

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: The impacts of multi-use pathways on black bears in Grand Teton National Park

Type of Project: Research
Discipline: Natural Resources
Funding Agency: National Park Service
Other Partners/Cooperators: University of Montana
Effective Dates: 9/15/2010 – 12/1/2011
Funding Amount: \$56,093

Investigators and Agency Representative:

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Project Abstract: In March 2007 Grand Teton National Park issued a Record of Decision for a park-wide transportation plan/environmental impact statement that authorizes the construction of 45 miles of paved multi-use pathways between the park's south boundary and Colter Bay. The proposed pathways traverse a variety of habitat types ranging from sage-grassland flats to undulating coniferous forests to incised riparian areas. Construction of the first phase of pathways – a seven mile section between Moose and Jenny Lake – was completed during summer 2008.

While the pathways will be relatively close to existing roads in general, they will result in direct loss of habitat, a new form of human use on the landscape, a wider zone of influence associated with the road/pathway, and potentially increased dispersed recreation. Each of these has the potential to affect bear habitat use, bear movements, and bear distribution. Increased human use may also increase the frequency of bear-human interactions, ultimately increasing the number of bears destroyed because of human habituation or food conditioning.

The overarching objective of this work will be to evaluate how bears respond to the construction and implementation of the phase I pathways in the park. Specific objectives include:

- Determining how pathways affect habitat use (resource selection) and activity patterns of black bears,
- Determining how pathways affect the location and frequency of road/pathway corridor crossings,
- Determining how pathways affect the seasonal movement and distribution of black bears, and
- Determining if pathways affect the visibility of black bears from the road/pathway corridor.
- Determining the extent to which bears might acclimate to the new pathway over two years of pathway use.

Outcomes with Completion Dates: June 1, 2011

1. December 15, 2010 – Data analysis plan identifying proposed hypotheses, analyses, statistical tests, and criteria for interpretation.
2. January 31, 2011 – Brief report documenting progress to date.
3. June 1, 2011 – Digital databases and analyses related to this research. If data are needed prior to this deadline, NPS personnel may request them from the cooperator.
4. June 1, 2011 – Final Report on analyses and interpretation of data collected during the 2007 – 2010 field seasons regarding the effects of pathways on black bears, including recommendations for minimizing potential impacts to black bears for phase I pathways and as applicable, other construction phases. It should also include recommendations for future research and monitoring needs regarding the effects of pathways in GTNP. The report will include a literature review, detailed explanation of the methods and supporting information that explicitly defines and describes the analysis process, and explains and interprets analysis outputs.

Keywords: black bears, pathways, impacts, habitat use, crossings, seasonal movement, visibility, Grand Teton National Park, University of Montana