



4th Annual Burn Operators Forum

BURNS LAKE BC

September 11, 2006

Welcome!

- Thank you all for coming and to the Village of Burns Lake and the Chamber of Commerce for welcoming our event.
- This event is organized and sponsored by AMS, MOE, and the BC Lung Association
- Purpose of Forum
 1. To share information on existing and emerging regulations and innovations in resource management burning, wood smoke management and wood residue management
 1. To refine our action plan for improving business opportunities and operations affected by resource management burning and in the process reduce the number of Burn Bans, Health Advisories and Woodstove Use Reduction Requests
 2. Key Questions for today:
 - How did the 2005 Resource management burning season go and why?
 - What can we expect this year?
 - What can we do differently to improve our performance?
 - Impressions of Clean Air Plan performance and feedback on strategies for other emission sources?

Structure and Agenda

- Housekeeping: Refreshments, lunch (special diet needs?), breaks, phones, restrooms, room temperature
- AMS has a tradition of inviting everyone to contribute to discussion and using a consensus approach to decision making, based on the following principles:
 - The purpose of the negotiations is to agree.
 - We all agree to act in “good faith” in all aspects of the negotiations.
 - We all accept the concerns and goals of others as legitimate.
 - The focus will be on interests and concerns rather than on positions and demands.
 - We all commit to fully explore issues, searching for solutions in a problem-solving atmosphere.
 - We will faithfully endeavour to reach decisions which best serve the welfare of the community rather than the welfare of a particular organization or group.
- As facilitator, I'll direct as necessary to ensure that the goals of the conference are met, which also means that
 - all voices are heard
 - we stay on topic
 - we finish on time

Agenda

- 10:00 AM
 - Welcome and Introductions
- 10:15 AM
 - Highlights from 2005 Forum, cross-referencing with BVLV Clean Air Plan and District Level Burn Management Plans
- 10:45 AM
 - Related BVLV air quality initiatives
- 11:30 AM
 - Open Burning Smoke Control Regulation (OBSCR) overview
- 12:00 PM **BBQ LUNCH**
- 1:00 PM
 - 2005 Burning Season Report and Preview for 2006
- 2:45 PM
 - Dispersion modelling: a new tool for managing emissions
- 3:15 PM **BREAK**
- 3:35 PM
 - Technology and best practices update
- 4:05 PM
 - Improvements for the coming year and outreach efforts: open discussion on all topics
- Next meeting and event evaluation
- 5:00 PM
 - Door prize and good byes.

Introductions

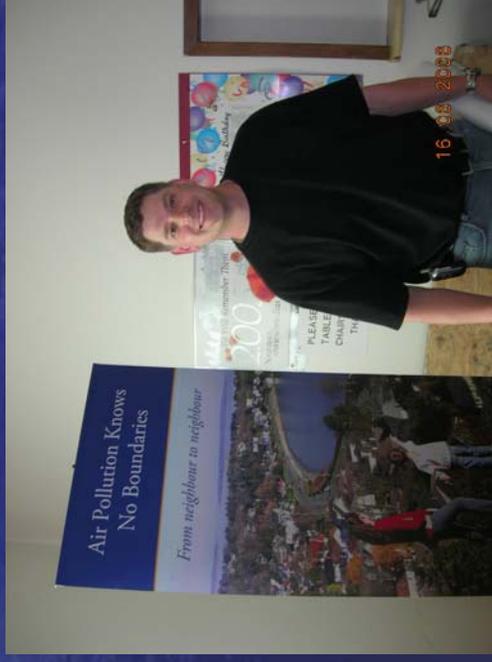
- Name, organization, have you been to a previous forum?
- One question you hope will be answered at today's forum.

2005 AMS* Board of Directors

Left to right: Ben Weinstein, Doug Bysouth, Joanne Dickenson, Dave Stevens, Frits Goossen, Paul Schwarz, Ian Sharpe, Leroy Reitsma
not pictured: Aurnir Nelson (CANFOR alternate)

- 3 government – Joanne, Ian and Ben
- 2 public – Dave, Frits
- 3 industry – Leroy, Paul, Doug

**AMS is an incorporated, non-profit society with charitable status.*



Purpose of AMS

- To educate, and increase the understanding of , the public, environmental organizations, government and the press about environmental preservation and restoration by offering workshops, seminars, training and lectures on the topic of air quality and its importance.
- To conduct research relating to air quality, and to disseminate to the public the results of such research.

