

CFS/ASU CHILLIWACK NATURAL RESOURCE PROGRAM

Conifer Encroachment removal
At Chilicotin Training Area

Manual Slashing/Knockdown

Work Plan for 2008

1. Introduction

The Grasslands are open areas with few trees where grasses are the dominant vegetation. They are unique, life sustaining ecosystem that provide vital habitat for over one-third of BC's species at risk. This ecosystem accounts for 0.8 % of the provincial land base and it's threatened by urban development, invasive species and forest encroachment.

Forest encroachment has significantly reduced the area of open grasslands within the Cariboo-Chilicotin in the last 100 years. The loss of grassland due to forest encroachment is evident on Becher Prairie. The Becher prairie had 7942 hectares (ha) of open grassland in 1962. This was reduced to 5038 ha by 1995 representing 37 % loss over these 33 year period (Cariboo-Chilicotin Grasslands Strategy Working Group, 2001). Without action Becher Prairie would eventually become a forest with the resulting loss of the species associated with grassland habitat.

The Ministry of Forest and Range, has started to do some prescribe burning and slashing of young pine in the Becher Prairie in the fall of 2006; with the aim of mitigating forest encroachment and restoration of grassland. Approximately 40 % of grassland area in the Chilicotin Training Area is within the Becher Prairie. A meeting was held at the forestry office in Williams Lake to find a way to work together to mitigate conifer encroachment and to restore grassland. It was decided that a joint project between DND and Ministry of Forest and Range could be started in the fall 2007. First Nations will be advised or consulted on this work. As second year of joint project, the target areas are located in the south east of Chilicotin Training Area (Figure 6).

2. Objectives

The objective of the project is:

- i. Manage density, distribution and species composition of trees through **manual slashing** to produce sparsely treed, open grassland condition as described by the CCLUP Grassland Strategy.

3. Description of the project

Property

The Chilicotin Training Area (CTA), which covers an area of 38,000 hectares, is located approximately 50 km west of Williams Lake, British Columbia. The areas of grassland consist of 3859 ha, which is approximately 10 % of the CTA. The grasslands within the CTA represent the northern-most extension of the Palouse Prairie or Pacific Northwest bunchgrass grasslands. The warm air of the Fraser Valley combined with fire history has likely favoured the development of grasslands on what would otherwise be forested sites. In the absence of fire, trees have encroached on these sites and resulted in a decreased area of grasslands.

Areas of interest

For 2008, it has been decided after the first year work to treat an area east of the area treated in 2007, west and south of Stack Valley Road, east of Barnes and Barkley Lake (Figure 6). A total of 638.4 hectares divided in eight components has been selected for treatment (Table 1)

The grassland community in this area is the Short-awned porcupinegrass-Pussytoes site series. This community is extensive within this area and occurs on level to gently sloping sites with intermediate soil texture and soil moisture. Late seral and climax sites are dominated by continuous cover of short awned porcupinegrass with a diverse scattering of forbs and other graminoids. A well-developed microbiotic crust on the soil is predominantly made-up of a variety of cladonia lichens with some pelt lichens and a minor amount of moss. The fuels within the treatment areas range from light to heavy.

The grasslands are bounded by stands and island of trees composed of mature and immature lodgepole pine, Douglas-fir and trembling aspen. All of the mature pines in these stand and islands have been killed by the mountain pine beetle. Lodgepole pine, Douglas-fir and trembling aspen, seeding from the surrounding trees, are encroaching into the grasslands. They vary in density from few scattered individuals to clumps of trees. They tend to be denser closer to the stand edge. They vary in height from a few centimeters to over 3 meters. Frequently the larger young pines have been killed by mountain pine beetle.

The intensity of conifer encroachment in this area of treatment varies as portrayed in Figure 1 to 5. This area consists of approximately 638.4 of close and open grassland with encroaching pines and aspen at the edge of stands. This area is surrounded by lakes and wetlands in the heart of Becher Prairie and the conifer encroachment varies from sparse with some scattered clump to densely lodgepole pine and aspen throughout the area.

Figure 1: Encroaching pine with density varying from dense clustered to sparse.



Figure 2: Densely and vigorous encroaching pines



Figure 3: Sparsely encroaching pine with clumps of dense pine and aspen at the edge of stands



Figure 4: Clumps of densely encroaching pine and aspen in the low lying area



Figure 5: Sparsely encroaching pine with clump of aspen at the edge of stands.



Table 1 – Areas to be treated

Feature	Area to be treated (ha)
A	38.8
B	49.1
C	86.5
D	103.5
E	99.4
F	115.0
G	120.5
H	25.6
Total	638.4

4. Treatments

The treatment area is divided in eight components, by following as much as possible nature future such as: road, forest edge and water body. Within these components, the treatment area is stratified to **grassland matrix** and **retention** portions (Figure 7). The grassland matrix covers 90 to 95% of the treatment area. On the other end, the retention areas form a bands perpendicular to the main slope but may also encircle small wetlands or lakes. Areas around the wetlands or lakes with no tree are treated as grassland matrix.

