SX 85504R

OPERATIONAL SILVICULTURE TRIAL TO TEST EFFECTIVITY OF 'VELPAR I' ON SBSe VEGETATION AND SPRUCE SEEDLINGS

Working Plan
1986

M.F. Breisch
(Northwood Pulp and Timber Ltd.)
WORKING PLAN

OPERATIONAL SILVICULTURE TRIAL TO TEST EFFECTIVITY OF "VELPAR L" ON SBSd VEGETATION AND SPRUCE SEEDLINGS

NORTHWOOD PULP & TIMBER LIMITED
P.O. Box 158
Houston, B. C.
V0J 120

M.F. Breisch
Reforestation Supervisor
A. INTRODUCTION

The block proposed for treatment is located in the Walcott area approximately 20 km from the Northwood millsite. The cut block was clearcut from late 1979 to late 1980. Site treatment was not carried out on the test area. Planting with 2+0 BR Spruce seedlings occurred between May 13 and May 23, 1983. (See Appendix i for History Map)

The test block is located within the SBSe. A relatively dense cover of unwanted brush/weed species is occupying the site. These species have the potential to create growth and survival problems for conifer regeneration. Major target species are Rosa, Rubus, Salix, Alnus and Populus. Numerous other herbs and low shrubs are also on site.

The primary purpose of this trial is to test the effectiveness of a ground spot application herbicide - liquid Velpar ("Velpar L") - on the unwanted brush/weed community. A secondary benefit will be to assess the effect of the herbicide on the planted seedlings.

At the early stages of development of this proposal discussions were held with the Regional Brushing and Weeding Specialist as well as the Regional Silviculture Officer. A joint field inspection was also undertaken to view the suitability of the area for an Sx Trial. Dupont of Canada Inc. was also consulted for input into the nature of the proposal.

A Pesticide Control Act Special Use Permit (No. 147-3BC-RES 84/86) has been obtained and is attached as an integral part of this Working Plan (Appendix ii).
B. OBJECTIVES

1. To visually assess and compare the effect of three different rates of spot application of "Velpar L" on the non-coniferous plant community.

2. To assess and compare the three different rates of spot application of "Velpar L" on the 1983 Spruce plantation.

3. To visually assess and compare the degree of non-coniferous plant re-establishment on the three different treatment units.

C. PROJECT DESIGN

Three treatment units (A, B and C) will be located as per diagram #1 on page 3. Each unit will be 2 hectares in size and located on a uniform site. A ten metre buffer strip (Pesticide Free) will be maintained between the treatment units. The herbicide will be applied as a spot application as follows:

Unit A - 2.5m x 2.5m spacing or approximately 1600 spots treated per hectare
- 4 ml of formulation (24% a.i.) per spot
- 1.5 kg a.i. (hexazinone) per hectare

Unit B - same spacing as Unit A except 8 ml of formulation per spot for a total of 3.0 kg a.i. per hectare.

Unit C - 2.5m x 1.25m spacing or approximately 3200 spots treated per hectare
- 4 ml of formulation per spot
- 30 kg a.i. per hectare.

The Spot Gun System will be used to apply the herbicide. See Appendix iii for a complete description.
TABLE #1

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5m x 2.5m</td>
<td>2.5m x 2.5m</td>
<td>2.5m x 1.25m</td>
</tr>
<tr>
<td>4 ml per Spot</td>
<td>8 ml per Spot</td>
<td>4 ml per Spot</td>
</tr>
<tr>
<td>1.5 kg ai/ha</td>
<td>3.0 kg ai/ha</td>
<td>3.0 kg ai/ha</td>
</tr>
</tbody>
</table>

10 metre
Pesticide free zone

SCALE 1:2500
D. PROCEDURES

I PRIOR TO HERBICIDE APPLICATION

Permanent sample plots will be located within each treatment unit. The intensity of sampling will be sufficient to include 100 Spruce seedling per unit. This will probably require 15 - fifty square meter plots.

The following information will be collected for each Spruce seedling:

1) height
2) last years leader length
3) physiological condition.

The following observations will be noted with respect to the non-coniferous vegetation community:

1) species present
2) average height
3) percent of plots under brush/weed influence.

II FOLLOW-UP ASSESSMENTS

a) Year 1 - On or about the final week of August permanent plots will be re-assessed. In addition to the aforementioned measurements any changes in the vigor or survival of Spruce sample trees will be recorded.

Observations of the non-coniferous plant community will be based on color changes, wilting and/or mortality that may be visible.
D. II cont'd

b) Year 2 - In the middle of the second growing season after treatment another re-assessment of all plots will be undertaken. Mortality and health of the Spruce seedlings will be observed. The condition of the non-coniferous plant community will also be checked.

