RESEARCH PROJECT SUMMARY

Project Title: Determining impacts of mountain lions on bighorn sheep and other prey sources in the Black Hills.

Need: Bighorn sheep (*Ovis Canadensis*) survival and reproduction have declined in the Black Hills region based on field reconnaissance conducted annually by South Dakota Department of Game, Fish and Parks personnel. Cause of this decline is unknown but could be associated with an increase in the mountain lion (*Puma concolor*) population or diseases (e.g., Mycoplasma spp.) that have been documented in bighorn sheep in this region. Mountain lion predation rates on deer (*Odocoileus* spp.) and elk (*Cervus elaphus*) also are unknown in the Black Hills. Information on predation rates of mountain lions is needed to assess the role of mountain lions on the population dynamics of bighorn sheep and for current models that predict population size and harvest mortality of deer and elk in this region.

Objectives:

1. Assess prey selection of mountain lions during the bighorn sheep lambing period.
2. Evaluate seasonal and annual consumption rates for prey, including deer and elk, of mountain lions.
3. Determine cause-specific mortality of adult ewe and lamb bighorn sheep.
4. Determine impact of disease on the reproductive potential of bighorn sheep.

Study Location: Black Hills, South Dakota

Expected Completion: June 2014

Principal Investigator: Dr. Jonathan A. Jenks, Distinguished Professor, South Dakota State University

Other Personnel: Joshua Smith, Graduate Research Assistant, South Dakota State University

John Kanta, Regional Wildlife Manager, South Dakota Department of Game, Fish and Parks

Andy Lindbloom, Senior Big Game Biologist, South Dakota Department of Game, Fish and Parks

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