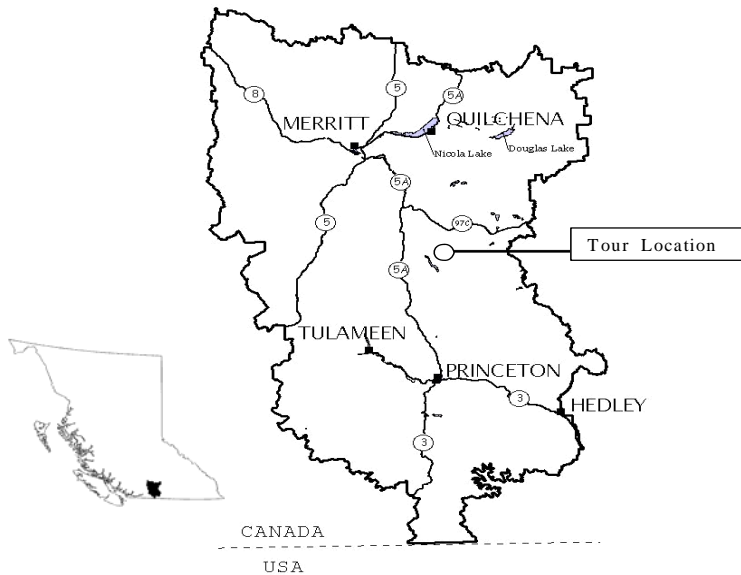


# MERRITT TSA SUSTAINABLE FOREST MANAGEMENT PLAN

## PUBLIC ADVISORY GROUP 2006 FIELD TOUR

SEPTEMBER 21, 2006



Hosted by:



Weyerhaeuser  
Princeton Division

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## Introduction

Welcome to the 2006 Merritt TSA CSA Sustainable Forest Management (SFM) Plan public advisory group field tour.

The objective of this years tour is develop further understanding of some of the indicators within the SFM plan by reviewing examples of results in the field.

As well, the tour will focus on four forestry issues which have gained particular attention recently. These issues are:

- Mountain pine beetle epidemics impact on hydrology
- Small Scale Salvage and reporting requirements for CSA
- Operation caused fires and licencee fire preparedness
- Spruce budworm outbreaks

The Homestead Road, Buck Lake, and Kentucky-Alleyne Road areas have been chosen for the site of the field tour.

Please ask any questions you may have during the fieldtrip or contact myself afterwards if any other questions arise after the field trip.

Brian Drobe  
Planning Forester  
Weyerhaeuser Company Limited  
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## Stop #1 - 5 km Homestead Road

Discussion Topic: Mountain Pine Beetle and Hydrology

Guest Speaker: Rita Winkler – Research Hydrologist  
B.C. Forest Service, Kamloops

### Background Information

The Homestead Road area has been selected as a stop for the discussion on mountain pine beetle and hydrology. It is representative of a landscape where salvage operations have been completed resulting in a significant portion of the area being harvested (ie 52%). The boundaries of the study area are Shrimpton Creek, Leonard Creek, and Shrimpton Road. It is entirely within the IDF dk1 subzone and not within deer winter range or within habitat of any identified wildlife species. The area has a history of mountain pine beetle infestations through 1990's up to the present. Harvesting started in 1996 and concluded in 2005.

Stand level biodiversity exists within wildlife tree patches and reserves of 9% of the harvested area. Biodiversity is further enhanced through stubbed trees, and reserved Douglas-fir, aspen, non-merchantable spruce, and patches of pine. Old Growth Management Areas also occur within the area.

The Homestead Road area demonstrates the opportunities that exist for reducing permanent access. Where there was no additional mature timber to be accessed, temporary roads were used within blocks resulting in the permanent access percentage for the area to be significantly under the target of 7%. At the completion of silviculture activities permanent roads will also be reviewed for possible deactivation.

Total Area: 1384 hectares (ha.)

Area Harvested: 713 ha.

SR Area 478 ha.

NSR Area 236 ha.

Undeveloped Area 671 ha.

WTPs/Reserves 62 ha.

NP, swamp, etc 18 ha.

