

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Understanding Visitor Use patterns and Ecological Thresholds in Meadow and Riparian Environments of Yosemite National Park

Type of Project: Research
Discipline: Interdisciplinary
Funding Agency: National Park Service
Other Partners/Cooperators: Utah State University
Effective Dates: 6/15/2011 - 12/31/2012
Funding Amount: \$37,365

Investigators and Agency Representative:

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Project Abstract: Recent trends in outdoor recreation in the United States suggest that public interest in nature-based recreation and appreciation of natural areas continues to grow (Cordell 2008). Participation in most outdoor activities has increased significantly since 1960 with activities such as camping, hiking, mountaineering and skiing increasing as much as tenfold during this time (Cordell 2004, Cordell and others 2008). Associated with this increasing visitation are human disturbances and impacts to the environmental conditions of national parks, forests, and wilderness areas. Understanding these resultant impacts and the thresholds of tolerance of ecosystems to human use and disturbance are key components of contemporary park capacity management frameworks.

This proposed project will build on an existing program of research (Leung et al., 2011) and planning (Bacon et al., 2006) in Yosemite National Park and will have multiple components. First, visitor use patterns and densities under three scenarios of relative visitor demand (low, medium and high) will be determined via GPS tracking of visitors in selected meadow locations. Second, information from previous research will be integrated with the visitor use densities to build a spatial model estimating the degree of meadow disturbance under the above scenarios. Last, an experimental trampling study will be conducted in riparian areas to determine their tolerance to recreational use. This information will be integrated to the greatest degree possible with current Persons at One Time (PAOT) estimates in these areas to present an analysis of possible changes to resource conditions under alternative use scenarios.

Outcomes with Completion Dates:

January 2012 Final Meadow Study Report; September 2012 Final Riverbank Report.

Keywords: visitor use, patterns and densities, GPS tracking, meadows, riparian locations, ecological thresholds, Yosemite National Park, Utah State University