E. REPORTS

Records of all observations and procedures will be made. At the end of the second re-assessment information collected will be compiled and commented on. The effectiveness of the various treatments in controlling unwanted vegetation will be discussed. The effects of the "Velpar L" treatments on the Spruce plantation with respect to growth and health will also be addressed.

The final report will also address any procedural problems that may have been noticed. Conclusions from observations will be made and recommendations where practical will be offered.

The final report will be submitted to the Ministry of Forests in Houston. Copies will be sent direct to Dupont of Canada Inc., Pesticide Control Branch and the Ministry of Forests Regional Office.

F. MATERIALS

An anticipated list of materials specific to this project is:

1. 12 corner posts
2. 50 sample plot center stakes
3. 350 metal tree flags
4. 70 metal tags
5. data cards
6. Spot Gun Applicators (2 or 3)
7. Safety equipment (goggles, gloves, etc.)
8. First aid and cleaning facilities
9. Signs - 2 designating nature of project
10. 63 liters of "Velpar L"
G. RESPONSIBILITIES

Northwood Pulp and Timber Limited - Houston will be responsible for the overall completion of the project and completion of final reports. Costs associated with all phases of the Working Plan will be covered by Section 88 allowances. The Ministry of Forests will provide expertise and guidance as well as any assistance that might be mutually beneficial. Due to the nature of the project and the use of a restricted herbicide close liaison with the Ministry of Forests will be maintained at all times. Dupont of Canada Inc. will supply the necessary herbicide.

H. MISCELLANEOUS CONDITIONS

1. Two signs giving notice with respect to the nature of this trial will be posted on site. The signs will be maintained for a period of three years.

2. In the event of mortality of Spruce seedlings occurring to the extent that any unit could be considered N.S.R., replanting of the affected unit will occur within two years.

I. LIST OF APPENDICES

i) History Map

ii) Pesticide Special Use Permit

iii) Description of the Spot Gun System

iv) Contingency Plan For Spills
APPENDIX I

HISTORY MAP
APPENDIX II

PESTICIDE SPECIAL USE PERMIT
PESTICIDE CONTROL ACT
SPECIAL USE PERMIT NO. 147-3*RES-84/86

March 28, 1984

Permittee:
Northwood Pulp and Timber Limited
P.O. Box 158
Houston, British Columbia
VOJ 1Z0

Location: Houston area, (20 km N.W. of Houston)
V.C.L. Compt. 8, R67, Coast Land District
F.L. 16828 CP305

Pesticide:
Trade Name: Velpar L
P.C.P. Act Reg. No. (unregistered)
Active Ingredient: hexazinone
Total Quantity: 4.2 kg a.i.

Purpose: Control of Deciduous Brush for Conifer Release Purposes

Method: Spot Treatment Application

Treatment Area: 6.0 hectares

The above pesticide use may be carried out in accordance with the Pesticide Control Act and the following conditions.

Public Notification

1. The public shall be advised of the purpose and scope of this project and of the issuance of this permit by means of a notice published in one or more newspapers with local distribution by April 12, 1984.

2. A copy of this permit and maps of the treatment area shall be posted in a public access area of the premises of the permittee at Houston between April 12, 1984 and the completion of the project.

Effective Date and Duration

3. The effective date is April 12, 1984 and the pesticide use shall be carried out between June 1, 1984 and June 30, 1986.

Restrictions

4. A 10 metre pesticide-free zone shall be maintained along all waterbodies.

Federal Authorization

5. Authorization for the unregistered use of a pesticide shall be obtained from Agriculture Canada and this office is provided with evidence of such authorization prior to pesticide use.

Trial Report

6. The permittee shall provide a copy of the trial report to a) the pesticide manufacturer, and b) the Pesticide Control Branch prior to December 31, 1986.

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Follow-Up Report

7. The permittee shall provide this office with a report on the actual quantities of pesticide used and area treated prior to December 31 of each year in which the permit is effective. Forms are provided for this purpose.

Appeal Procedure

A notice of appeal against this permit shall be sent by registered mail or left during business hours at the office of the chairman of the Environmental Appeal Board (Mr. F. A. Hillier, Room 218 - 557 Superior Street, Parliament Buildings, Victoria, British Columbia V8V 1X5) by April 27, 1984. A fee of $25, payable to the Minister of Finance, must accompany the appeal.

The notice shall contain the name and address of the appellant, the name of counsel or agent, if any, for the appellant, the address for service upon the appellant, grounds for appeal, particulars relative to the appeal and a statement of the nature of the order requested, and shall be signed by the appellant or on his behalf by his counsel or agent.

R. W. Kobylnyk, Administrator
Pesticide Control Act

DEC/bef

cc: BCPCC
    R. M. Hlatky