Putting this forum into context

- Highlights from 2005 Forum and other years
- District Level Burn Plans
- BVLD Community Action Plan for Clean Air (5 year Airshed Management Plan, 2004 – 2009)

Highlights from previous forums

2005

- focus on evaluation of CVI Forecast service, funding formula and how to promote existence of service;
- lots of ideas for education and who AMS should be teaming up with to make sure messages are consistent outreach and making sure all stakeholders know;
- first year of mapping exercise

2004

- Recommendations for amending District Burn Plans
- Decision to continue annual meetings of Burn operators
- Established need for one stop information centre for Burn Operators on website
- Cross reference with Clean Air Plan (adopted June 2004)
- Report out on PIR Trials

2003

- Focus on current and best practices for resource management burning
- Comparison of strategies and requirements across burn plans with our airshed, around the province
- Development of recommendations to include in Clean Air Plan

District Burn Plans

Question for group:

Do we need to discuss Burn Plans here or is there a better venue with MoF?

<i>Area</i>	<i>Expiry Date</i>
Bulkley, Kispiox, Cranberry, and Cassiar Timber Supply Areas	March 31, 2007
Nadina	April 2007 (extended)
Vanderhoof	2008 (extended)

BVLD Clean Air Plan

- Adopted June 2004 and publicly reviewed annually; Board of Directors then decides what action to take on submissions.
- Current version published June 2006 with new Ch.6 and revised Appendices (related to work done in these Forums over the past 2 years)
- 2006 review just completed and comments were raised regarding strategies for reducing emissions from slash burning as follows:

Clean Air Plan Review – Proposal 5

- Reduce slash burning; focus on reducing quantity of slash to be burned by leaving logging debris on the ground
- Kalum LRMP Section 2.2.4 Biodiversity, Objective 6, Strategy 6.3: "Encourage development and use of a variety of methods to retain or restore biodiversity at the stand level. For example, long buttling of trees, leaving logging debris on the ground rather than pile and burn, leaving blow down rootwads in place, identifying living trees as future snags or wildlife tree patches, leave some second growth thickets unspaced and some brush unmanaged."
- Do other LRMPS have air quality objectives and strategies?
- **Community Feedback** - Morice LRMP has air quality objective. Can emphasize reduction in future workshops. Clean Air Plan needs to address change in timber grading Interpretation of pile and burn seems to vary – more education needed?

AMS Board Response

- Timber grading rules have recently changed – much (about 90-95%) of the dead and dry grade is now sawlog grade and thus a mandatory utilization grade; this may be helpful in reducing burning as less dead and dry material will be left on harvest areas.
- Another recent change is the development of the full 'take or pay' concept with respect to the stumpage system in BC – any cubic metre of utilizable timber left on the block is charged full stumpage, which encourages removal.
- With respect to the Kalum LAMP reference to pile and burning, our interpretation is that this is a reference to burning in the bush, as a silviculture technique to increase plantable spots, and not roadside burning to reduce slash accumulations at the roadside as a result of harvest. Roadside burning is the dominant form of burning now.
- Many harvest areas have woody debris objectives, and other objectives, to maintain or enhance biodiversity. A number of local harvest operators (forest companies, small business operators, Ministry of Forests) have forest certification programs where managing woody debris on their harvest operations is a part of their certification.

Emission reduction efforts in 2005

Backyard burning	Bylaw and education research; education at all AMS outreach events.
Debris burning from small sawmills, agriculture operations & land clearing	Handled through Resource Management Burning subcommittee – education program outline developed and network established. Identified new operations from pine beetle harvests as a concern. Cooperated with RDBN and MoE on wood waste management issue and provided input and feedback on options study.
Forest harvest debris burning	Handled through Resource Management Burning subcommittee. CVI Forecast service in 2 nd year and working well. 3 rd annual Burn Operators Forum held with good results. New Bulkeley and Nadina TSA Burn Plans adopted with emission reduction recommendations.

Emission reduction efforts in 2005 (2)

Beehive burners	Supported efforts of local mills to find alternatives. Showcased PIR efforts.
Wood burning appliances & Space heating	Worked with Province to make BVLVD a priority for a second woodstove exchange. Developed partnerships with Energy Centre of the North and Energuide contractor to increase scope and outreach of exchange program. Bylaw and education research; education at all AMS outreach events.
Road dust	Through MoE, the BVLVD AMS was represented at Prince George forum on best management practices for road dust. Through MoE, BMPs were promoted at LDM contractor meeting in November.

