Alberta Conservation Association
2008/09 Project Summary Report

Project name: *Ungulate Winter Range Restoration*

Project leader: Chad Croft

Primary ACA staff on this project (including seasonals): Chad Croft, Robert Anderson, Corey Rasmussen, Shevenell Webb, John Hallett, Ryan Hermanutz, Michael Jokinen, and Thomas Winter

Partnerships:

Alberta Sustainable Resource Development
Compton Petroleum Corporation
Tay River Environmental Enhancement Fund (Shell Canada Limited)
Minister's Special License Fund

Key results

- Participation in three prescribed burns in partnership with ASRD, totaling approximately 450 ha.
- Completion of two subbasin plans (Cline River subbasin 05DA and Clearwater River subbasin 05DB)
- Baseline data collection was conducted for proposed prescribed burns along the upper North Saskatchewan River (Cline River subbasin 05DA), and Hutton Creek (Peace River subbasin 07HC).

Abstract

Although wildfire suppression was initiated with reasonable intentions by resource managers, conservationists, and landowners of the past, our understanding of forest ecology today indicates that wildfire plays an important role in the sustainability of natural forests. Prescribed burning and mechanical clearing provide methods for restoring ecosystem condition in areas affected by wildfire suppression. The Alberta Conservation Association (ACA) works with Alberta Sustainable Resource Development (ASRD) and other conservation groups to carry out such treatments as part of our Ungulate Winter Range Restoration (UWRR) program. In the spring of 2008 we provided logistical support to ASRD during the implementation of two pre-scribed burn plans in the Clearwater River subbasin (05DB; ~70 ha) and one in the Peace River subbasin (07HC; ~380 ha). Logistical support included the deployment and monitoring of portable weather stations, and manpower to assist in fireguard planning and construction, and burn monitoring. To guide how the UWRR program will operate in specific areas in the future we developed social, economic and ecological objectives, at the subbasin level for two priority watersheds in the east slopes region. In support of these objectives we continued the collection of baseline ecological information within proposed treatment areas in Cline River subbasin (05DA), and Peace River subbasin (07HC) as part of an adaptive management monitoring program for

evaluating UWRR program objectives. In terms of mechanical clearing treatments, the Chain Lakes moose block clearing project was scheduled to continue in 2008; however, due to a lack of partnership funding we were not able to complete the mechanical clearing of 13 blocks (69.25 ha) remaining within the Spruce Ranch. Although, our mechanical treatment objectives were not met in the Chain Lakes area, the UWRR program successfully contributed to restoring the ecological role of fire in important ungulate habitats in the Clearwater River (05DB) and Peace River (07HC) subbasins through our collaboration and partnership with ASRD and other conservation groups.

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 (Andison 2000; Smith 2000; White et al. 2003). 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 1990). The Alberta Conservation Association (ACA) works with Alberta Sustainable Resource Development (ASRD) and other conservation groups to carry out such treatments as part of our Ungulate Winter Range Restoration (UWRR) 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 worked with the Forestry Division of ASRD to provide logistical support to burn teams by deploying and monitoring remote weather stations, planning and constructing fire guards, and monitoring burn perimeters during treatment implementation.

In accordance with the strategic framework for the UWRR program, we developed social, economic and ecological objectives, at the subbasin level for two priority watersheds in the east slopes region.

We collected baseline ecological information in both treatment and control sites associated with two proposed treatment areas, within existing prescribe burn plans. The collection of baseline

information is in support of an adaptive management monitoring program for evaluating UWRR program objectives. Pre-treatment data collected included vegetation cover and biomass, stand structure, topography, habitat suitability, and ungulate use information.

Results

In the spring of 2008, we provided logistical and planning support to the Forestry Division (ASRD) during the implementation of two meadow burns in the Clearwater River subbasin (05DB): South Idlewilde Unit 6 (~43 ha) and 40 Mile Meadow (Upper Clearwater Capping Unit; ~27 ha). Financial support from the Tay River Environmental Enhancement Fund was used to rent aircraft needed for the South Idlewilde burn. We also provided manpower and planning support for the Hutton Creek forest burn (~380 ha) in Peace River subbasin 07HC. Fireguards were also constructed for two future prescribed burns in the Peace River subbasin.

