

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Developing a Restoration Plan for the rare saltgrass, *Puccinellia howellii*, at Whiskeytown National Recreation Area, California, year 2

Discipline: Natural
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 5/15/2008- 6/1/2010
Funding Amount: \$9,000
Investigators and Agency Representative:

NPS Contact: Jennifer Gibson, Ecologist, National Park Service, Whiskeytown NRA, PO Box 188, Whiskeytown, California 96095, 530-242-3457; Jennifer_Gibson@nps.gov

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

Project Abstract: *Puccinellia howellii* (Howell's alkali grass) is a local endemic restricted to a 1-acre salt spring in the foothills of the Klamath Mountains, in Whiskeytown National Recreation Area. California Highway 299 runs across the uppermost portion of the salt spring and is causing several direct and indirect impacts to the site. The major direct impacts are burial of a portion of the site under the road fill, diversion of saltwater flow by a large berm, discharge of freshwater runoff from culverts and the road fill prism onto the site, and sediment discharge onto the site from the fill material. The primary indirect impact of the roadway is foot traffic to the site from visitors stopping at a large pullout along the road.

Colorado State will cooperate with National Park Service resource managers to carry out the following activities in 2008:

- Collaborate with cooperators (Caltrans, Whiskeytown National Recreation Area, California Department of Fish and Game, and U.S. Fish and Wildlife Service) in reviewing Caltrans's proposed design and plans of restoration activities
- Provide direct project oversight of Caltrans construction of mitigation measures.
- Monitor the effectiveness of such construction on ground water level, water chemistry, and soil deposition.
- Assist park staff in the implementation of a long-term monitoring plan of the site.

Outcomes with Completion Dates:

- Digital photos of on-site construction for each spring.
- A final report, due by December 1, 2009, that provides the following:
 1. Effectiveness of restoration treatments.
 2. Detailed description for long-term monitoring of the site.
 3. All raw data of groundwater well level, geochemistry, and spatial extent of *Puccinellia* collected to date.

Keywords: Whiskeytown NRA, Colorado State University, restoration, saltgrass, *Puccinellia howellii*, highway impacts