RESEARCH PROJECT SUMMARY

Project Title: Estimating population size of mountain lions using DNA markers.

Need: Assessing population size of large carnivores, such as mountain lions (*Puma concolor*) is difficult due to relatively low population size, variation in response to established techniques, and secretive nature of these species. However, new DNA-based procedures that utilize a mark-recapture approach have provided robust estimates of population size with high confidence. To maintain population size of mountain lions within management objectives that are detailed within the South Dakota Department of Game, Fish and Parks, Mountain Lion Management Plan requires techniques for annual estimation of population size. New DNA-based techniques will be evaluated to assess their use and to develop a protocol for estimating population size on an annual basis.

Objectives:

1. Estimate population size of mountain lions using mark-recapture of radio-marked individuals.
2. Estimate population size of mountain lions using DNA of captured and harvested individuals.
3. Compare estimates of population size determined via radio marking and DNA techniques.

Study Location: Black Hills, South Dakota

Expected Completion: June 2014

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

Other Personnel: Rebeca Juarez, Graduate Research Assistant, South Dakota State University

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