

## **MSc Assistantship Opportunity: Landscape Genetic Vulnerability Assessment for Gunnison Sage-Grouse**

Gunnison Sage-grouse (*Centrocercus minimus*) are an obligate sagebrush species that has experienced significant population declines, and has been designated as a Candidate Species for listing under the ESA. The entire species range consists of 1 moderately sized population in the Gunnison Basin that is surrounded by 6 small, isolated, satellite populations, most of which have fewer than 50 strutting males. Within the Gunnison Basin, significant interest is focused on identifying and spatially mapping critical habitat for all life stages of Gunnison Sage-grouse, in addition to understanding how these habitats are connected throughout the Basin. This project will employ fine scale molecular genetic techniques to examine connectivity among local groups of Gunnison Sage-grouse across the Basin. This analysis will identify groups (demes) of Gunnison Sage-grouse that are demographically independent and analyze those delineations in relation to habitat and anthropogenic variables, providing managers with tools to better understand connectivity among areas. This information will be integrated with seasonal habitat models for Gunnison Sage-grouse that will identify what habitat characteristics are essential for each life-stage of this species. This integrated approach will not only identify critical habitats, but also prioritize those habitats for protection and management using strategies that will also maximize levels of connectivity.

We seek a highly motivated M.S. student for a two year project beginning January 2013 on a vulnerability assessment for Gunnison Sage-grouse that will integrate genetic linkages and spatial habitat models for Gunnison Sage-grouse. The candidate will plan, oversee, and participate in feather collection from leks in March of the first project year. The candidate will work closely with faculty and research staff to generate fine-scale genetic data and integrate it with seasonal habitat models for Gunnison Sage-grouse. The student will be expected to be an integral part of publications that emerge from their research and will be expected to present results at scientific conferences and to interested agency personnel. This position requires experience in molecular biological techniques including PCR, DNA electrophoresis, DNA extraction, and microsatellite characterization. Candidates with experience in primer design, genetic studies of populations, and use of related software analytical tools preferred. Background in wildlife conservation and experience with GIS, spatial data, and statistical modeling would be an asset, but not required. Applications must have a BSc in molecular ecology, genetics, wildlife ecology, or a related field.

Colorado State University (<http://admissions.colostate.edu/>) has prolific research in natural resources (<http://warnercnr.colostate.edu/>) and a world class Graduate Degree Program in Ecology (<http://ecology.colostate.edu/>). CSU is located in beautiful Fort Collins, on the foothills of the Rocky Mountains, and has been voted as one of the best places in the United States to live.

Compensation: Stipend of ~\$21,000 plus Tuition

Individuals interesting in applying for this position should contact Dr. Cameron Aldridge ([cameron.aldridge@colostate.edu](mailto:cameron.aldridge@colostate.edu)) and Dr. Sara Oyler-McCance ([soyler@usgs.gov](mailto:soyler@usgs.gov)). Please send 1) a cover letter explaining your long-term career/research goals and academic interests, 2) a copy of your current CV (resume), 3) GRE scores and unofficial transcripts, and 4) names, addresses, and e-mail contacts for three references. Applications will be evaluated upon receipt.