Clear Creek Watershed Foundation

Cumberland Gulch Restoration Project
Final Report

October 15, 2007
Cumberland Gulch Restoration Project
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Introduction:

Cumberland Gulch is located near St. Mary’s glacier and is a tributary to Fall River which eventually flows into Clear Creek. Adjacent to Cumberland Gulch is the abandoned mine site known as the Lombard Mine and Mill. During milling operations, Cumberland Gulch was diverted from its original channel to a holding pond that was used to meet the water needs at the Mill. Eventually, after mining operations ceased and the site was left abandoned, the pond dike breached resulting in sediment and metal loading to Cumberland gulch, Fall River, and ultimately Clear Creek. The site also consisted of two mill tailings piles and the remains of the original mill structure. The mill tailings piles were being significantly eroded by storm events and off road vehicles. Consequently, the mill tailings piles also became a source of sedimentation and metal loading to Cumberland Gulch.

A remedial action was conducted at the site via a collaboration of efforts between the Clear Creek Watershed Foundation (CCWF), the USDA Forest Service (USFS), National Forest Foundation (NFF), and Coors Brewing Company. The goal was to stabilize the mill tailings piles, remove the holding pond, and restore the stream bank on site to reduce the effects of metal loading and sedimentation to Cumberland Gulch. The following is a summary of the work conducted.

Phase I: Lombard Mill Site Reclamation

Reclamation earth work activities began at the Lombard Mine and Mill site on July 02, 2007 and were completed July 16, 2007 by Mining and Environmental Services LLC per a contract agreement with CCWF. The work consisted of reshaping two mine dumps and burying the wood waste from the mill building onsite. Incidental work included spreading top soil, relocation of the 4x4 wheel access road, removing mine timbers, placing rocks, and scarifying areas for improved vegetation growth.

Specific activities include:

- Burying the mill building wood waste and foundation in the southeast mine tailings pile.
- Mine timbers were removed from approximately 150 feet of the caved main adit and buried in the reshaped southeast mill tailings piles.
- Re-grading of the southeast and northwest mill tailing piles and capping them with on-site top soil.
- A drainage interceptor ditch, 160 feet in length, was constructed to collect runoff from the slope above the southeast tailings pile thus precluding run-on to the pile.
• The existing 4x4 wheel access road was relocated through a section of the old pond area and roughly 200 feet of new road was constructed.
• Roughly 80 feet of pre-existing road was scarified and barricaded with large stones to discourage access.
• Drainage in area of pre-existing ponds were redirected and new stream channel was constructed.
• Safety berms were constructed between the relocated roadway and the new stream channel to restrict vehicular access to the stream bed.

**Phase II: Coors Brewing Company Friends of the Forest Day**

On August 4, 2007 fifty volunteers, mostly Coors/Molson employees, finished the remaining work at the Lombard Mine and Mill. The final tasks involved seeding, mulching, installation of erosion control matting, stream bank restoration, and construction of a buck-and-rail fence around the reclaimed areas.

The specific activities included:

• Completion of stream channel reconstruction by lining the stream channel with boulder and willows collected from on-site areas.
• Installation of erosion control features using straw waddles laced in hand dug trenches that run perpendicular to steep slopes to reduce the energy of surface water flow and enhance vegetative growth.
• Seeding and mulching of reclaimed mill tailings piles.
• Construction of buck-and-rail fencing around newly reclaimed areas to eliminate access by off road vehicles.

**Summary of Funding:**

The funding for this project was a result of the combined efforts of the National Forest Foundation, Clear Creek Watershed, the USDA Forest Service, and Coors Brewing Company.

The following is a summary of funding dispersed by the Clear Creek Watershed Foundation:

• **$30,938.24 from CCWF sources**
• **$17,000 donated by National Forest Foundation to CCWF for supplies and materials for Phase I and II of the restoration work**

• **Total Project Hard Cost: $47,938.24**

The total project cost does not include the USFS in-house labor and supplies costs or the Coors Brewing Company volunteer efforts of approximately 400 man hours.
Conclusion:

The collaboration between these organizations proved to be a successful means of remediation the Lombard Mine and Mill and improving the water quality of Cumberland Gulch, Fall River and Clear Creek. The Coors Brewing Friends of the Forest volunteer day also generated media attention, which further elevated the success of the project by creating public awareness about the water quality issues in the Clear Creek Watershed that are a direct result of abandoned mine sites. Attached are before and after photos of the Lombard Mine and Mill site; as well as several media related articles. These pictures and articles document the success of the Cumberland Gulch restoration project. Ideally this achievement will spark future efforts among CCWF, NFF, USFS, and Coors Brewing to work to together collaboratively to improve the water quality within the Clear Creek Watershed.