Total Length of Permanent Road/trail 26.8 km

Road as % of Area Harvested 4.5%

Road as % of Total Area 2.2%

Equivalent clear-cut Area (ECA) 41%

Weighted ECA 52%

- 1) See Handout from Rita Winkler
- 2) **Merritt TSA Hydrology Guidelines**

In 2004 a subcommittee was formed to work on the issues surrounding a proposed uplift in annual allowable cut within the TSA. Among the documents produced by the subcommittee were recommendations to manage anticipated hydrological effects which may result from dramatic increases in the level of harvesting within watersheds. The recommendations also serve to protect water quality and fish habitat as well as soil productivity.

These recommendations have been incorporated into the Nicola Similkameen Innovative Forestry Society's Mountain Pine Beetle Strategy and have been referenced within the Merritt TSA Forest Health Strategy.

### **Merritt TSA - Uplift 2004 - Recommendations pertaining to Hydrological Concerns**

During the last beetle uplift in the Merritt TSA, several concerns were raised with respect to hydrology issues within drainages where the ECA was exceeding approximately 30%. The following recommendations are intended to be employed proactively in areas with a mountain pine beetle epidemic and the cut over level is anticipated to significantly increase.

The information provided is compilation of both recommendations from completed watershed assessment in heavily impacted drainages and other recognized practices intended on mitigating impacts to water quality, timing of runoff, and fish populations and habitat.

#### **Peak Flow**

1. Recommend prompt reforestation.
2. Recommend minimizing the amount of permanent road.
3. Recommend considering oversizing stream culverts, especially in sensitive areas<sup>1</sup>.
4. Recommend increasing the number of crossdrains and/or cross ditches on permanent roads in sensitive areas.
5. Recommend prompt rehabilitation or deactivation of roads not required in the near future for subsequent harvesting.

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<sup>1</sup> Sensitive areas could include any of the following: north slopes, residential area interfaces, roads with steep grades, sensitive soils, gentle over steep terrain, watersheds with limited buffering capability (wetlands) etc.

## **Riparian, Fish, and Stream Temperature**

1. Recommend establishing reserves on fishbearing S4's, and larger S6 streams (1.5 – 3.0 m).
2. Recommend reserving timber with a lower component of pine in the stand.
3. Recommend increasing retention levels within RMZ.
4. Applicable recommendations from Peak Flow (above) and Loss of Soil Productivity (below).
5. Protect streams with “no machine” buffers.
6. Adjusting site prep or having no prep in areas adjacent to streams with the purpose of creating a “rough” surface and aid in preventing sediment from entering streams.
7. Manage for blowdown by cutting to the edge of streams or backing off to a more windfirm edge.

## **Loss of Soil Productivity**

1. Recommend prompt grass seeding on permanent road cut and fill slopes.
2. Recommend maintaining natural drainage pattern with all water control measures.
3. Recommend considering increased inspection and maintenance frequency for critical times (freshet, heavy rain event) and heavily impacted watersheds/sensitive areas.
4. Applicable recommendations from Peak Flow (above).

## **Homestead Road Overview**





2) **Homestead Road** 4.9 km

a) Constructed in 1996

Indicator Hi-light

#16 Road inspections were completed as planned on an annual basis while operations were active. Maintenance activities related to soil movement and water management that were completed were primarily the cleaning of sumps and ditches. The Homestead Road has been risk rated as low due to it not being within a community watershed, does not have terrain stability or soil erosion issues, and is not proximate to fish streams.

3) **CP 62 Block 9** 20.7 hectares

a) Harvesting August 1997 20.7 hectares

b) Silviculture Planting May 1998  
Surveys May 1998  
Regen Survey



August 2004  
Free Growing Survey. Species presence is 75% Pli and 25% At.

Indicator Hi-lights

#10 Block met free growing requirements before the latest Free Growing date of 2012.

#11 Block outperformed late free growing requirement by 8 years.

#5 Ecologically suited species used: Preferred species = Pli and Fdi. Acceptable species = Sx and At. Species planted was Pli.

#17 Planting occurred within the first growing season – target is within the third growing season.

## Stop #3 - Buck Lake

Discussion Topic: Small Scale Salvage (SSS)

### Background

An independent audit conducted in 2005 of BCTS recognized that the small scale salvage operations managed by the BC Ministry of Forests had significantly increased in the volume that was being harvested under this program. The audit found that the operations were capable of preventing the SFM participants from achieving their SFM targets for the DFA.



As a result, the MOF Field Services staff in the Cascades District will be reporting only on 13 indicators for which the small scale salvage operations may impact. It must be noted that the Small Scale Salvage Program is only able to report on areas that are greater than 1 hectare in size where a professional prescription are completed.

