

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

Project Title: Preservation, Protection, and Management of Water and Aquatic Resources in Units of the National Park System

Discipline: Natural Resources  
Type of Project: Education and Technical assistance  
Funding Agency: National Park Service  
Other Partners/Cooperators: Colorado State University  
Effective Dates: 9/15/2008 - 9/30/2009  
Funding Amount: \$321,000

**Investigators and Agency Representative:**

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**Project Abstract:** The purpose of this effort is to engage CSU students, faculty, and research staff in real world activities related to their fields of study/interest and to develop tools, techniques, methodologies and information (data) that support NPS needs, graduate and faculty research projects, and the greater public. The research and development activities undertaken by WRD and CSU as a result of this cooperative agreement will improve the ability of the NPS and other resource protection agencies preserve, protect and manage water and aquatic resources. The data and tools developed will also foster a variety of other academic and research applications for both CSU and other universities. These efforts will support the development of publications and reports at the national, network/regional, and/or park levels that document park stream and spring flow, ground water levels and provide a suit of protection strategies to secure and perfect water rights in the National Park System.

**Tasks:**

More specifically, WRD and CSU will work collaboratively under this task order to:

- A. Develop effective tools and techniques to address and evaluate evolving threats to water and aquatic resources;
- B. Develop methods and guidelines for sound water resources management and for the long-term protection of surface and ground water resources;
- C. Develop analysis techniques for ecosystem-scale investigations of the scope, magnitude, and trend of existing or potential long-term effects on natural resources as a result of human activities;
- D. Research existing federal and state water rights and prepare water rights information for litigation and administrative proceedings.
- E. Provide opportunities for students and recent graduates to gain real-world experience in resource management and to develop their skills for use in future careers;
- F. Collect water resources data and information (land ownership and use, hydrology, geology, biology, etc.) for use by the NPS, CSU, states and other federal agencies that can be used to assist in water resources protection, design and management.
- G. Develop and maintain reference "libraries" to manage collected data, information, and review findings and disseminate compiled water resource information via NPS-developed Internet sites and other outlets. This includes data bases, technical document repositories, map files, water-right issue files, and other filing systems as needed to allow effective archival, searching and retrieval of stored materials.

- H. Publish scientific reports and data and develop outreach materials to educate the public about water and aquatic resources preservation, protection and management.

The WRD and CSU will work collaboratively to produce products for the following park units: Chickasaw National Recreation Area, Death Valley National Park, Grand Teton National Park, Great Basin National Park, Lake Mead National Recreation Area, Little Bighorn Battlefield National Monument, Mesa Verde National Park, Mojave National Preserve, Niobrara National Scenic River, Theodore Roosevelt National Park, Zion National Park, all five park units in Montana, and several California park units.

**Outcomes with Completion Dates:**

Interim Reports: Principal Investigator will prepare *Investigator's Annual Report* by March 31, 2009.

**Keywords:** NPS-Water Resources Division, Colorado State University, education, water and aquatic resources, water rights.