

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Channel Restoration Planning and Preparation for the Colorado River and Lulu Creek in Rocky Mountain National Park

Discipline: Natural
Type of Project: Technical assistance
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 6/1/2008 - 6/1/2009
Funding Amount: \$27,800

Investigators and Agency Representative:
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Project Abstract: In May of 2003 a breach along the Grand Ditch in Rocky Mountain National Park (RMNP) caused overtopping of the Ditch, which initiated gully erosion on the hillslope below the Ditch. The resulting debris flow entered Lulu Creek and traveled to the Colorado River. A debris fan was deposited at the confluence of Lulu Creek and the Colorado River. With the recent settlement of U.S. vs. Water Supply and Storage, Co. for natural resource damages incurred because of the 2003 breach, restoration plans and designs are being developed to repair the injured areas in RMNP. To facilitate restoration plans and designs, additional data are needed to further quantify water flow and sediment transport moving in the Colorado River and Lulu Creek. Restoration of any channel system is based fundamentally on knowledge of the temporal and spatial variability of water flow (discharge), sediment transport, and the connectivity of this flow of water and sediment within the ecosystem. To collect those data, field work during Summer 2008 will be conducted within the Lulu Creek and Colorado River study site to augment the existing yet limited data on discharge, sediment transport, and the three-dimensional distribution of 2003 debris flow sediment. The CSU cooperators will: 1) Collect discharge and sediment transport data over snow melt 2008; 2) Conduct Ground Penetrating Radar survey; Perform 3) QA/QC of field data.

Outcomes with Completion Dates: Field work will begin summer 2008 and be completed by the end of August. Data analysis will be ongoing and simultaneous with the field work to ensure completion of a research analysis and synthesis report by November 3, 2008.

Keywords: Rocky Mountain National Park, Colorado State University, Grand Ditch, hydrology, restoration, sediment transport