

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Evaluate Reference Meadows and Develop Restoration Concepts for Halstead Meadow, Sequoia National Park, California

Type of Project: Research
Discipline: Natural Resources
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 3/1/2008 - 12/31/2010
Funding Amount: \$10,000

Investigators and Agency Representative:

NPS Contact: Athena Demetry, Sequoia and Kings Canyon National Parks, 47050 Generals Highway, Three Rivers, CA 93271-9651, 559-565-4479, athena_demetry@nps.gov

Investigator: David J. Cooper, Department of Forest, Rangeland, and Watershed Stewardship, Colorado State University, Fort Collins, Colorado 80523, 970-491-5430, davidc@cnr.colostate.edu

Project Abstract:

Halstead Meadow in Sequoia National Park is a 39-acre montane meadow crossed by the main park highway. The meadow has developed severe erosion gullies, lowering of the water table, drying of soils, dieback of native meadow plants, and invasion of pocket gophers as a result of early grazing and water channelization through culverts. The Federal Lands Highway Program (FLHP) will fund drainage improvements as well as restoration of meadow damage that can be directly attributed to the road. CSU researchers will develop final restoration plans including text and maps for the Phase I restoration of lower Halstead Meadow, which covers the eroded and dried meadow area outside of the main erosion gully. The text and maps provided will be modeled on the products developed for the upper Halstead Meadow pilot restoration project. We will provide a full characterization of the design options, suggested approaches, and fill volumes needed for each option in Phase I. For each option we will provide topographic maps and cross sections of the Phase I project area showing current and proposed grade, fill quantities needed to restore the channels based upon the proposed cross sections, design of a berm between the Phase I restoration area and Halstead Creek, and designs for the fill retainers where Phase I meets later restoration phases. We will update and improve our understanding of fill required for restoration of lower Halstead Meadow for future phases of restoration.

Outcomes with Completion Dates:

Lower Halstead meadow products will include: (1) final report on groundwater, topography, and vegetation study of lower Halstead Meadow: August 29, 2008. And (2) final design for options to restore lower Halstead Meadow, phase I: August 29, 2008.

Keywords: meadow restoration, Halstead Meadow, Sequoia National Park, Colorado State University