Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Measuring variation in sound propagation and monitoring wildlife responses to road noise at Glacier NP; developing an acoustical monitoring plan for Grand Canyon Parashant NM.

Discipline: Interdisciplinary
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 8/1/2010 – 3/31/2012
Funding Amount: $85,260

Investigators and Agency Representative:
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Project Abstract: The purpose of this project is to stimulate engineering research and development of technologies that bear an acoustical resource management and noise regulation in protected natural areas. Ultimately, this project will aid in assessing cumulative impacts from all noise sources, especially the effects of traffic and/or construction noise in combination with air tours.

Primary Tasks
1. Assess noise impacts to wildlife resulting from road noise (before and after Going-to-the-Sun road is open) and construction noise (before, during, and after construction activities) in Glacier NP.
2. Using a sound source and receiver design, characterize propagation of noise throughout the Glacier NP in order to validate noise models.
3. Develop an acoustical monitoring plan for Grand Canyon Parashant NM that incorporates knowledge of park resources and noise issues.
4. Develop criteria for assessing the cumulative impacts of all noise sources, especially the effects of other noise sources (i.e. traffic and construction noise) in combination with air tour noise.
5. Provide advice and guidance to Natural Sounds Program and Glacier NP and Grand Canyon Parashant NP staff, including support for possible development of ATMP and NEPA documents. Support for other planning activities may also be needed.
6. Possibly host a meeting at CSU to present research findings and train park staff to utilize data collection protocols and data analysis procedures.

Outcomes with Completion Dates: 28 February 2012
Electronic copies of field data, software, reports, and scientific papers resulting from the project

Keywords: soundscapes, acoustic monitoring, wildlife response, Glacier National Park, Grand Canyon Parashant NM , NPS-Natural Sounds Program, Colorado State University