Colorado Watershed Restoration Program Grant Report

October 27,2011

Project Summary Sheet

1. Project Title: Upper West Beaver Creek Watershed Erosion Control and Restoration Project
2. Project Location: Pikes Peak, CO Lat. 38°50'51" N Long. 105°03'31" W
3. Grant Amount: $7,115
4. Cash Match Funding: $21,016
5. In-Kind Match Funding: $28,409
6. Project Sponsor: The Rocky Mountain Field Institute
7. Contact Person/Title: Eric Billmeyer, Research Director
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8. Project Type: Erosion control and bank stabilization

Summary

This report details the actions taken required to fulfill all tasks as outlined within the Scope of Work for the *Upper West Beaver Creek Watershed Erosion Control and Restoration Project*. The project was a cooperative effort between the Rocky Mountain Field Institute (RMFI), a nonprofit 501(c) 3 organization, the Pikes Peak Chapter of the Sierra Club, the City of Colorado Springs, and the USDA Forest Service- Pike National Forest.

This project completed stabilization of a stream channel and surrounding disturbed alpine lands within the headwater's of the West Fork of West Beaver Creek on Pikes Peak. Specifically, the project addressed approximately 2 acres of highly disturbed alpine tundra and wetland adjacent to the Pikes Peak Highway near mile marker 17 at an elevation of 12,800'. Historically, the area was used as a gravel pit for acquiring material to resurface the unpaved Pikes Peak Highway. Paving of this section of highway was completed during the summer of 2010 along with a new sediment detention pond constructed at the western end of the old gravel pit. The adjacent hillslopes and area downstream of the pond's dam were left denuded and unstable and were increasing sediment loading of the stream.

Actions to complete the project included the installation of over 50,000 sq. ft of erosion control matting, 3 cross-vane structures, over 500' of bank stabilization, 75,000 sq. ft of area seeded, and the placement of 710 alpine plug transplants. On the ground work was completed by RMFI staff who supervised with both an AmeriCorps team and community volunteers.

Project Detail

Heavy Equipment Work

Five hundred and ten feet of bank stabilization, including 2 cross-vane structures were completed in coordination with Fin-Up Habitat Consultants, Inc and Chaparrel Construction, LCC, both of whom have worked on several projects with RMFI within the Pikes Peak Watershed.

Work was completed using a small Bobcat ZHS excavator. Approximately 26 tons of granite rock 18" to 48" in diameter was acquired locally to construct two cross-vanes and stabilize the bank. Using techniques found to be effective from other projects on Pikes Peak's decomposing granite, the structures were underlain with geotextile fabric with the boulder set tightly together with a stair step design on the downstream outflow. Work was completed in early July and was tested several times in late July/early August when strong monsoonal precipitation hit the area. A field review in late August showed all structures performed as designed and there was no erosion of the channel or bank indicated in the post-project survey below above the primary cross-vane (Attachment A).

Figure 1 and 2. Installing cross-vanes and bank stabilization.

Figure 3 and 4. Examples of completed project work.

Volunteer Hand Labor

Volunteer hand crews and an AmeriCorps NCCC team was used to complete all reseeding and transplant work on approximately 2 acres of disturbed alpine lands. Overall the crews laid down 50,000 sq. ft of erosion control matting, 75,000 sq. ft of native alpine grass seed mix, and collected and installed 710 alpine plug transplants. The erosion control matting consisted of two types. A heavy blanket with a photodegradable net (CFG 2000) was placed on steeper areas were wind was a major concern. This blanket worked well at our previous work site at a higher elevation were winds reached 80-90 mph. A lighter blanket made from coconut (CC4) was used elsewhere and has shown to also hold up well in the demanding alpine environment. The seed mix used was 60% Alpine Fescue, 25% Alpine Bluegrass, and 15% Spike Trisetum. In addition to the revegetation work, the crews stabilized 200' of stream bank, constructed one smaller cross-vane structure, and eliminated two headcuts within the basin.

All work was completed in July and August, 2011. In all volunteer hand crews contributed 503 person hours and the AmeriCorps team worked 827 person hours to complete the project. This equates to 116

days of labor and with a contribution value of $28,409 (using the 2011 Independent Sector rate- http://www.independentsector.org/programs/research/volunteer_time.html).

Figure 5-8. Volunteer crews completing bank stabilization.

Figure 11 and 12. Final project examples.

Project Budget

Final actual budget for the *Upper West Beaver Creek Watershed Erosion Control and Restoration Project* shows a total expenditure of $56, 540 for the project. Funds for the project came from the CWCB grant program which contributed $7,115, matching funds from the Pikes Peak Fund and the City of Colorado Springs (Pikes Peak-America's Mountain) contributing $21,016, and in-kind volunteer labor contributing $28, 409.

Organization: Rocky Mountain Field Institute				Project: Upper West Beaver Creek
Proposed Budget	**(a)**	**(b)**	**(c)**	**(d)**
Category	**Funds from CWCB**	**Matching Funds**	**Partner In-kind Contributions**	**Total Category Value**
Project Coordination and Management	$5,300.00	$4,823.00	$35,000.00	$45,123.00
Consultants	$1,000.00	$0.00	$0.00	$1,000.00
Office Materials	$0.00	$50.00	$0.00	$50.00
Publications/Outreach Materials	$0.00	$50.00	$0.00	$50.00
Supplies	$0.00	$8,050.00	$0.00	$8,050.00
Equipment/Rental	$815.00	$0.00	$0.00	$815.00
Travel	$0.00	$335.00	$0.00	$335.00
Project Related Expenses	$0.00	$4,271.00	$0.00	$4,271.00
Total	**$7,115.00**	**$17,579.00**	**$35,000.00**	**$59,694.00**

Organization: Rocky Mountain Field Institute				Project: Upper West Beaver Creek
Final Actual Budget	**(a)**	**(b)**	**(c)**	**(d)**
Category	**Funds from CWCB**	**Matching Funds**	**Partner In-kind Contributions**	**Total Category Value**
Project Coordination and Management	$2,930.00	$8,131.00	$28,409.00	$39,470.00
Consultants	$2,100.00	$0.00	$0.00	$2,100.00
Office Materials	$0.00	$0.00	$0.00	$0.00
Publications/Outreach Materials	$0.00	$0.00	$0.00	$0.00
Supplies	$2,085.00	$6,705.00	$0.00	$8,790.00
Equipment/Rental	$0.00	$1,070.00	$0.00	$1,070.00
Travel	$0.00	$365.00	$0.00	$365.00
Project Related Expenses	$0.00	$4,745.00	$0.00	$4,745.00
Total	**$7,115.00**	**$21,016.00**	**$28,409.00**	**$56,540.00**

Attachment A- Cross-section and longitudinal profiles