Emission reduction efforts in 2005 (3)

Other industrial permitted sources	<p>Met with NEWPRO twice to develop an emissions reduction action plan including voluntary shutdowns and updated emissions profile. Working with NEWPRO to develop community education program. Following up with MoE to support staff efforts.</p>
All sources	<p>Awareness raising and education at AMS outreach events</p> <ul style="list-style-type: none">• February workshops in Smithers, Houston and Burns Lake• June AGM & Clean Air Forum• August Fall Fair Booth• September Burn Operators Forum <p>Publication of brochures Website development, promotion, and regular updates Media outreach Networking to increase capacity and available resources for Plan implementation</p>

Other air quality initiatives

- Wood Residue Inventory (MOE)
- Small Sawmill Regulation (MOE)
- Dispersion modelling (MOE)
- Planning for Small Sawmill Forum after Christmas (AMS)
- Municipal Bylaws for Woodburning Appliances (AMS with Smithers, Houston, more to come).
- Planning for Woodstove Exchange Program (MOE and AMS)
- Beehive burners (CANFOR, HFP)
- Road dust (best practices)
- Air Quality monitoring
- Community education (AMS and MOE, local govt)

Community Education



- BV Fall Fair (Smithers)
- Trade Shows (Smithers and Houston)
- Newsletter
- Website (www.cleanairplan.ca)
- Press coverage
- Presentations to local government
- Brochures for Hazelton, Smithers and Houston plus region-wide
- Clean Air Day (Smithers pilot)
- Bylaw Workshop (Smithers)
- AGM and Clean Air Plan Review (Houston)
- Burn Operator's Forum (Burns Lake)

Discussion on other initiatives?

Open Burning Smoke Control Regulation

- What it says now
- Current review for new OBSCR in 2007
- Over to Ben

BBQ Lunch



Welcome Back

What's on deck this afternoon?

- 2005 Burning Season Report and Preview for 2006
 - Dispersion modelling: a new tool for managing emissions
- 3:15 PM BREAK
- Technology and best practices update
 - Improvements for the coming year and outreach efforts: open discussion on all topics
 - Next meeting and event evaluation

5:00 PM Door prize and good byes.

2005 Burn Season Report

- How many burn days were forecasted?
- How were operations affected – with forecasts and without forecasts?
- How many air quality advisories were issued?
- How many licensees used CVI forecasting service as a percentage of total licensees?
- How many OBSCR non-compliance incidents?
- Question: can we standardize the report? What indicators do we want to use for a “good” season?
- Question: are there tales from the trench: the good, the bad, and the ugly?
- Question: Map for 2006 burn season?

BREAK

- 15 Minutes

Technology and best practices

- Wood residue management varies depending on source (i.e. forestry harvesting versus landclearing, landscaping, construction, sawmill operations)
- Biomass energy systems such as bio-mass boilers for district heating systems (Prince George) and also combined heat and power systems (CHPs) look promising; value added products such as panelboard and pellets are also viable for large sawmills
- Small sawmills can tap into smaller bio-mass energy systems – the small sawmill forum will explore these options, as was done at the BioEnergy June 2006 conference in Prince George (i.e. *Community-Based Mill Waste Utilization May Hold New Promise for Production of Steam and Electricity on the Western Olympic Peninsula* with Larry Mason - Project Coordinator, Rural Technology Initiative, College of Forest Resources, University of Washington)
- Wood residue management options for municipal sources were explored in April 2006 at a Solid Waste Management Planning workshop in Smithers (i.e. air curtain burning, chipping, composting, mixing with sewage sludge etc.)

Harvesting operations in Pine Beetle Salvage areas (submission)

- Retention of forest structure on the landscape improves biodiversity. It also decreases wood waste in burn piles.
- In his position paper "Guidance on Landscape and Stand-level Structural Retention in Mtn Pine Beetle Salvage Operations", the province's Chief Forester (CF) emphasizes the importance of retaining standing trees on the landscape for biodiversity purposes. The importance in reducing burnpiles is an interesting side effect not really explored in the paper.
- The following recommendations would lend themselves to incorporation in licensee's Forest Stewardship plans (FSP's). Or they could also be included on a cutblock by cutblock basis in the licensee's Site Plans (SP's).
- I am not sure how much of this is written into BCTS' Forest Stewardship Plan, but we are already laying out our blocks with the following in mind, and much of it is being written into the SP's at this time for this year's block layout.

Recommendation #1

1: CF's recommendation for retention of mature timber (dead or alive) as a percentage of cutblock size:

- In theory, large disturbance areas with unharvested patches should emulate the burn patterns of a wildfire, to some degree.
- It also leaves more wood waste on the block instead of in the burnpiles.

