

## Project Summary

### Rocky Mountains Cooperative Ecosystem Studies Unit

**Project Title:** Resource selection, seasonal distribution, movement and recruitment of bighorn sheep in the Teton Range of northwest Wyoming

**Discipline:** Natural

**Type of Project:** Research

**Funding Agency:** National Park Service

**Other Partners/Cooperators:** University of Wyoming

**Effective Dates:** 5/1/2007 - 12/1/2010

**Funding Amount:** \$35,000

#### **Investigators and Agency Representative:**

NPS Contact: Sarah Dewey, National Park Service, Grand Teton NP, PO Box 170, Moose, WY 83012, 307-739-3488, [sarah\\_dewey@nps.gov](mailto:sarah_dewey@nps.gov)

Investigator: Matt Kauffman, Assistant Professor, University of Wyoming & Assistant Leader, Wyoming Cooperative Fish & Wildlife Research Unit (307) 766-6404, [mkauffml@uwyo.edu](mailto:mkauffml@uwyo.edu)

**Project Abstract:** The Teton Range bighorn sheep herd resides year-round at high elevations in Grand Teton NP and in the two adjoining National Forests. The population's hold on the future is tenuous owing to its small size, likely isolation, and the combined effects of loss of historic winter ranges, habitat alteration due to fire suppression and threats posed by increasing backcountry recreation. The overall goal of this research project is to improve our understanding of how and why bighorn sheep use the Teton landscape. The primary objectives of this study are to:

1. Compile and map historic sheep distribution using historical data sources;
2. Document characteristics and use patterns of seasonal habitats and movement corridors;
3. Quantitatively assess the habitat selection patterns of the herd (in winter and summer);
4. Evaluate sheep avoidance of seasonal habitats due to human activities; and
5. Determine lamb production and lamb survival to mid-summer.

Seasonal habitats, movements and travel routes would be identified by tracking a sample of 20 GPS-collared bighorn sheep over 2 years. Primarily adult female sheep will be targeted for study, but several young males may also be captured. This RM-CESU funding is the first financial contribution to this multi-year, multi-sponsored project, with funding expected from the Grand Teton National Park Foundation, state and county wildlife agencies, and other NGO's.

#### **Outcomes with Completion Dates:**

1. March 31, 2008 - 2009: Annual work plan detailing field protocols, logistics, personnel and schedules.
2. January 31, 2008 - 2010: Annual progress report covering analyses and interpretation of data collected the previous summer regarding resource selection, seasonal distribution, movement and recruitment of bighorn sheep in the Teton Range of northwest Wyoming. The report will include detailed explanation of the methods and supporting information that explicitly defines and describes the analysis process, explains and interprets analysis outputs.
3. June 1, 2010: Raw GPS data, 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, 2010: Final Report on analyses and interpretation of data collected during the 2008 - 2009 field seasons regarding resource selection, seasonal distribution, movement and recruitment of bighorn sheep in the Teton Range of northwest Wyoming including management recommendations necessary to maintain the sheep herd. 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.
5. These analyses will also be published in two papers submitted to peer-reviewed journals, copies of which will be made available to NPS staff.

**Keywords:** bighorn sheep, GPS collars, Grand Teton National Park, University of Wyoming, Teton Range, corridors

#### **For Administrative Use Only:**

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: