

# Greater Yellowstone Coordinating Committee

## Project Completion Report FY 2008

<b>Unit:</b> Grand Teton National Park
<b>Project Name:</b> Non-invasive evaluation of the genetic status and parasite loads of Teton Range bighorn sheep
<b>Project Description:</b> This project was undertaken to improve our understanding of the genetic and health status of the Teton Range and Jackson bighorn sheep herds. Because of the Teton Range herd's small size and isolation there is concern that it may suffer from reduced genetic variation and inbreeding, which could reduce the probability of its persistence and ability to adapt to future environmental change (e.g., disease challenges, parasites or other environmental stresses).  In the spring of 2008, we began non-invasive collection of bighorn sheep fecal samples from sheep throughout the Tetons and the range of the Jackson bighorn sheep herd. Fecal samples are then analyzed to determine levels of gastrointestinal parasite shedding, lungworm loads, and individual genetic variation. Analysis of these data will help biologists understand whether and to what extent these populations have experienced genetic bottlenecks, are genetically isolated, at risk of infectious disease and/or parasites due to their genetic status and to identify appropriate management actions to ensure their long-term viability and persistence.
<b>GYCC Funding Received:</b> \$8,000 <b>Partner Funding/In-Kind Received:</b> Wyoming Governor's Big Game License Coalition - \$20,000; Wyoming Chapter of Foundation for North American Wild Sheep - \$10,000; Grand Teton National Park Foundation - \$10,000; 1% For The Tetons - \$10,000; NPS BRMD - \$8,500; UWYO-NPS Research Station -\$2,000 (summer student intern); Grand Teton Association - \$1,000 and in-kind contributions from GTNP, BTNF, CTNF and WGF.
<b>Status of the Project:</b> In progress. Biologic samples have been collected. Analyses of lungworms and fecal flotation egg counts have been completed for samples collated to date for Jackson and Teton Range bighorn sheep herds. Analysis of genetic structure and variation is ongoing at the University of Montana. Analyses relating genetic variation to parasite load are pending results of genetic analyses.
<b>Products that can be shared across the GYA: (GIS data layers, maps, new protocols and methods)</b> Progress report, genetic sampling protocol.
<b>Project results: (Information worth sharing on methods, results, partnerships, etc)</b> See attached fall 2008 project update.
<b>Project contact:</b> (include phone number, email) Sarah Dewey, 307 739-3488, <a href="mailto:sarah_dewey@nps.gov">sarah_dewey@nps.gov</a> or John Stephenson, 307 739-3491
<b>Report Date:</b> 12/15/08
<b>Submit to</b> Virginia Kelly: <a href="mailto:vkelly@fs.fed.us">vkelly@fs.fed.us</a> 406-587-6704. Contact Virginia with questions.

*Note: You may expand and reduce size of blocks.*