

**Project Summary**  
**Rocky Mountains Cooperative Ecosystem Studies Unit**

**Project Title:** Data Collection and Detailed Restoration Design for the Rodeo Beach Wetland Complex, Golden Gate National Recreation Area, California, year 2

**Discipline:** Natural  
**Type of Project:** Technical Assistance  
**Funding Agency:** National Park Service  
**Other Partners/Cooperators:** Colorado State University  
**Effective Dates:** 3/31/2008 - 12/1/2008  
**Funding Amount:** \$9,000  
**Investigators and Agency Representative:**

NPS Contact: Darren Fong, National Park Service, Golden Gate National Recreation Area  
Fort Mason, Building 201, San Francisco, CA 94123-0022, [Darren\\_fong@nps.gov](mailto:Darren_fong@nps.gov),  
415-331-8716

Investigator: David Cooper, Department of Forest, Rangeland and Watershed Stewardship, Colorado State University, Fort Collins, CO 80523, Phone: 970-491-5430; [dcooper@rm.incc.net](mailto:dcooper@rm.incc.net)

**Project Abstract:**

The Rodeo Lagoon watershed, located in the Marin Headlands long history of activities that have altered stream and wetland functions. Construction of roads, buildings, parking lots, and other facilities as well as agriculture and livestock grazing have led to water quality problems (sediment, pathogens, and nutrients), channel incision, artificial drainage, and direct displacement of wetlands by filling. GGNRA and partners have determined that restoration of the Rodeo Beach Parking Lot (built on fill within the lower portion of the Rodeo Beach wetland in the early part of the 20th century) is the highest priority wetland restoration project in the Rodeo Lagoon watershed. Factors in this decision included the opportunity to restore increasingly rare coastal wetland habitat in this impacted watershed, the feasibility and likely success of restoration, the fact that the park considers the parking capacity there to be expendable, and the benefits to visitor enjoyment of coastal resources. Restoration of the approximately 3 acre parking lot, as well as the portion of the wetland upstream that is drained by the ongoing channel incision, would re-create a wetland system that is central to the unique biota of the central California coast: a relatively rare transitional ecosystem from the open water of Rodeo Lagoon to emergent lagoon fringe to sand dunes, wet meadows and riparian shrubs. Animal species that are expected to benefit from the restoration include the California red-legged frog and the salt marsh harvest mouse, both of which are federally listed species.

CSU will work with GGNRA staff to produce a report presenting all data and analyses, and recommendations for restoration, with a set of maps of the current topography, fill thickness, water table depth below the soil surface, and a suggested restoration configuration which would include the final contours necessary to restore the hydrologic regime to the entire site (grading plan). This report will include a planting plan, with numbers of each species that would be installed. Cooperators will produce a construction plan that lays out a desired set of tasks for a construction contractor to complete the earthwork portion of the wetland mitigation. This construction plan will include a schedule of the anticipated timing of tasks, a description of how the site will be staged, a detailed grading plan, a list of minimum equipment, a transport, storage, or disposal plan for the excavated substrate, and suggestions for best management practices during construction. In addition, we will prepare a planting plan that will detail the species to be planted, the location, timing, and method of planting, the source of propagules, soil amendments or preparation, erosion control, and irrigation. The final documents will include a list of success criteria and a monitoring plan to determine the efficacy of the wetland restoration. This plan will include a description of personnel who will complete the monitoring tasks, as-built drawings for verification of final grade, anticipated hydrologic and vegetation conditions, and a description of an annual (for three years) protocol for monitoring water table and vegetation success as compared to reference sites, an invasive plant weeding plan, an annual report schedule, and scheduled photo-documentation.

**Outcomes with Completion Dates:**

1. Copies of electronic data and field notes including trench logs, digital photographs of existing conditions, and ArcView files (with supporting metadata) (due by December 1, 2008).
2. Draft mitigation report (due by April 25, 2008)
3. Final mitigation report (due by May 30, 2008).

**Keywords:** wetland restoration, Rodeo Beach, Golden Gate National Recreation Area, Colorado State University