

Monitoring Protocol for the Establishment and Growth of Trees on Temporary Roads Upon the Weyerhaeuser Grande Prairie FMA 6900016

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Background:

Weyerhaeuser temporary in-block roads make up approximately 3.3% of the cut block area in the Grande Prairie FMA.

Weyerhaeuser maintains a consistent approach in managing temporary in block roads to facilitate reforestation after these roads are deactivated. The historic and current practice is to reclaim, re contour and plant these roads to promote regeneration throughout the cut block on the coniferous landbase. A variety of practices are implemented by other operators on the deciduous landbase.

The Alberta Forest Management Planning Standard - April 2006 - (5.9.9) outlines a 5% AAC reduction will be applied to the TSA to account for losses of productivity due to unsuccessfully reclaimed roads and decking areas, unless an analysis of survey data suggests this could be minimized. Weyerhaeuser will address the following components as part of the monitoring protocol and invites Quota holder participation:

- 1. Provide monitoring criteria and monitor to measure the early establishment of regeneration on temporary roads,***
- 2. Provide monitoring criteria and monitor to measure the growth of established seedlings on the temporary roads,***

The following outlines the strategies to complete the above requirements.

Intent #1: To monitor the stocking level of regeneration upon temporary roads within cut blocks on the Grande Prairie FMA.

Trees established along the transition zone between the road and block will influence the growing space of both the block and the reclaimed road surface. At rotation age, crown canopy extent should occupy most of the growing space available, independent of whether the tree was directly growing on the road surface or is found in the transition zone. Established stocking on the road surface itself would further add to crown closure.

Sampling Strata: A total of six (6) strata will be sampled on both FMA's. They include:

- Blocks operated under non-frozen conditions (skid clearance before December 1st in the operating year) X Broad Cover Groups – 1 X C, CD and D = 3 strata
- Blocks operated under frozen conditions (skid clearance after December 1st in the operating year) X Broad Cover Groups – 1 X C, CD and D =3 strata

Sampling Intensity: Weyerhaeuser and participating Quota holders are committed to a 100% sample of all blocks undergoing an establishment survey during 2006 and 2007 as follows:

- Plots falling on roadways will be uniquely (with an 'R') identified. To be identified as an 'R' plot, the plot center **must** fall on the road surface, subject to the surveyor's interpretation during the survey. All trees falling within plots with the plot centre on the road will be tallied to reflect stocking on the road, whether they are physically on the road or adjacent to the road.

- Estimate # of Weyerhaeuser plots contributing to analysis is = 200 blocks X 64 plots per block X .033 =422 plots

Data Analysis:

- All 'R' plots will be dumped into the 6 individual strata
- Upon completion of surveys in the initial year, simple t-test to test the difference between strata or "equivalence tests" will be carried out
- Problems encountered during the first survey season will be addressed to provide direction to the 2007 sampling year
- At the end of two years, data will be summarized by the strata as described above.

DFMP Implications:

- Results, if required, may be used to indicate impacts on AAC for the next (2011) DFMP
- All operators would be required to follow data collection requirements as described above.

Intent #2: To monitor the growth of established seedlings upon reclaimed temporary roads within cut blocks on the Grande Prairie FMA using the PSP program.

Sampling Strata:

- No pre-stratification will occur
- The proposed monitoring program for regenerating stands will see plots established on a grid basis
- Some of the plots will fall on portions of reclaimed road surfaces if and when the grid allows

Data Analysis:

- Information from these "roadway" plots will be weighted to the area of roadways found within the strata and accounted for in future yields