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Ed Rapp
President
Clear Creek Watershed Foundation
Lombard Mine and Mill
Post Coors Friends of the Forest Day
Tapping into Clear Creek

Coors workers help Forest Service clean former mine site

BY ADRIENNE ANDERSON
Courant Editor

As about 50 Coors employees overlooking the mountain range from Cumberland Gulch at St. Mary's on Saturday, Aug. 4, Clear Creek Watershed executive director Ed Rapp pointed to the timberline.

"That right there — that's your cold storage unit," he said to the group of volunteers helping to clean up the remnants of the old Lombard Mine and Mill. "You own it. This here," Rapp said referring to the lush wetlands and forest surrounding the gulch, a tributary to Fall River. "This is your warm storage unit. You own it."

In partnership with the U.S. Forest Service, the National Forest Foundation, and the Clear Creek Watershed Foundation, Coors Brewing Co. kicked off the first corporate-sponsored Friends of the Forest Day, a new program funded by the NFF aimed at engaging the public with national forest lands.

Coors donated $20,000 and several Coors volunteers helped place wattles along a steep hillside at Cumberland Gulch on Saturday. The wattles are filled with hay and used to house new vegetation for erosion control. Coors donated $20,000 for the mine cleanup project.

"You have sweat equity up here," said Andrew Archuleta of the Clear Creek Ranger District. "You have some ownership up here. Hopefully that means we have a whole group of patrollers who will help us out."

The Clear Creek Watershed Foundation formed in 1997 to promote the health of the watershed and work with stakeholders to help clean up 1,000 mine and mill sites. Since its inception, the group has completed 35 projects, and the group is about to release a 10-year plan for 80 new projects. Since then Coors has been one of the group's largest financial contributors.

"Most beers get their water from municipal taps, you get it from right here," Rapp told Coors employees. "And you can't have good beer without good water."

COORS
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several hours of hard labor to repair damage from ATVs near the gulch and help reestablish the soil coverage old mine tailings.

The group spent Saturday working in a steep valley at about 10,000 feet. Volunteers lined the stream with wattles — hay bundles designed to house new vegetation — and built a log fence to protect the wetlands from ATVs and four-wheelers.

In 2006, volunteers completed more than 6,000 hours of work in the Clear Creek Ranger District with a value of $118,000. Their work included trail repair, visitor interception, fence construction and stream improvements.
FOR IMMEDIATE RELEASE

CONTACT:
Contact: Janelle Smith (720-289-7587)
Day of event only contact: 303-810-4510

Helping Clear Creek Run Clean:
Friends of the Forest® Day Helps Restore Historic Denver Watershed

(Denver, CO)--More than four dozen Coors Brewery employees, family members, and friends spent Saturday, August 4 volunteering at the Friends of the Forest Day in the Clear Creek watershed on the Arapaho-Roosevelt National Forest. Coors also donated $20,000 for this conservation effort in the Cumberland Gulch area, which was sponsored by the National Forest Foundation (NFF), the U.S. Forest Service, and the Clear Creek Watershed Foundation.

Lining the stream with boulders, planting wetland shrubs and native grasses, and building rock and pole fences, volunteers labored to control erosion and protect this newly reclaimed area. Healing streams helps conserve and clean the water that flows from our forest headwaters.

"Every bit of water from this watershed flows through Clear Creek," said Al Timothy, Vice President of Governmental Relations at Coors. "Coors takes a special interest in caring for the forest as the source of water that people need and use every day. This project shows how we can partner to make a difference."

The National Forest Foundation is working with partner organizations across the country to sponsor Friends of the Forest Days and connect volunteers with important conservation projects in their national forests like planting trees, fixing trails, removing weeds, and restoring streams.

“When we turn on our faucets, we tap into our forests,” said Glenn Casamassa, Forest Supervisor of the Arapaho-Roosevelt National Forest. “Helping the public see this link, and inspiring them to get involved, is vital for a steady supply of clean water in our future.”

Volunteers were joined in the work and addressed at a lunch break by Ed Rapp, President of the Clear Creek Watershed Foundation; Mary Mitsos, Vice President of Community Conservation at NFF; Glenn Casamassa of the U.S. Forest Service; and Al Timothy of Coors. (All available for interview)

“We are thrilled to be working with Coors Brewing Company, the Forest Service, and the Clear Creek Watershed Foundation to provide this unique opportunity to engage the public in caring for their national forests,” said Bill Possiel, NFF President.

The NFF is a congressionally-chartered nonprofit partner of the U.S. Forest Service, and works with grassroots partners to address key challenges to the health of our national forests and grasslands, focused on community-based watershed restoration, forestry, recreation, and wildlife habitat. For more information on Friends of the Forest®, visit www.becomeafriend.org.
Clear Creek Watershed Foundation Itemized Budget for the Lombard/Cumberland Gulch Remediation Project 2007

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| NFF Contribution                      |       |          | $17,000.00 |
| CCWF Contribution                     |       |          | $40,938.64  |

Ed Rapp  
President of the Clear Creek Watershed Foundation  
November 20, 2007