

## Project Summary

### Rocky Mountains Cooperative Ecosystem Studies Unit

<b>Project Title:</b> State of Knowledge of the Ecology of Bison Movements and Dispersal: Implications for Winter Use, Road Grooming, and Bison Management in Yellowstone National Park
<b>Type of Project:</b> Technical Assistance
<b>Funding Agency:</b> National Park Service
<b>Other Partners/Cooperators:</b> University of Montana, University of Calgary
<b>Effective Dates:</b> April 1, 2004 – December 30, 2005
<b>Funding Amount:</b> \$339,212
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<b>Project Abstract:</b> <p>Winter use of groomed roads by bison in Yellowstone National Park has been controversial, resulting in two recent contradictory court orders; one on December 16, 2003 (Washington, D.C. District Court) requiring NPS to phase-out recreational snowmobiling by winter 2004-2005, the other on February 10, 2004 (Wyoming District Court) restraining NPS from doing so and directing that a temporary rule be implemented for winter use that would be fair and equitable to all parties. The Washington, D.C. District Court's opinion noted that conflicting science exists concerning the effects of groomed roads on bison movements, finding that the NPS must "cogently explain why it has exercised its discretion in a given matter", and when faced with conflicting evidence [disagreement between experts] the decision-maker must "identify the considerations he found persuasive". Consequently, the NPS has identified a need for this project, which will produce a thorough and unbiased assessment of the state of knowledge of bison movements and dispersal in Yellowstone National Park with reference to current concepts and theory of ungulate movements and dispersal, and provide recommendations for adaptive management of uncertainties and gaps in reliable knowledge within a systems framework.</p> <p>Although the influence of groomed roads on the movements and dispersal of bison is a focal management issue, the project will consider this anthropogenic feature of the landscape in the context of general the ecology of movements, and in particular dispersal. There is limited information on Yellowstone bison movements and dispersal in the peer reviewed literature. However, considerable knowledge is available in internal agency reports, unpublished manuscripts and data sets, and as local knowledge gained through observation and experience by agency personnel, past and present researchers, and possibly other people. The purpose of the project is to compile and evaluate available knowledge in each of these forums relative to current theories and concepts of ungulate movements and dispersal, and to evaluate inconsistencies, uncertainties, and knowledge gaps. Finally recommendations will be provided for adaptive management of uncertainties and gaps in reliable knowledge within a systems framework.</p>
<b>Outcomes with completion dates:</b> <b>January 30, 2005</b> – The PI will provide the NPS with a <b>Final Comprehensive Report</b> on The State of Knowledge of the Ecology of Bison Movements and Dispersal: Implications for Winter Use, Road Grooming, and Bison Management in Yellowstone National Park
<b>Keywords:</b> bison, winter-use, roads, movement and dispersal, Yellowstone National Park, University of Montana, University of Calgary
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