

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Water quality and quantity in selected national parks

Discipline: Natural
Type of Project: Research and Education
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: November 15, 2010- August 15, 2011
Funding Amount: \$79,537

Investigators and Agency Representative:

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Project Abstract: The National Park Service, Water Resources Division (NPS-WRD), will collaborate with Colorado State University (CSU) to assess water quality and quantity in selected national parks, involving issues of mutual interest to the NPS and CSU. The purpose of this task order is to advance this goal.

1. **Short-term studies of water quality and quantity in national parks.** Parks frequently refer issues related to water quality and quantity to the NPS-WRD for technical assistance. Many of these issues are of mutual interest to NPS-WRD and CSU. For example, Rocky Mountain National Park in Colorado conducts annual assessments of water quality in relation to ecological integrity, and relies on assistance from NPS-WRD as well as CSU to ensure success of the effort. Similarly, Sleeping Bear Dunes National Lakeshore in Michigan has noticed a trend toward elevated nitrate concentrations in springs and a stream near a pig farm where septic tank sludge is applied, and would like assistance in determining the source and rate of movement of the nitrate. As another example, Chesapeake and Ohio Canal National Park has requested assistance assessing water quality in the Canal, the Potomac River, and the many tributaries that pass through the park. This task will address these NPS needs for technical assistance while also providing opportunities for educational enhancement, research, and information sharing at CSU.
2. **Nurture and Sustain Partnership Programs.** Existing partnerships with federal and state agencies and non-profit organization provide a wide range of science activities focused on providing Park resource managers data and information necessary to make scientifically defensible management and policy decisions. These activities range in scope from the collection of basic water quality and quantity data collection to investigations into the source, fate and transport of environmental contaminants. This task will ensure that appropriate resources provided by partners of the NPS are directed to appropriate resource issues and questions throughout the park system.
3. **Water-related outreach.** Both NPS and CSU are interested in outreach and education related to water. Under this task, both entities will collaborate to produce and deliver water-oriented educational materials, information, and events. Examples will include water-oriented teacher training for public school science teachers, web pages and other outreach materials focused on water resources in national parks, seminars to be delivered at CSU, a special "In Focus" section on water resources research for the NPS journal, "Park Science", water-oriented training for NPS interpretive staff, and assistance in planning water-oriented conferences such as the 2011 Fourth Interagency Conference on Research in the Watersheds and the biennial NPS Aquatic Professionals Conference.

Outcomes with Completion Dates: Final Report and/or Other Products: August 15, 2011

Keywords: NPS-Water Resources Division, Colorado State University, water resources, water quality, water quantity, research, partnership, outreach