Alberta Conservation Association
2007/08 Project Summary Report

Project name: Ungulate Winter Range Restoration

Project leader: Robert Anderson

Primary ACA staff on this project:

Robert Anderson, John Hallett, Michael Jokinen, Corey Rasmussen, Brad Taylor, Shevenell Webb, and Thomas Winter

Partnerships:

Alberta Sustainable Resource Development
Compton Petroleum
Tay River Environmental Enhancement Fund, Shell Canada Limited

Key findings

- Planning and baseline data collection was conducted for prescribed burns along the Clearwater River, upper North Saskatchewan River, and Peace River.
- Approximately 50 acres of moose browse blocks were cleared in the Chain Lakes area.

Introduction

Wildfire control activities began in Alberta's national parks in the 1930s and on provincial forested land in the 1950s. Though initiated with reasonable intentions for protecting national heritage areas, commercial forests, and communities, fire control activities have had serious ecological implications for wildlife habitat value in some areas of the province through impacts on vegetation patterns and stand age (White et al. 2003; Andison 2000; Smith 2000). Each year a lack of fire in these ecosystems results in incremental habitat loss for a diverse group of species that range from alpine butterflies to elk and grizzly bears (Pengelley and Rogeau 2001).

Prescribed burning and mechanical clearing provide methods for restoring ecosystem condition in areas affected by fire suppression. These methods are considered to be particularly valuable for restoring habitat value for ungulates in Alberta (Gunson 1997). The Alberta Conservation Association (ACA) works with Alberta Sustainable Resource Development (ASRD) and other conservation groups to carry out such treatments as part of their Ungulate Winter Range Restoration program. We have chosen to focus on ungulate winter range as it allows us to target our efforts on one spatially identifiable and highly valuable component of ungulate habitat. By conserving and restoring the value of ungulate winter range, we and our partners will be having a positive impact on the productivity of multiple game and non-game species.

Methods

We collaborated with ASRD to identify areas that would benefit ungulates through the use of prescribed burning or mechanical clearing, particularly in areas that have undergone intense fire suppression. We worked with ASRD to identify potential treatment areas and then designed a sampling protocol for collecting baseline information in both treatment and control sites. The pre-treatment data that was collected from these areas included vegetation cover and biomass, topography, habitat suitability, and ungulate use information. Ultimately, pre- and post-treatment site information will be compared to determine whether program objectives are met.

Mechanical clearing is used in circumstances where prescribed burning is deemed to be socially unacceptable or too risky. In these instances, large mulching machines are used to remove tree cover or decadent shrub growth. In both cases, the objective is to emulate the effects of fire as best as possible.

Results

In August 2007, we collected monitoring data in 76 plots from four sites in the Peace River Valley. Three of the sites were on or adjacent to the previously-conducted Hutton Creek prescribed burn, and the fourth site was the Deadwood prescribed burn. In the Hutton Creek Burn we collected data from 17 plots on a site that has had little to no previous burning, but is planned to be burned for the first time in either 2008 or 2009. We collected data from 20 plots on the previously burned parts of the Hutton Creek study area and 19 plots on Deadwood prescribed burn. We also collected data from 20 plots on a site near the Hutton Creek burn that will be used as an untreated control. General observations were that all areas have moderate to heavy shrub layers with moderate to heavy ungulate usage (browsing). The Hutton Creek and possible Deadwood burns are in the planning stages for a spring 2008 or 2009 prescribed burn. We will be contributing to this burn through fireguard planning and construction.

In 2007, we completed the third year of pre-burn data collection for the Upper North Saskatchewan River prescribed burn. We will be able to compare pre-burn conditions for several indicators to post-burn conditions in the years to come. ASRD began burning the fire guards this year and expect to conduct a significant portion of this large prescribed burn in 2008.

A prescribed burn plan was jointly produced with ASRD for a series of meadow burns along the Clearwater River. ASRD is hoping to conduct at least a portion of this burn in April or May of 2008.

The Chain Lakes moose block clearing project continued in 2007. Through contributions from Compton Petroleum, we were able to clear approximately 50 acres of additional browsing habitat. We hope to complete the remainder of our obligations on this project in the summer of 2008.

