

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Develop Techniques to Evaluate the Effectiveness of Grizzly Bear Management Areas in Yellowstone National Park, continuation project

Discipline: Natural
Type of Project: Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: Montana State University
Effective Dates: 7/15/2008 - 12/31/2013
Funding Amount: \$19,700 (FY08: 9,000; FY09: \$10,700)

Investigators and Agency Representative:

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Project Abstract: Special Bear Management Areas (BMAs) were designated in Yellowstone National Park (YELL) in 1983 in an effort to provide security for the threatened grizzly bear (*Ursus arctos*). Sixteen BMAs were identified and have been in place since that time. These BMAs comprise 464,638 acres or approximately 21% of YELL, and are closed to human access and recreational activity for part or all of the spring, summer, and fall seasons when bears are active. The goals behind these restrictions were to: 1) minimize bear-human interactions that may lead to habituation of bears to people, 2) prevent human-caused displacement of bears from prime food sources, and 3) decrease the risk of bear-cause human injuries in areas with high levels of bear activity. Our objective is to determine if Yellowstone BMAs are functioning as designed and are meeting these three primary goals.

Since their development, only one attempt has been made to evaluate the role and significance of BMAs in grizzly bear conservation. Results from that study clearly indicated a lack of adequate empirical data to conduct such analysis. The study, authored by Cherry et al. (1998), recommended that additional data on the spatial and temporal distribution of bears in BMAs be collected. In this study, we hope to obtain this additional data by the use of new GPS radio collars, which allow for up to 48 radiolocations per day.

We propose to develop and test a protocol that might be useful in evaluating the security and foraging opportunity afforded to bears utilizing four Yellowstone BMAs. These four BMAs are designated to prevent human-caused displacement of bears from cutthroat trout spawning tributaries of Yellowstone Lake. We propose to evaluate the four cutthroat trout BMAs because we have the potential to couple this research with a much larger funded project that will evaluate bear numbers, temporal and spatial patterns of use, and sex and age of bears utilizing the fish resources of Yellowstone Lake and its tributaries.

Outcomes with Completion Dates: Results will be disseminated via annual reports, a master's thesis, scientific publications, and newspaper articles. Additionally a GIS layer will be constructed containing bear movement, habitat use, and human movement data. All products are due by June 30, 2013.

Keywords: Yellowstone NP, bear management areas, grizzly bears, human activity, Montana State University