Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Determine Recreational Impacts on Threatened Mexican Spotted Owls on the Northern Colorado Plateau

Type of Project: Research
Discipline: Natural
Funding Agency: National Park Service
Other Partners/Cooperators: Montana State University
Effective Dates: **4/30/2008**–4/30/2011
Funding Amount: $187, 716 (FY08:$128,486; FY09: $56,230)

Investigators and Agency Representative:
NPS Contact: Claire Crow, Zion National Park, Resource Management, Springdale, UT 84767, 435-772-0212, claire_crow@nps.gov

Investigator: David W. Willey, Montana State University, Department of Ecology, 310 Lewis Hall, Bozeman, MT 59717, (406) 994-5319, willey@montana.edu

Project Abstract: Zion National Park (ZION) has the highest concentration of the threatened Mexican spotted owls in Utah, with over 17 pairs in known territories within 147,000 acres. Since 1995, ZION has been monitoring spotted owl territories for occupancy and reproduction. Capitol Reef National Park (CARE) and Grand Staircase Escalante National Monument (GSENM) combined have a total of 16 known spotted owl territories; CARE is known to have 8 historic territories in 242,000 acres and GSENM is known to harbor another 8 in 1.9 million acres. Because CARE and GSENM are located adjacent to each other, they are most likely perceived as a continuous habitat area by spotted owls. Recreational use of Mexican spotted owl habitat on the northern Colorado Plateau generally consists of canyoneering, a sport which encompasses boulder scrambling and rock-climbing to descend through canyons. Use levels can be measured for many slot canyons at ZION by measuring the number of use permits issued. Canyoneering permits for Behunin Canyon, which is an annually monitored Mexican spotted owl territory, increased an amazing 1714% between 1998 and 2002. Other slot canyons occupied by Mexican spotted owls increased 500-700% in the same time period. Recreational use of these canyons has continued to rise in the last five years.Because Mexican spotted owls in canyon country require the cool, mesic temperatures within slot canyon habitat to successfully reproduce, increasing canyoneer numbers may severely affect owl reproduction.

The proposed project is designed to determine whether or not recreational use restrictions currently used at ZION are adequate for protecting Mexican spotted owls during the breeding season on the northern Colorado Plateau. Results of the proposed project are crucial to completion of meaningful recreation management-habitat protection goals. In addition, the project will test the feasibility of new methods of monitoring Mexican spotted owls during the breeding season in canyon country. The primary objectives for the project will combine the use of direct visual observations, sound monitoring and remote videography to: (1) Determine if occupancy of Mexican spotted owl territories varies among years; (2) Determine if occupancy of Mexican spotted owl habitat varies between sites with high and low recreational use; (3) Determine if Mexican spotted owl diurnal activity rates vary between sites with high and low recreational use levels; and (4) Evaluate efficacy of remote videography and sound monitoring as methods of Mexican spotted owl monitoring.

Outcomes with Completion Dates: Due by March 1, 2011:

- Annual progress summaries, each year by September 15th
- Reports as required by research permits at all three sites (e.g. IAR)
- Final report
- Brief report abstract for public distribution
- All project data, including digital geospatial data layers of Mexican spotted owl locations, one each for ZION, GSENM and CARE

Key Words: Mexican Spotted owl, recreation, sound monitoring, videography, Zion NP, Grand Staircase of the Escalante NM and Capitol Reef NP, Montana State University