Prescription

- In the grassland matrix portion of the treatment area:
 - Retain 90-100% of large veteran trees greater than 140 years of age if such trees are present in the grassland matrix.
 - Retain an additional one to four recruitment trees greater than 12.5 cm for each large veteran tree up to 75 stem per hectare including veteran tree.
- In the retention portion:
 - Retain a basal area of 15-25 m²/ha of live conifer tree basal area of the largest existing trees with the following treatments: thinning and cutting of pre-commercial sized trees to control under-story conifer density.
- On All portions of the treatment
 - Maintain at least five of the largest conifer snags on each hectare, where this number exists and retain all live or dead trees with signs of recent cavity nesting or with stick nests. Also, retain as many conifer snags greater than 35 cm DBH and deciduous snags greater than 20 cm DBH as can be safely retained without use of no-work zones.
 - Minimize harvest or damage to live aspen because of high habitat value of aspen patches and to minimize suckering.
 - Carefully manage all lake, stream and wetland riparian buffer areas to maintain shade and habitat values associated with these features. Riparian features in grassland habitats are especially important for biodiversity because of their rarity in these dry environments.

Method

It has been proposed to use slashing or knock down tree as treatments to remove conifer encroached in grassland according to the prescription described above.

- Slashing / knock down : This treatment will be used to accomplished the following objectives:
 - Increase the fuel loading to create a desired fire intensity
 - Kill all the encroaching trees in the selected treatment areas

N.B.: Slashing / knockdown will be done by the Toosey and Anaham Band's members.

5. Work to be done

- For all the areas
 - Create a buffer of 15 m from the edge of stand. All trees in this buffer will be slashed and tossed into the treatment area to increase the fuel load in preparation to prescribed burning as state in the prescription
 - Slash or knockdown young pine of 60 cm and greater in height within the treatment area according to the prescription
 - The stumps will be no higher than 10 cm in height
 - Leave dead pine standing

6. Deliverables

The deliverable will include the following:

- All the trees within the treatment areas killed by slashing or knock down as described in the prescription
- Conifers encroached removed from the grassland as prescribed
- Area ready for prescribed burning

7. Budget

The cost of slashing/knockdown will be estimated by extrapolation base on the first year cost.

8. Timing

The proposed project is to be completed in 2008.

9. Contact

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Figure 6. Area of slashing/knock down at CTA

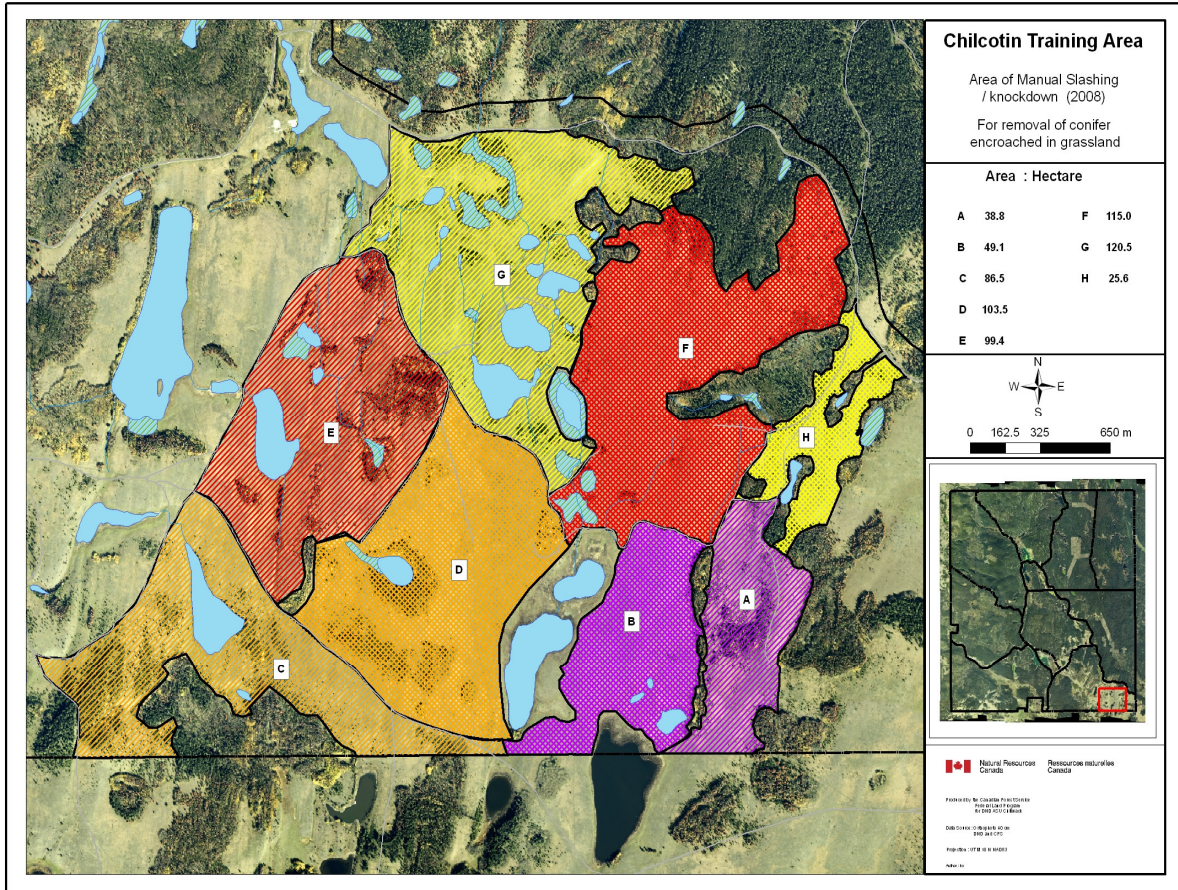


Figure 7: Treatment area stratification