Cutblock Size:	% of Opening Unharvested:
<50 ha	10%
50-250 ha	10-15%
250-1000ha	15-25%
>1000 ha	>25%

Recommendation #2

- CF states that stands with a low percentage of mature pine should be a low priority for harvesting.
- Leave these areas unlogged. It's win-win, for biodiversity and reduced burnpiles. Currently, BCTS is requiring a minimum of 70% mature pine in stands proposed for harvest around Burns Lake, and parts of Houston with more pure pine stand types.

Recommendation #3

- CF states that stands with good understory (poles and saplings) beneath the mature forest should be left unlogged.
- As the pine dies out overhead, the smaller trees grow in faster, and in most cases become a mature stand in 30-40 years. This is very important in a forest killed by beetles. These may be the only Old growth stands available in the area in 40-50 years. Important for wildlife, and possibly some harvesting in 50 years.
- The other benefit is less slashpiles and smoke in the short term.

Recommendation #4

- Where live trees exist in the beetle infestation, don't log them. Seems like common sense, but live pine trees tend to be interspersed with the 70-95% dead pine. Retaining the live ones isn't always possible while removing the dead pine.

Coarse Woody Debris Management (CWD)

- **Coarse Woody Debris Management:** Leave more waste wood on site, where it serves multiple purposes. It won't get burned either!
- As well as retaining patches of live/dead standing timber in Pine Salvage Harvesting Operations, its widely accepted that dead wood (standing and fallen) has value for site productivity and biodiversity, and should be retained throughout all cutblocks; CWD management applies not only to Pine salvage areas but also conventional harvesting areas.
- CWD management is best written into FSP's, but can also be accommodated at the block level in Site Plans.
- Most harvest areas are divided into landscape units, with specified %wildlife tree patch (WTP) retention targets. WTP's are an important part of coarse woody debris management, but they tend to act as "islands" of CWD within a cutblock. The CWD should be distributed over the entire logged area.

Coarse Woody Debris Management (CWD)

- Many loggers are very proud of their "clean" logging on a block: leaving practically no waste wood on the site . No offence intended to the logging contractors: they're just following past regulatory requirements. Guess where the waste wood ends up on cleanly logged blocks. Right, it's in the burnpiles, instead of on the block where it would be of use for nutrients, water retention, microsites for plants and animals etc.
- Regulations for Utilisation standards (the maximum amount of merchantable and non-merchantable wood allowed to be left on a cutblock) have changed.
- If a higher range of waste wood is stipulated in a plan, then the logger can leave more wood dispersed on the block without being penalized.
- BCTS will be trying ranges of 5-15m³/ha retention of non-merchantable wood on some blocks, but the key is leaving CWD that will not decompose until after the next harvest (in 60-80+yrs).

Tips from Ruth Lloyd's Houston study on retaining CWD on site without impacting harvesting costs.

- Maintain patches of poles and saplings within the block.
- Stub some mature trees around the edges of the patches to act as markers, to keep the skidders from knocking down the patches.
- Tip some large pieces of CWD (10+ metres in length, these last many years longer than short pieces without decomposing) into the patches. Keep one end of the large pieces suspended off the ground by piling on other pieces of CWD.
- Smaller pieces can also be left on harvested areas, and in the patches .
- Retain some live mature standing trees on site, just for CWD. Recommend 10-20stems/ha, in patches or singly. If some blow down in the first 20 years, its OK. That's what they're there for.
- Retain all live hardwood species. This clause is already written into most prescriptions, but you still find some in the burnpiles every year. Emphasize hardwood retention during harvesting prework conferences.

Note: These practices work and BCTS will be training its loggers this Fall to implement these practices;

For consideration – consensus on what to do with this information?

- The above recommendations are considered progressive management practices. It takes time to adjust to new ideas, but as Forest Stewardship Plan's are being completed right now before the looming deadline, this is a great opportunity for licensees to incorporate these ideas.

Improvements for the coming year for harvesting operations?

- CVI Forecast service
- Leaving CWB on lot as per recommendations?
- Outreach and education on Ruth Lloyd's tips?

Summary of ideas and action items for all other topics today?

- Woodstoves
- Small Sawmills
- Dispersion modelling

Next Burn Operators' Forum and evaluation

- September 2007?
- We can add your names to our e-mail list for information and events i.e. Small Sawmill Forum, Annual Clean Air Plan Review, newsletter.