“Exploring ways to deal with Mountain Pine Beetle infestation and its consequences.”

Canadian Society for Bioengineering
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• Theme for today’s discussion:

• If it was easy, someone would already be doing it.
What do bio-engineers want to know about the Mountain Pine Beetle “Challenge”?
• Timber supply
• Inventory
• Hydrology
• Biodiversity
• Infrastructure
• Harvesting systems
• Products
• Economics
• Societal implications
Spread projections for Mountain Pine Beetle (provincial summary)

- Based on data up to the 2005 overview
- Based on data including the 2006 overview
Estimated Supply of Timber for Harvesting
Focus: Ration Non-Pine for Mid-Term
• Timber Supply Pine totals 1.35 billion m³
  – 78% of pine is projected to be killed
  – 23% of the mature growing stock in the province (1/3 of timber in BC Interior)
  – Annual Allowable Cuts increased to allow accelerated rate of harvest before economic value is lost. (up 17 to 54.6 Million m³/yr).
  – Weak markets mean AAC not being met.
• Inventory
  – The existing timber inventory models living forests.
  – We do not have models for how dead stands change over time, but they are anything but static.
  – Basic questions about the dead stands require very complex analysis to answer.
  – New tools are being developed and tested.
• Hydrologic Impacts
  – Water table rising as evapotranpiration declines (recovery 10 – 20 yrs or more)
  – Butt log rot occurring within 4 years on wet sites
  – Climate change reducing # of operating days.
  – Peak flows increasing
  – Riparian zones destabilizing.
  – Recovery period tied to re-establishment of ground cover. 20 yrs or more.
• **Biodiversity**
  - Fire based ecosystem
  - Loss of thermal cover
  - Course woody debris
  - Short term fire hazard
  - Seral stage disruption
  - Wind throw
  - Natural disturbance pattern disruption
• Harvesting Systems

www.fs.fed.us/fmsc/sdu/biomass/bundling/index.php

www.fpinnovations.ca/pdfs/15h15-Desrochers-Supply_Forest_Biomass-ENG.pdf
• Infrastructure
• Products
US Forest Service Observations - 2006

- WoodStraw™ markets in the FS appear to be high value, high investment projects:
  - Road Treatments
  - Ski Areas
  - Stream bank stabilization
  - Threatened & Endangered Species Habitat
  - Mine reclamation
  - Sensitive and wind-prone post wildfire sites
• **Economics**
  – Competition for fibre
  – Transportation costs (to plant – to market)
  – Densification
  – Capital
  – Infrastructure
  – Market trend/barriers
• Social Considerations
  – First Nations Communities have high expectation and high need for involvement in new economic opportunities
  – Urbanites not very receptive to wood fuel technologies
  – ENGOs pushing for less whole tree harvesting
• Closing thoughts
  – Government wants to see more utilization of MPB killed timber.
  – Existing industry is in crisis.
  – Demand for new wood products, including energy, is growing.
  – Can Bioengineers help overcome some of the obstacles? (I think so).

Thanks
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