plan incorporated vast stakeholder involvement and has outlined long-term planning, which will be used to carry out phase II of

the project. Phase II will partner with local nonprofits, contractors, and the U.S. Forest Service to implement science-based ecological restoration activities, while honoring the area's history and promoting sustainable use of the resources.

\$20,000 grant awarded September 2014. Invoiced \$0.

Final Project- Camp Hale – Eagle River Headwaters Restoration Project: Collaborative Recommendations for Restoration and Management:

<http://cwcbweblink.state.co.us/WebLink/0/doc/192199/Electronic.aspx?searchid=fb1cbac5-0087-4f5e-b3cb-c831afc41e95>

### **Western Slope Conservation Center – Fish Habitat Enhancement at the Paonia River Park**

The Paonia River Park Fish Habitat Enhancement Project was designed to improve fish habitat on the North Fork of the Gunnison by installing a fish retention structure to protect fish during the late summer months during warm low-flow conditions. The project builds upon a successful stream restoration project constructed in November 2012. The project construction for the Fish Habitat Enhancement Project was completed in April 2014. The construction consisted of a boulder structure to direct water into a single low-flow channel, burying five large logs, and installing live willow fences to help stabilize the bank. Bank stabilization was critical to concentrating late summer flows into a single channel, also protecting a deep backwater pool from washing out during runoff. Additionally, students planted native trees to help enhance the diversity of the riparian habitat.

The monitoring phase of the project will begin this fall. Cross-sections established prior to the construction will be revisited. An evaluation of cross-sections will be used to document how the river's shape has changed and calculate important metrics that indicate river health. Also, Colorado Parks & Wildlife fisheries biologists will shock the River Park to evaluate the diversity of species present, as well as the health of the population.

The results of the quantitative evaluation of the project are still underway. Though qualitatively, the project has proven successful as it has survived spring runoff (half of the willows are still alive). For the first time in years there has been a notable concentrated flow with a current through the North Fork at the Paonia River Park. Moving forward, the group has budgeted for adaptive management and will add to the project by installing two more log structures and live willow fences to stabilize the downstream reach of the bank.

\$20,000 grant awarded September 2014. Invoiced \$0.

### **Wildlands Restoration Volunteers (WRV) – Chico Basin Ranch Riparian Restoration, 2014**

The 87,000 acre Chico Basin Ranch spans El Paso and Pueblo counties, approximately 40 miles southeast of Colorado Springs in the Chico Creek watershed. A diverse partnership of non-profit organizations and government agencies are working to improve native habitat on the Chico Basin Ranch. WRV worked with the partnership in 2012 and 2013 to remove and treat Russian olive trees, and to replant native riparian communities. Monitoring data from past riparian restoration sites was used to guide the Chico Basin Ranch Riparian Restoration project in 2014. The project aims to 1) treat areas infected with Russian

olive trees, 2) maintain and expand current and future fenced riparian areas, and 3) plan and implement revegetation treatments to restore the riparian woody component of fenced areas on approximately 2,500 linear feet of creek side banks and associated floodplains on the Chico Basin Ranch.

Planting at the Long Branch Draw project site location was conducted on March 29 and 30, 2014. Monitoring of species survival was conducted and observations have been made on site conditions influencing plant survival. Chico Basin Ranch staff has been actively removing Russian olives throughout 2014 and has treated over 50 acres by cutting and spraying in addition to eradication of satellite colonies. Colony eradication is continuing through the fall, performed by ranch staff and contractors. WRV also removed 20 saplings during the March restoration project. Only younger trees were targeted at this time.

\$8,306 grant awarded September 2014. Invoiced \$0.





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