



**COLUMBIA BASIN
FISH & WILDLIFE
COMPENSATION
PROGRAM**



SKATTEBO HABITAT ENHANCEMENT

PREPARED BY

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FOR

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Acknowledgements

The Department of Renewable Resources at Selkirk College wishes to thank the Columbia Basin Fish and Wildlife Compensation Program for their support of and partnership in this project. This project provided an opportunity for students to implement an actual habitat enhancement project, while gaining valuable work experience. A special thanks is given to Ross Clarke, CBFWCP Biologist, for his support and guidance.

Introduction and Background

The "Skattebo Educational Forest" is one of the landbases that is managed by the department of Renewable Resources (DRR) at Selkirk College. This facility is approximately 285 hectares of forested land on the East side of the Kootenay River across from Thrums. The land is managed primarily for wildlife habitat, education, and recreation.

Selkirk College entered into a contribution agreement with Columbia Basin Fish and Wildlife Compensation Program (CBFWCP) on April 13th, 2000. The project agreed to has four elements:

- The enhancement of 10+ hectares of late winter and spring range habitat adjacent to the Kootenay River using a thinning and slash piling prescribed treatment (see Appendix A), and
- The identification and inventory for future recruitment of critical and potential wildlife trees on 285 hectares of forested land adjacent to the Kootenay River where such resources are scarce.
- Access Improvement through roadside brushing and culvert clearing.
- Installation of signage.

The project was also proposed as an important hands-on learning experience for students enrolled in Renewable Resources programs at Selkirk College.

Description of Works

Preparation

As part of the submission for the original proposal, DRR faculty completed a reconnaissance and identification of suitable units that required a habitat enhancement treatment, data was collected and compiled to support the preparation of a stand management prescription. Four different treatment units were laid out and traversed (see Appendix B)

In preparation for the actual thinning works, DRR students were given training on chainsaw handling and safe use. Students and faculty conducted a field review of the prescription where treatment objectives and cutting specifications were discussed. Students received a plasticized summary of cutting specs to have available at all times during their work.

For the wildlife tree assessment and inventory part of the project, students received preparatory instruction on mapping and surveying baselines, use of the GPS equipment, and methodology of assessing wildlife tree suitability and value.

Project Work

From April 25th through to April 30th, 2000, students completed habitat thinning on 6.0 hectares of the proposed 10 hectares. Both units 2 and 3 were completed, as well as 0.6 hectares of unit 1. In April of 2001, Units 1 and 4 were completed (See Appendix B). Stands in the range of 6000 to 7000 stems per hectare were thinned to an average of 1800 stems per hectare post treatment target. Students were asked to cut all stems under 10 cm at DBH. Where possible species such as Douglas-fir, western larch, western white pine free of blister rust, and paper birch were preferred as leave trees over western hemlock and redcedar.

All slash was bucked to a maximum 3 metre length to maximize contact with the ground and thus improve decomposition rates and animal trafficability. Larger slash accumulations were piled for

small mammal den opportunities. Snow damaged gaps in the canopy were completely bucked and laid flat to expedite browse fill-in. A five-metre slash free buffer was cleared along the main access road to reduce fire hazard and improve aesthetics.

All student work was under the supervision of DRR staff. Quality checks were performed on all of the students.

From April 21- 28, 2000, and April 23-27, 2001 DRR student teams completed a wildlife tree assessment, inventory, mapping and field marking exercise of existing and potential wildlife trees on the Skattebo Educational Forest.

Post-Treatment

1. Thinning

A post treatment walkthrough assessment of the works was completed in mid-May, 2000 and mid May, 2001 and again in late August of each year. Average post-thinning densities ranged from 1600 to 2200 stems/ hectare (see Appendix A for photos). The treated stands now have an enhanced horizontal structure including areas of mixed open gap and variable closed canopy. Since remnant seral species of coniferous and deciduous trees were favoured for leaving, species mix now has a higher percentage of western larch, lodgepole and western white pine, Douglas-fir and paper birch. There is still a significant component of western hemlock and western redcedar. Some toppling of individual trees has occurred since treatment. Pre treatment data collection indicated the presence of Armillaria and Phellinus root diseases. These are expected to continue to affect the treatment unit. Some ongoing tree mortality and toppling has occurred and will likely continue.

