

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Metrics of human responses to natural sound environments

Discipline: Social
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 9/15/2007-4/30/2010
Funding Amount: \$240,488

Investigators and Agency Representative:

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Project Abstract: Laboratory experiments will be conducted to investigate the effects of National Park sound environments on human subjects. Physiological response measures will be monitored, and overt behavioral responses to sounds will be documented. Performance on standardized tasks will be measured, to document cognitive performance and concentration. Lastly, subjects will complete a survey that documents their subjective evaluation of the experience and their predispositions (Need for Sensory Experience, Noise Annoyance).

Acoustical metrics will be developed to summarize salient aspects of acoustic playback sequences used in the experiments, deduced from previous studies of community noise response and visitor experience surveys in National Parks and wilderness settings. This project will determine how generalizable these acoustic metrics are. Some measures may be more appropriate for desirable environmental attributes, others for intrusive noise. Acoustic playback sequences will span a range of control (no sounds broadcast), neutral masking (pseudorandom, featureless sound), and noise-free recordings from National Parks. Design of these playback sequences will adapt as information is gleaned from early trial experiments.

Outcomes with Completion Dates: Annual reports are due March 31, 2008 and 2009; Final report due by September 30, 2009.

Keywords: natural sounds, behavior, NPS-Natural Sounds Program, Colorado State University