Ungulate Winter Range Restoration plans were completed for the Clearwater River Subbasin 05DB and Cline River Subbasin 05DA. These plans outline how the UWRR program will operate in these watersheds while balancing social, economic and ecological values

In August of 2008, we collected baseline monitoring data in 59 plots from 3 sampling areas within Peace River subbasin 07HC. One sampling area was within the proposed Hutton Creek 2 prescribed burn area (20 plots), and the other two sampling areas were located within control sites (39 plots). The proposed Hutton Creek 2 prescribed burn is in the planning stages for a spring 2009 ignition.

In addition, we completed the fourth year of baseline data collection for the Upper North Saskatchewan River Unit 1 prescribed burn in Cline River subbasin 05DA. In 2008, baseline data was collected from 116 plots within 6 sampling areas. ASRD was prepared to conduct a significant portion of this large prescribed burn in 2008; however, due to unsuitable climatic conditions, and associated burn indices, burn plan implementation was postponed till the spring of 2009.

The Chain Lakes moose block clearing project was scheduled to continue in 2008; however, due to a lack of partnership funding we were not able to complete the mechanical clearing of the remaining 13 blocks (69.25 ha) within the Spruce Ranch.

Conclusions

We successfully contributed to restoring the ecological role of fire in important ungulate habitats in the Clearwater River subbasin (05DB) and Peace River subbasin (07HC) through our collaboration and partnership with ASRD. In the Clearwater subbasin, we achieved over 10% of our 10-year objective for meadow burning in the Upper Foothills Natural Subregion.

Baseline data collection continued in 2008 for existing prescribed burn initiatives in the Cline River subbasin (05DA) and Peace River subbasin (07HC). We are hopeful these ecosystem restoration initiatives will move forward in 2009/10 under the appropriate conditions.

Although, we were unable to complete our Chain Lakes mechanical clearing obligations in 2008, we are confident that we will be able to secure adequate partnership funding to complete this project in 2009, allowing us to focus on new opportunities in restoring ungulate winter range in southwestern Alberta.

Communications

- Presentation to Rocky Fish and Game Club on 2008 prescribed burning results
- A separate education outreach project (Fire and Wildlife Interpretive Trail) was initiated in 2008 to provide the public with information on the importance of fire for wildlife habitat rejuvenation/restoration.

Literature cited

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Gunson, J.R. (comp.) 1990. Management plan for elk in Alberta. Discussion draft. Prepared by the Fish and Wildlife Division of Alberta Forestry, Lands and Wildlife, Government of Alberta. Edmonton, Alberta. 181 pp.

Pengelly, I. and M-P. Rogeau. 2001. Banff Field Unit Fire Management Plan. Banff National Park, Banff, AB. 132 pp.

Smith, J. K., ed. 2000. Wildland fire in ecosystems: effects of fire on fauna. Gen. Tech. Rep. RMRS-GTR-42-vol. 1. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 83 p.

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

Landscape view of upper foothills meadow habitat in Clearwater River Subbasin, May 2008. A lack of natural disturbance has produced a loss of habitat diversity and a reduction of meadow size. (Photo credit: Robert Anderson).

Prescribed burning in upper foothills meadow within Clearwater River Subbasin (05DB), May 2008 (Photo credit: Corey Rasmussen).

ACA prescribed burn logistical support team at the 40 Mile Cabin meadow burn: Corey Rasmussen, Robert Anderson, Thomas Winter and Maria Didkowsky, May 2008 (Photo credit: M. Didkowsky).

Sampling in a proposed prescribed burn treatment area near Hutton Creek within Peace River Subbasin (07HC), Ryan Hermanutz, August 2008 (Photo credit: J. Hallett).