Conclusions

Planning and baseline data collection continued this year for a series of exciting prescribed burn initiatives. We look forward to seeing the initiation of these ecosystem restoration efforts in 2008/2009. We also look forward to completing our Chain Lakes mechanical clearing

obligations and moving on to new challenges in restoring ungulate winter range in southwestern Alberta.

Communications

- We designed a *Fire & Wildlife* educational brochure to emphasize the importance of natural disturbance in ecosystem processes. Specifically, we draw attention to the importance of fires for wildlife habitat and highlight how we incorporate prescribed fires today through our collaboration with ASRD. This brochure will be used as part of the public education process associated with prescribed burns in the central east slopes.

- Our Ungulate Winter Range Restoration program was highlighted in an interview that Robert Anderson did for Michael Short's *Let's Go Outdoors* radio program.

Literature cited

Andison, D.W. 2000. Landscape-level fire activity on foothills and mountain landscape of Alberta. Alberta Foothills Disturbance Ecology Research Series, Report No. 2. Foothills Model Forest, Hinton, Alberta.

Gunson, J. R. 1997. Elk management plan for Alberta (draft). Wildlife Management Division, Alberta Environmental Protection, Natural Resource Service, Edmonton, Alberta.

Pengelly, I. and M.P. Rogeau. 2001. Banff field unit fire management plan. Banff National Park, Banff, Alberta. 132 pp.

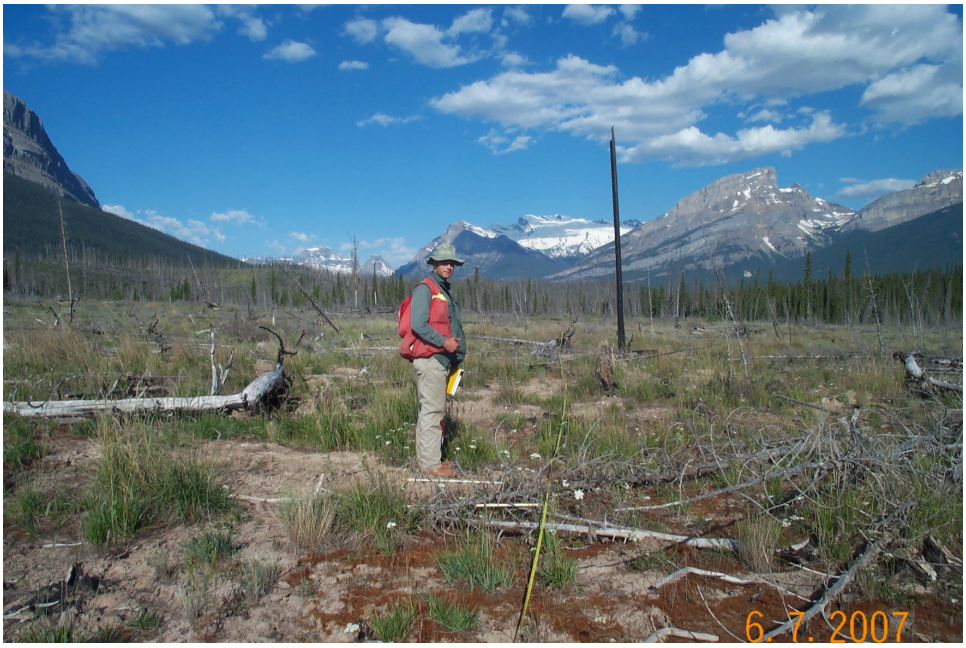
Smith, J.K.., editor. 2000. Wildland fire in ecosystems: effects of fire on fauna. General Technical Report RMRS-GTR-42-vol. 1. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Ogden, Utah, U.S.A. 83 pp.

White, C.A, I.R. Pengelly, and D. Zell. 2003. Landscape fire regimes and vegetation restoration in Banff National Park, Alberta. Occasional Paper BNP-2003-01, Parks Canada, Banff, Alberta.

Field photos of crew members: Brad Taylor, Corey Rasmussen, John Hallet, and Shevenell Webb sampling Upper North Saskatchewan sites in July 2007. (Photo: Brad Taylor).

An assortment of elk antler sheds found in previously-burned areas near Peace River in August 2007. (Photo: Shevenell Webb)

Landscape photo of Peace River sampling sites in August 2007. (Photo: Shevenell Webb)



Sampling a post-burn site in the Upper North Saskatchewan River area in July 2007. (Photo: Corey Rasmussen)