They are: 2,3,4,5,6,7,10,11,13,17,18,21, and 31.

### Heartland Resources - Buck Lake SSS (Unit 1 Site 1)

#### Site Plan Summary

The development area consists of a mature stand of lodgepole pine. A smaller component of mature Douglas-fir is scattered throughout the area. Understory species consists primarily of Douglas-fir and spruce. The shrub layer includes soopolallie. The herb and moss layers include pinegrass, false box, kinnikinnick, twinflower, grouse berry, strawberry, rattlesnake plantain and red-stemmed feather moss. The terrain consists of gentle slopes with a south aspect. The slope ranges from 0 to 15% with an average of 5%.

#### Harvest Summary

Unit 1 Site 1 is 1.5 hectares in size with an estimated volume of 450 m<sup>3</sup>. Harvesting was completed on June 30, 2006. The site was 40% infested with beetle. It is located within the Buck Lake recreation site (REC 6234), but not within the LMZ of Buck Lake and is outside of the riparian management zone of an S4 stream. The site was planned to be clearcut and to reserve all fir except where removal was required for access and/or safety. The debris piles will be burnt later this fall when the material has cured sufficiently for proper burning.

Site 2 and Site 3 related to Unit 1 were 3.8 hectares and 6.8 hectares respectively in size.

### CSA SSS Reportables

All applicable CSA targets were met. Hi-lights include:

- Wildlife tree retention occurred on the site.
- From the First Nations referral a trail was identified which was protected (Sites 2 and 3) with a buffer.
- Soil disturbance levels were within planned levels.
- Block managed to be outside of the LMZ of Buck Lake

Other silviculture reporting requirements will be reported by the Ministry of Forests as the silviculture obligations are completed. The silviculture activities are funded by a levy paid by the small scale salvage operator.

## Stop #4 – Buck Lake

### Discussion Topic: **Fire Preparedness**

#### Fire Preparedness Plan

- Reiterates regulated requirements
- Company/contractor information (eg. equipment list)
- Periodic updates of contractor locations to MOF

#### Training

- Fire Suppression – annual refresher
- Simulated fire drills

#### Testing

- Periodic testing of preparedness and or response (also test for spill response)
- Incorporate opportunities for improvement back into plan

### **During Season**

#### Contractor Inspections for compliance with regulations

- Inspection of tools and water delivery system
- Fire watch being completed
- Activities reflect site risks

#### Monitoring of weather stations

- Daily updates as to the danger class

#### Adjusting activities as per the danger class restrictions and durations

- Early shift
- Location of cutblock and/or within cutblock
- Suspend activities in whole or in part (ie high risk activity)

#### Fire watch

- Active patrol of the block especially where high risk activities occurred
- Sufficient tools on site in order to initiate fire control should a fire start
- Report fires and carry out fire control in the event of a fire

### **Other**

#### Fire Hazard Assessments and Abatement

- Assess whether fire hazard has increased or been created from activities
- Reducing the fire hazard may be necessary

#### Ignition Sources

Cable yarding, feller buncher saws, metal tracks (chains), repair work, equipment fire



Stop #5 – 11 km Kentucky-Alleyne Road



Discussion Topic: Spruce Budworm

The Southern Interior Forest Region observed a slight decline from 615 000 hectares in 2004 to 458 000 hectares in 2005. However for 2005 in the Cascades Forest District defoliation from Western Spruce Budworm increased in size to a mapped area of 92 291 hectares. This number was up nearly 35% from 2004 levels.

Last year 2387 hectares were treated with the pesticide B.t.k. in the Princeton area (Snowpatch, China Creek, Summers Creek) although the efficacy of the treatment was compromised due to cold weather and rainfall which occurred shortly after the spraying occurred. The spruce budworm populations were expected to spread to cover a larger geographical area although decreasing in density within the area affected.

#### Budworm Biology

**Tree Species:** Douglas-fir, true firs, and spruce are the primary hosts of budworm. Larch, western hemlock, and pine species are also attacked occasionally.

**Description:** Young larvae (0.2-0.4 cm in length and yellow-green in colour) mine needles and buds from late April to early June and feed on current foliage after bud flush. Larvae become more orange-brown to olive-brown as they age with their head colour varying from light brown to black. The body segments have distinct light-coloured spots. Older larvae (2.5-3.0 cm in length and olive-brown in colour) prefer current foliage but will feed on older foliage if current foliage is depleted.