Evidence of the benefits of intensive cutting of slash, and where required, piling of larger accumulations was apparent during the walkthrough. Areas thinned in 2000 have had one winter and two growing seasons for fine organic matter (needles and twigs) to decompose. Decomposition is significant and observable animal sign seems to have increased. Vegetative re growth of herbaceous species has initiated in areas thinned in 2000. The piling of heavier slash accumulations has also improved trafficability for larger mammals, and provided habitat cover for small mammals.

2. Wildlife Tree Inventory

A database and map product of existing and potential wildlife tree has been produced and will be added to as further data is gathered (see Appendix D).

Access Upgrade

During spring and summer of 2001, Students brushed approximately 2.5 km of gravel road. Culverts were cleared and where needed ditch lines were cleared using hand tools.

Signage

DRR staff are currently working with CBFWCP staff to provide appropriate interpretive signage.

Appendix A: *Photo Record of Habitat Thinning*

Habitat Thinning: Unit 1 Pre-treatment



Habitat Thinning: Unit 1 Post-treatment



Habitat Thinning Unit 2 Pre-treatment



Habitat Thinning Unit 2 Post-treatment



Habitat Thinning Unit 3 Pre-treatment



Habitat Thinning Unit 3 Post-treatment





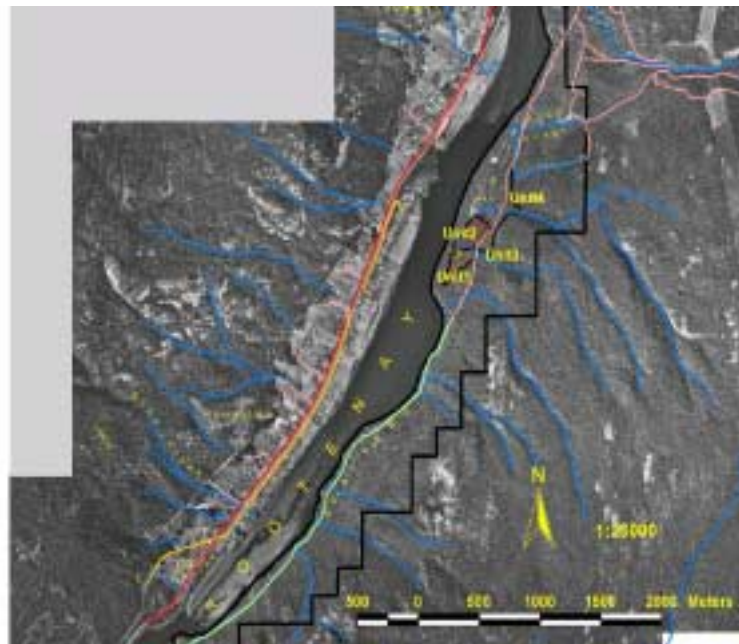
Habitat Thinning Unit 4 Pre Treatment



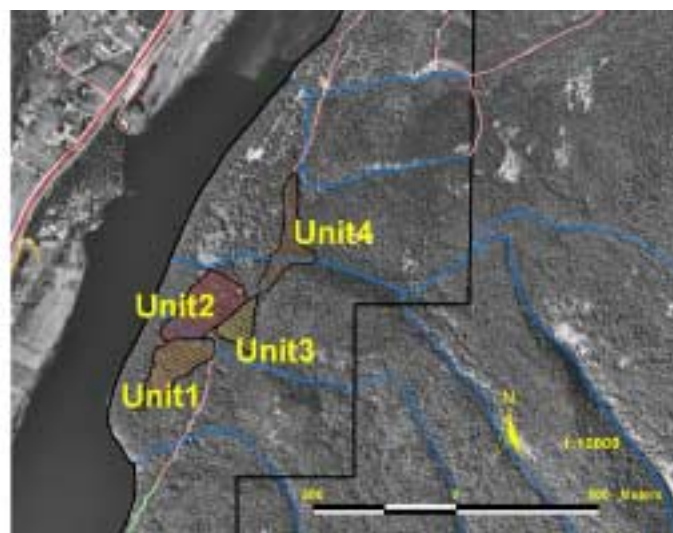
Habitat Thinning Unit 4 Post treatment

**Appendix B: Orthophoto Showing location of Wildlife Tree Inventory
and Habitat Treatment Units**

(Scale depicted has been altered from the original)



Overview



Detail

Appendix C
Map of Habitat Thinning Areas

