

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Engineering research, development, and testing to advance acoustical monitoring of protected natural areas

Discipline: Natural
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 8/31/2008-9/30/2011
Funding Amount: \$526,225

Investigators and Agency Representative:

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Project Abstract: This project will develop new technology and scientific guidance for monitoring and managing acoustical environments in local, state, federal, and international designated protected areas. Prior projects funded by the Natural Sounds Program (NSP) have significantly reduced the cost, size, weight, and complexity of sound level monitoring systems for long-term deployment. Further improvements in monitoring equipment are sought, including wireless data communication systems that reduce the need for periodic inspections of the monitoring equipment and provide regular summaries of acoustical conditions at the monitoring site. Improved data collection capacity has amplified the need for more efficient data processing. Another major component of the project will pursue algorithms and software that help automate data processing. This project will collect data in national park units to test and evaluate each generation of equipment and software, and to inform ongoing park planning efforts.

Outcomes with Completion Dates: Investigator's Annual Reports and the Final Report will be provided in electronic form (MS Word, PDF, or equivalent format) by 9/30/2011. Copies of all public presentations and published papers will also be provided in electronic form. Acoustical monitoring data will be analyzed and compiled into reports suitable for distribution to the park unit from which they were taken. A web conference briefing will be provided to park unit staff. Electronic copies of the raw acoustical data and associated metadata, along with acoustical reports and briefing materials will be provided. Annotated source code and supporting documentation for all software products will be provided. Electronic copies of computer aided design file for each hardware design project will be provided.

Keywords: soundscapes, acoustic monitoring, NPS-Natural Sounds Program, Colorado State University