

Rocky Mountains Cooperative Ecosystems Studies Unit  
Project Summary

**Project Title: Carrion Abundance and Grizzly Bear Scavenging in the Gardiner Basin, MT and Yellowstone National Park 1989-2015.**

**Discipline:** Natural  
**Type of Project:** Research  
**Funding Agency:** National Park Service  
**Other Partners/Cooperators:** Montana State University, private donations.  
**Students Involvement:** Yes, graduate student  
**Effective Dates:** 9/1/2015 - 9/1/2017  
**Funding Amount:** \$10,000

**Investigators and Agency Representative:**

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**Project Abstract:** We will document long-term spatial and temporal patterns in relative carrion abundance across Yellowstone National Park (YNP) north into the Gardiner basin, Montana. We will also investigate probability of spring grizzly bear *Ursus arctos horribilis* utilization of carrion on the Northern Yellowstone Winter Range (NYWR), with emphasis on differences in patterns between two management jurisdictions of the NYWR (National Park and National Forest). The Greater Yellowstone Ecosystem (GYE) is characterized by a complex ecological system of predators, scavengers, and ungulates. Grizzly bears are a dominant member of the scavenging community throughout the spring months. The grizzly bear was listed as an endangered species in the lower 48 states in 1975. Due to environmental uncertainty and declines in important food sources, the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area (USFWS, 2007) mandates monitoring of key grizzly bear food resources, including spring carrion on ungulate winter ranges such as the NYWR. Preliminary investigations of monitoring data on the NYWR outline a potential difference in grizzly bear utilization of carrion in the Gardiner basin, just North of the Yellowstone National Park boundary and the portion of the NYWR resting within the park. This raises important questions regarding the possible interactions of differing management jurisdictions, and spatial heterogeneity in habitat characteristics that may influence scavenging communities across a landscape. Information regarding factors driving probability of grizzly bear use of carrion may provide insights applicable to the pursuit of sustained grizzly bear conservation beyond de-listing from the Endangered Species Act. Ultimately, documentation of patterns in the relative annual abundance of a resource that structures ecosystems (carrion) will contribute to the ongoing discussion of ecological processes characterizing the GYE. This project achieves a public purpose in that it supports the development of new knowledge for the scientific community, including researchers internal and external to NPS. The project supports the education and professional development and training of a graduate research student. Also, the project contributes to the monitoring of key grizzly bear food resources, as mandated by the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area.

**Outcomes with Completion Dates:** As a final report, the graduate student will prepare a master's thesis and/or a scientific paper published in a peer reviewed scientific journal describing the results of the data analysis.

**Keywords:** Grizzly Bear, scavenging, carrion abundance, Gardiner Basin, Yellowstone National Park, Montana State University