

Alberta Conservation Association 2010/11 Project Summary Report

Project Name: *Wildlife Habitat Initiative in Low Disturbance Zones*

Wildlife Program Manager: Doug Manzer

Project Leader: Robert Anderson with Mike Jokinen

Primary ACA staff on project:

Robert Anderson, Mike Jokinen and Mike Verhage

Partnerships

Alberta Sustainable Resource Development, Fish and Wildlife Division
Anatum Ecological Consulting

Key Findings

- Developed a protocol using camera traps to monitor the daily and seasonal use of mineral licks by wildlife.
- Mineral licks are an important resource that improves the energetics and reproductive success of ungulates such as bighorn sheep, mountain goats, elk and moose.

Introduction

The conservation movement in North America was largely initiated by and continues to be carried forward by hunters and anglers. Unlike past generations, however, we do not have access to what may have seemed like limitless wild space. Because monetary value is so rarely associated with wild places and the ecological goods and services they provide us, society must conscientiously work to safe-guard their current and future status. However, Albertans cannot conserve what they either do not know is there or cannot readily explain or identify to others.

An important step in the conservation of wild places and wild species is to identify their location and value and put this into a form that can be easily understood. If this is done effectively, both the resource manager and resource user will be able to make arguments and decisions regarding trade-offs between ecological goods and services and other uses of our natural resources. Informed decisions regarding these trade-offs should lead to better management and conservation of Alberta's biological resources. If done effectively, this will not only help conserve 'Alberta's Wild Side', but will also promote the maintenance of recreational opportunity for future generations to use and develop their own conservation ethic for wildlife and wild places.

Our objective for the scoping exercise this year was to explore various options for developing a project that would contribute to our understanding of important features of wildlife habitat in low

disturbance zones and provide useful information for both the wildlife managers and resource users.

Methods

Our scoping exercise included discussions with local hunters, government and non-government stakeholders. We sought to find a project direction that would provide useful information for these groups, now and in the future.

Natural mineral licks are unique habitat features that are essential to the diet of all North American ungulate species (Jones and Hanson 1985). Ungulates such as bighorn sheep, mountain goats, elk and moose use mineral licks to compensate for dietary deficiencies, typically during late spring and early summer (Jones and Hanson 1985). Given the dietary importance, the location of a mineral lick on the landscape can influence an animal's movement pattern and distribution within its home range (Watts and Schemnitz 1985). Unlike forage vegetation patterns, which are non-static and vary with natural disturbance patterns over time, mineral licks are a static resource that may be used by many generations of a population, over long periods of time. Since these small, localized areas are of significance to the ecology of all ungulate species, their preservation on the landscape is critical. Disturbing essential areas such as licks could have a negative effect on ungulate energetics and reproduction.

At the end of the summer season, we began testing a field protocol that will allow us to monitor the daily and seasonal use of mineral licks by wildlife. We placed remote camera traps (trail cameras) next to a series of mineral licks to begin testing various configuration settings. The test photos were used to develop a method of getting information from the photos that will allow us to count how many species use a given site, what time of day they visit, and how their use changes throughout the year.

Results

The camera trap tests conducted in 2010 indicated that we should be able to collect valuable information about mineral lick use by a variety of species. In 2011, we will begin full implementation of the data collection and analysis methods.

Conclusions

The development of a mineral lick inventory will be of significant value for land use planning in the southwest part of the province. We see this as a first step in a process of identifying key habitat features in low disturbance zones and working to conserve these wild places and the wild species that occupy them. Scoping and identifying other key wildlife habitats or areas of special interest will continue in year 2, as combining multiple "high-value layers" will better represent the social and biological importance of the areas within the southwest.

Communications

- Mineral lick working group discussions (ACA, ASRD and Anatum Ecological Consulting).
- Mineral lick story – Spa beneath the soil: making miles for mineral licks. Spring/Summer 2010 issue of *Conservation Magazine* (photos and text by Mike Jokinen).

Literature Cited

Jones, R.L., and H.C. Hanson. 1985. Mineral licks, geophagy, and biochemistry of North American ungulates. Iowa State University, Ames.

Watts, T.J., and S.D. Schemnitz. 1985. Mineral lick use and movement in a remnant desert bighorn sheep population. *Journal of Wildlife Management* 49: 994-996.

PHOTO CAPTIONS

Mineral licks can attract large numbers of ungulates such as these mountain goats, which visited the site and were captured by a remote camera just after two o'clock in the morning. (Photo: Mike Jokinen)

The same mineral lick may be used by successive generations of a population, sometimes resulting in the excavation of deep depressions in the earth such as the one being visited by these mountain sheep in southwestern Alberta. (Photo: Mike Jokinen)

A series of well-worn paths lead biologists toward one of their camera traps on a mineral lick, providing yet another clue to the value of this habitat feature for the area's mountain ungulates. (Photo: Robert Anderson)

Alberta Conservation Association staff member, Mike Jokinen, prepares one of his camera traps, which will provide important information on the daily and seasonal use of mineral licks by wildlife. (Photo: Robert Anderson)