**Damage:** Symptoms of budworm are reddish brown crowns of trees from June to August. The initial symptoms of defoliation may be seen in tree tops and branch tips where loose needles accumulate in webbing.

Tree mortality may occur after several successive year of severe defoliation, particularly on immature or suppressed trees. Trees which survive are often left with dead tops. Height and radial growth may be severely reduced for one or two years following severe attacks.<sup>2</sup>



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<sup>2</sup> Information on Spruce Budworm was gained from: Finck, Kelly E. 1989. Field Guide to Pests of Managed Forests in British Columbia, Joint Report #16, BC Ministry of Forests and Forestry Canada

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## 2006 Merritt TSA Sustainable Forest Management Plan

### Guide to Field \*Indicators and Targets

\*Indicators in bold

- 2. Level of conformance to riparian management area commitments contained within licensee plans.** 100% conformance to riparian commitments involving known temperature sensitive streams and their direct tributaries made within licensee plans. 100% conformance to other riparian commitments made within licensee plans.
- 3. Percent of harvested blocks greater than 5 hectares that have individual wildlife tree/stubs and/or associated wildlife tree patches.** 90% of cutblocks have stand level biodiversity that will include individual wildlife tree/stubs and/or associated wildlife tree patches.
- 5. Percent of harvested areas that are regenerated with species ecologically suited to the site.** All harvested areas regenerated to species ecologically suited to site.
- 6. Degree of protection given to Identified Wildlife.** 100% conformance to plan commitments designed to protect Identified Wildlife species or habitat.
- 7. Percent of harvested cutblocks within the mule deer winter range that are managed consistent with the Merritt TSA Mule Deer Strategy.** All cutblocks within the mule deer winter range managed consistent with government policy.
- 8. Percent of areas revegetated with grass seed that is “graded acceptable”.** All areas revegetated for the control of noxious weeds and erosion will use Canada #1 or equivalent grass seed.
- 9. Percent of harvest priorities, related to catastrophic forest health events (e.g. mountain pine beetle), completed prior to critical time frame.** 100% of harvest area committed for harvest prior to critical time frame will be harvested.
- 10. Percentage of cutblock area that meets free growing requirements on or before the latest date.** All cutblocks will reach free growing requirements on or before the latest date.
- 11. Area of cutblocks that outperformed late free growing requirements in that year.**  
Report area of cutblocks that outperformed late free growing requirements and average time by which requirements exceeded.
- 12. Annual percent of cutblock areas in permanent access structures (e.g. roads, landings).** Less than 7% on average of cutblock areas in permanent access structures.
- 13. Level of conformance to soil conservation commitments contained within licensee plans.** 100% conformance to soil conservation measures contained within licensee plans.
- 14. Number of operationally caused slides occurring as a result of failure to perform a terrain assessment or to follow the recommendations within a completed assessment.**  
Zero slides.
- 15. Percent of watershed that is equivalent clear cut area (ECA).** Equivalent clear cut area (ECA) not to exceed 35% without doing further hydrological assessments prior to harvesting.
- 16. Percent of permanent status roads that have inspections and related maintenance completed as per programs.** All permanent status roads and associated structures will have inspections and related maintenance completed as scheduled.

**17. Percent of area prescribed for planting that is completed before or during the third growing season. Percent of natural regeneration area meeting natural regeneration delay.** 90 percent of area prescribed for planting is completed within the third growing season from start date of harvest. All natural regeneration area meeting natural regeneration delay.

**21. Conformance with plan commitments related to lakeshore guidelines.** 100% conformance to plan commitments related to lakeshore guidelines.

**22. Percent of cutblocks in known scenic areas with visual impact assessments completed.**

Conduct visual impact assessments in known scenic areas (visual impact assessment demonstrates how harvest meets intent of visual quality objectives).

**32. Amount of time for road cut and fill slope grass seeding application.** For roads where grass seeding is planned, all cut and fill slope seeding application carried out within 12 months of completed road construction.

**33. Protected ecosystems** Maintain 60,548 hectares of the land base in the Merritt TSA as protected area. As new inventories are completed, update the areas of the land base that are affected.

Maintain the retention of existing or replacement draft old growth management area.