



Project Status and/or Final Report for Wyoming Wildlife – The Foundation Projects, and Wyoming Governor’s Big Game License (WGBGLC) Projects, please complete the following information. All reports should be typed, clearly labeled and include financial reports and photos (.jpg format). You may scan and e-mail this to [Melodee@wycf.org](mailto:Melodee@wycf.org)

**GRANTEE INFORMATION:**

Project Name: Sublette PXP Moose Study

Name of Organization: University of Wyoming; Wyoming Cooperative Fish and Wildlife Research Unit.

Grant Amount: \$ 20,000 Grant Period: 2012

Report Completed by: Brendan Oates

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Status Report: Yes  No  Final Report: Yes  No

The information contained in this report, including all attachments, is accurate and complete.

Signature of Executive Director or other authorized signatory:  
(Electronic signature acceptable)

Date:

**NARRATIVE SECTION:**

Summarize attainment of original project goals/objectives:

From the 13<sup>th</sup> to 15<sup>th</sup> of February 2012, we measured and quantified pregnancy and nutritional condition of adult female Shiras moose (*Alces alces shirasi*). We used the occurrence of pregnancy-specific protein B, assessed from blood samples, to estimate pregnancy rates of captured females (n=48). Pregnancy rates (2011: 46% n=23; 2012: 69% n=48) were low for moose (Schwartz and Franzmann 2007). Using ultrasonography, each female (n=48) was measured for percent body fat, which we used as an index of nutritional condition. These measurements were then related the probability of survival, pregnancy, and

presence of *Elaeophora schneideri*, which were all strongly correlated to nutritional condition.

Since 2011, calf flights have been conducted to assess survival of moose calves born to radio-collared individuals. Helicopter surveys have been conducted annually (2011 and 2012), in mid-June and mid-July. Neonate survival was 78% (n=11) in 2011 and 85% (n=28) in 2012.

Currently, we are collecting movement data of collared moose as they die (collar retrieved from field) or once collar-release mechanism activates on April 1, 2014. To date, we have collected 14 GPS collars and downloaded their movement data. Analysis of movement and habitat use will begin in spring, 2013.

What were two major challenges the project or organization faced in implementing its work during the grant period and how were these challenges addressed?

One challenge was acquiring the necessary funds for capturing our study animals. Expenses totaled roughly \$28,000 in 2011 and \$34,000 in 2012. Our field measurements (blood samples, morphometrics) during capture are vital for analyzing demographics of the Sublette moose herd. This challenge was met through financial support provided by our funders, notably WYBGLC. Another challenge was securing sufficient funding for calf flights, which contribute greatly to our understanding of population dynamics within the Sublette herd unit. Contracting a helicopter and pilot totals roughly \$20,000 annually. This challenge was similarly addressed through the crucial financial support provided by WYBGLC and other funders.

Will this project continue beyond the grant period? If so, how?

Please state where and what the measurable impact on this project was (community, county, region or state).

At the very least, this project will be maintained through 2014 and, contingent on funding, may continue into 2015. The potential for energy development in the Hoback Basin has diminished, however there are natural gas leases (44-7) that fall within our study area near South Beaver Creek and North Horse Creek. We know that moose abundance is relatively high in the 44-7 leasing zone, and therefore it may be critical to continue our study into this area slated for energy development.

Our project will continue to provide an enhanced understanding of moose population performance in the Sublette Herd Unit, which is crucial to the state of Wyoming for several reasons: 1) moose are a economically valuable game species for the local community, as well as for the Wyoming Game and Fish Department. 2) There is notable public interest at the community, county and state levels in maintaining the stability of this herd unit for future

generations of hunters and outdoor enthusiasts. 3) Moose are an important indicator species in northern temperate ecosystems (Snaith and Beazley 2002) and their demographic responses can alert us to significant, yet subtle environmental change. Our research on Sublette moose will also clarify our understanding of the demographic rates that underlie population changes in other herd units in Wyoming.

How are you planning to disseminate the results of your work to the general public?

We collaborate closely with the Wyoming Game and Fish Department, and we will be providing updates to the local communities as well as at the University of Wyoming. Comprehensive information regarding our research progress can be found at the lab websites of Jacob Goheen and Matthew Kauffman. Once the final analyses and writing are completed, several research publications will be produced, which will be made available to the public upon request.

#### **LITERATURE CITED:**

Snaith, T. V., and K. F. Beazley. "Moose (*Alces alces americana* [Gray Linnaeus Clinton] Peterson) as a Focal Species for Reserve Design in Nova Scotia, Canada." *Natural areas journal* 22.3 (2002): 235-240.

Franzmann, Albert W., and Charles C. Schwartz. *Ecology and Management of the North American Moose*. Univ Pr of Colorado, 2007.

#### **FINANCIAL REPORTING:**

Include the attachments listed below:

1. Income Statement for the period ending with the project's completion/grant funds being expended.
2. Summary statement listing all expenditures paid with grant proceeds.
3. Copies of all invoices paid with grant proceeds.
4. Please include a reimbursement check with the final report for the balance of any unexpended funds from the grant. Checks should be made out to Wyoming Wildlife – The Foundation and mailed to: P.O. Box 20088, Cheyenne, WY 82003.

