

PROJECT PROFILE

CM LAKE

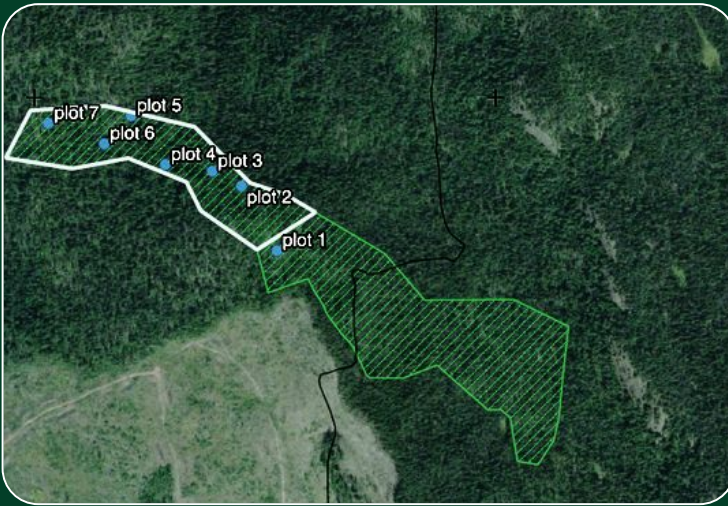
Project Overview

Partnered with an Indigenous band in the interior of British Columbia near 100 Mile House. The area is very hilly with a blend of south and north exposure. The site consisted of heavily burned Douglas fir and lodgepole pine.

Site Details

Species:	Interior Douglas Fir, Hybrid Spruce, Interior Lodgepole Pine, Western Larch
Size:	7.5 Hectares
Target Seedlings:	11,250
Burn Age:	2021
Planted:	May, 2022
Biogeoclimatic Zone:	Sub-boreal Spruce (dry warm and moist mild)
Land Preparation:	None

Flagged Transect Summary (Permanent Plot)



Permanent (flagged) plot distribution across the block.



Flagged pod rows across the burned, hilly block.

In the first year, seven plots of flagged rows were distributed across the site with pods planted directly adjacent to flags. These permanent plots allowed us to assess early germination rates and species mix before circular plots could be established. Flagged plots consist of rows of embedded pods and rows of pods dropped on the surface, to also help us account for the differences between pods that get buried and those that do not. We used a sampling density of 1 plot / hectare for this site.

Circular Plot Summary (Temporary Plot)



Circular plot distribution across the block.



Flagged seedlings in the regenerating understory.

In the second year, ten circular plots were distributed at the site. These circular plots have an area of 55 m² with seedlings counted within the circle area. These plots follow the BC Ministry of Forests guidelines as a reliable method of predicting the average Stems per Hectare across a site.

Findings: Temporary Plot Assessments at Year 2

Site	CM Lake
Size (ha)	7.5
Target Seedlings Per Hectare (SPH)	1,500
Target Seedlings per Circular Plot	8
Plot #	Seedlings Counted
1	15+
2	11
3	2
4	5
5	4
6	11
7	15+
8	2
9	1
10	15+
Seedling Count for Entire Site	>11,390
Average Stems Per Hectare	>1,518



Seedling assessed at 3 months



Seedling assessed at 15 months

Counts shown as "15+" were capped at 15 seedlings per plot; site totals are therefore reported as minimums (>).

Species Mix (Year 1 permanent plots)			
Douglas Fir	Hybrid Spruce	Western Larch	Lodgepole Pine
57.8%	9.5%	1.5%	31%

TAKEAWAYS

01

Permanent plots showed very high germination rates in the first 3 months. If these were used to predict average germinants across the entire site it would amount to roughly 3,900 per hectare.

03

Fortunately, there was no additional mortality between fall 2022 and fall 2023. In fact, permanent plots showed many seedlings germinate in year 2 (likely due to suboptimal conditions in year 1).

05

The temporary plots indicated that the site was sufficiently stocked by the end of year 2. This is due to Flash Forest's pods and likely some natural regeneration.

07

Microsite differences have been accounted for in our machine learning model, which will be used to adjust planting densities within a block to ensure more even distribution in future planting.

02

A late-summer heat dome, predation, and poor pod placement spurred significant germinant mortality in the first year (>60%).

04

Douglas Fir and Lodgepole Pine were the best performers at this site.

06

There was some variability between the temporary plots, ranging from 1 to more than 15 seedlings per plot, partially attributable to microsite differences in shade, sunlight, slope direction, soil type, and water table.