

Alberta Conservation Association 2011/12 Project Summary Report

Project Name: *Restoring Natural Habitat for Wildlife*

Wildlife Program Manager: Doug Manzer

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Primary ACA staff on project:

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Partnerships

Alberta Sustainable Resource Development
TD Friends of the Environment

Key Findings

- In partnership with Alberta Sustainable Resource Development, participated in prescribed burn planning in the Northwest, Central and South ACA regions.
- Collected post-burn year two vegetation response monitoring data within 57 subalpine sites of the Upper North Saskatchewan prescribed burn treatment areas.
- Our predictive model suggests the Upper Saskatchewan burn substantially improved winter habitat for elk within the Cline River subbasin (primary habitat improved by 43% and secondary habitat improved by 11%).
- Tested newly-developed protocols for evaluating ACA-managed lands on six properties and found them to be efficient for gathering a baseline inventory of species and habitat.
- Developed a set of strategic restoration objectives for the Porcupine Hills area.

Introduction

Over time, anthropogenic activities and land management decisions have slowly altered the natural state of many wildlife habitats across Alberta. For example, in some areas of Alberta wildfire control activities have had serious ecological implications on vegetation patterns and stand age resulting in incremental habitat loss for a diverse group of species that range from alpine butterflies to elk and grizzly bears (Andison 2000, Smith 2000, Pengelley and Rogeau 2001, White et al. 2003). The primary focus of our Restoring Natural Habitat for Wildlife project (formerly delivered under the title of Ungulate Winter Range Restoration) is to restore natural ecosystem patterns and wildlife habitat values within landscape units (e.g., watershed subbasins) and focal areas (e.g., Alberta Conservation Association [ACA] Conservation Sites) that have aged beyond the natural range of variability (NRV).

Methods

Using an ecosystem management approach, we work with Alberta Sustainable Resource Development (ASRD) Forestry, Fish and Wildlife, and Lands staff to incorporate species, ecosystem and landscape values into prescribed burn and landscape plans where proposed treatments contribute to the restoration of ecosystem integrity and habitat values for an array of wildlife species.

As part of our continued prescribed burn monitoring program, we undertook assessment of key vegetative habitat indicators at 57 randomly-selected subalpine monitoring plots to provide feedback on whether or not Upper North Saskatchewan prescribed burn treatments are adequately contributing to project objectives. We also used the ACA Elk Tool (Webb and Anderson 2009) to understand the potential effects of the North Saskatchewan Prescribed Burn on elk habitat.

We also piloted a Conservation Site Baseline Inventory project aimed at increasing the linkage between ACA's three program areas (Land, Wildlife and Fisheries) and evaluating resource values and restoration opportunities on lands managed by ACA through a broad guild-based approach. We tested these baseline inventory protocols on six Conservation Sites distributed across the Boreal, Parkland, Foothills, and Grassland natural regions.

Results

Spring 2011 weather conditions were not conducive for prescribed burning; consequently, we did not undertake the three proposed burns planned for this spring. As a result, our involvement with ASRD's burn program in fiscal year 2011/12 was primarily limited to collaborative planning efforts to develop burn plans and habitat objectives for future prescribed burn treatments.

We successfully assessed the Upper North Saskatchewan Prescribed Burn subalpine monitoring sites in July 2011. Preliminary analysis of landscape-level and ecosystem objectives suggest the project is proceeding towards established NRV targets; however, we anticipate that the need to evaluate habitat targets with sampling at 3 to 5-year intervals to effectively measure vegetation response at the species and genetic diversity levels. Our predictive habitat evaluation tool (Elk Tool) designed to assess elk habitat suggests the burn increased primary and secondary source winter habitat for elk habitat by 43% and 11%, respectively, which is a positive outcome that we will continue to evaluate over time.

Our Conservation Site baseline inventories were highly successful in leveraging expertise and resources among ACA's three program areas and for evaluating biological resources and habitat restoration opportunities for all six Conservation Sites assessed. Based on this success, we will apply these protocols on six additional sites in fiscal year 2012/13.

In fiscal year 2011/12, we integrated work completed under the Southwest Foothills Rangeland Restoration initiative into a strategic plan aimed at setting restoration objectives for restoring natural disturbance patterns at the landscape and ecosystem level within the Montane natural

subregion of the Porcupine Hills. This “living” document will help direct restoration activities and provide benchmarks to evaluate the success of future restoration work.

Conclusions

We continued our incremental approach to restoring the ecological role of natural disturbance in important habitats within several focal areas through our collaboration and partnership with ASRD. We also piloted a new approach to assessing restoration opportunities within ACA-managed lands through successfully leveraging expertise and resources among our three program areas. Additionally, we expanded on previous work to develop a set of restoration objectives for the Porcupine Hills using our ecosystem management approach and knowledge gained from our previous studies in the area.

Communications

- Distributed a draft Porcupine Hills Restoration Plan to ASRD Lands, Fish and Wildlife, and Forestry partners.
- Distributed a draft Notikewin Watershed Subbasin Restoration Plan and Year 1 data report to ASRD Forestry partners.

Literature Cited

- Andison, D.W. 2000. Landscape-level fire activity on foothills and mountain landscapes of Alberta. Alberta Foothills Disturbance Ecology Research Series, Report No. 2, Foothills Model Forest, Hinton, 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, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Ogden, Utah, USA. 83 pp.
- Webb, S.M., and R.B. Anderson. 2009. Predicting habitat value for elk in the Central East Slopes of Alberta. Technical report, T-2009-002, produced by the Alberta Conservation Association, Rocky Mountain House, Alberta, Canada. 32 pp + App.
- 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.

Photos:



View of regenerating forest stand in the Upper North Saskatchewan Prescribed Burn area, July 2011. The prescribed fire was aimed at reducing meadow encroachment and increasing habitat diversity. (Photo: Corey Rasmussen/Mike Ranger)



Alberta Conservation Association technician, Mike Ranger, conducting post-burn vegetation monitoring at the Upper North Saskatchewan Prescribed Burn, July 2011. (Photo: Corey Rasmussen)



Alberta Conservation Association biologist, Karl Zimmer, conducting a baseline inventory of a grassland habitat at the Timber Ridge Conservation Site in August 2011. (Photo: Mike Uchikura)



Baseline inventory of a stream located within the Rudakevich I Conservation Site in July 2011.
(Photo: Jenny Straub)