Presentation to
The Premier's MPB Symposium - Quesnel

Battling British Columbia's Mountain Pine Beetle Epidemic – A Case Study in Collaboration

November 21, 2003

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- Good morning Premier and thank you for the invitation to speak today on the issue of the Mountain Pine Beetle Epidemic from the perspective of the forest industry's Mountain Pine Beetle Emergency Task Force.
- In the next few minutes I will address:
  - The formation of the Task Force;
  - The factors that contributed to the epidemic;
  - The actions taken to mitigate the spread of the epidemic;
  - The degree of success achieved by those actions; and
  - Help to set the stage for this afternoon's discussion by suggesting a change in focus and approach in dealing with both the continued expansion of the epidemic as well as "life after beetles".

- The industry's Mountain Pine Beetle Emergency Task Force was formed in the early summer of 1999 in response to calls for assistance from member companies, community leaders and Ministry of Forests District staff in the West Central portion of the province. The assistance requested was to help raise awareness of a localized but rapidly expanding Mountain Pine Bark Beetle outbreak in the Tweedsmuir / Ootsa area.
- The companies, communities and MoF staff had to that point been unsuccessful at drawing sufficient attention to the potentially serious and wide spread consequences of the outbreak and need for more aggressive action than was being taken.
- The Task Force was formed with four key goals in mind.
  - To raise public attention of the issue and develop public support for more aggressive action.
  - To increase political and senior bureaucratic understanding of the issue and thereby attract greater financial and human resources for more aggressive action.
  - To reduce the financial and administrative barriers to more timely action; and
  - To document the story in a very public way so as to reduce the likelihood of a negative reaction in the market place.
- The former Industry Task Force continues its work today under the newly re-organized Council of Forest Industries accompanied by a shift in mandate to look at industry and community stability issues in the wake of the epidemic.
- In considering how to address the epidemic going forward it is useful to look briefly at what is at risk from the outbreak.

Getting the Message Out – 1999 to 2003

- At Risk
  - Timber supply
  - Market share/continuity
  - Community stability
  - Environmental degradation
  - Fisheries/Wildlife habitat
  - Wilderness tourism
  - Land Use Planning

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- At risk is a stable supply of adequate and affordable timber.
- With the timber supply at risk this also puts at risk our ability to maintain market share by being a secure and cost effective source of products for our customers.
- Both of these risks translate into a risk of reduced stability of employment and a reduced source of revenue at both the community and provincial levels.
- Also, given the magnitude and extent of the outbreak, environmental values are also at risk. In its attack patterns the beetle does not bypass pine stands important for terrain stability, riparian areas, water temperature and quality or wildlife habitat.
- Also at risk are other commercial resource values such as wilderness tourism and indeed our own local outdoor recreation enjoyment.
- And last, but certainly not least, at risk is all the hard work done at the many Land Use Planning tables over the last decade or more. The beetle has certainly not respected the many land use compromises made in achieving a balance of resource uses across the landscape.
- Also of value in considering how to address the epidemic going forward is an understanding of the factors that lead to it.

- First it is worth reiterating we are dealing with an insect that is a natural part of lodgepole pine ecosystems. We are not dealing with an exotic or introduced pest. However, it is a part of the ecosystem that is out of balance for a number of natural as well as human caused reasons:

  - First, the beetle's natural population control factor, mortality from cold winters, has not been at work for the last decade or so. Normal winter mortality is 80-90%. Recently winter mortality has been as low as 10-20%.

  - Complicating this were two successive hot dry summers at the very beginning of the outbreak that put pine stands under drought stress making them less resistant to beetle attack and thus accelerating the epidemic.

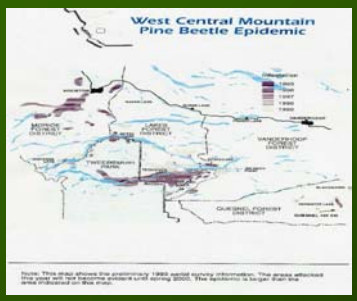
  - Thirdly, the beetle's one year life cycle provides two complicating factors; they are able as a species to respond very quickly to favourable conditions to population growth and, by the time the host trees exhibit the red needles that allow us to find and deal with them, the new brood of beetles have already flown on to attack other trees.

  - Also acting in the beetles favour in this case were the extensive stands of mature and over-mature lodgepole pine as a result of our enviable record of fire suppression over the last half century.

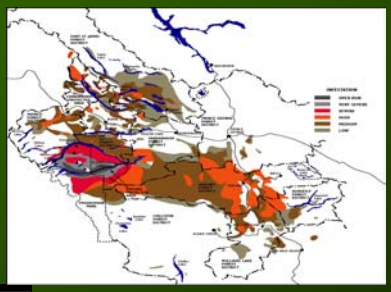
  - And most of the early attack was centered in remote areas of the working forest resulting in delays while roads were built to access the attacked stands, delays that resulted in at least one more year's attack before we could get there.

  - Add into this the fact we were dealing with a new cumbersome administrative system under the Forest Practices Code and a timber pricing system that was not responsive enough to reflect the new additional costs of beetle operations and you will see a collection of factors that individually might not have resulted in an epidemic but in this case conspired to create just the wrong conditions.

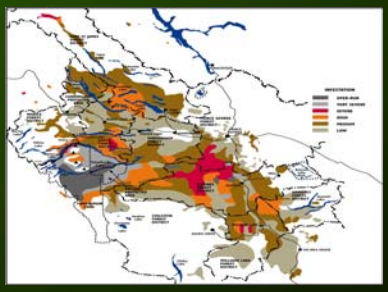
1999 - 6 Million cubic meters



2000 - 40 Million cubic meters



2001 - 72 Million cubic meters



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- The result …… an outbreak that started at:
  - less than 100,000 cubic meters in 1994;
  - by 1999 was 6 million cubic meters;
  - by 2000 was 40 million cubic meters;
  - and by 2001 was 72 million cubic meters;

Cumulative Area/Volume Under Attack in the Working Forest (Grey, Red & Green)

Year	Geographical Area Spread Over	Area Spread Over (ha)	Volume (million m3)
1994	Tweedsmuir/Ootsa	2,500	0.1
1995	Tweedsmuir/Ootsa	5,000	0.2
1996	Tweedsmuir/Ootsa	7,500	0.3
1997	Tweedsmuir/Ootsa	22,500	0.5
1998	Houston to Entiako	122,500	2.5
1999	Houston to Quesnel	322,500	6
2000	Takla Lake/Houston to Williams Lake	5.7 million	40
2001	Takla Lake/Smithers to 100 Mile House	8.0 million	72
2002	Takla Lake/Smithers to Cranbrook	9.0 million	108
2003	Williams Lake/Smithers to Cranbrook	?10-12 million?	? 150 – 170?

Source: CLMA/NFPA Mountain Pine Beetle Emergency Task Force

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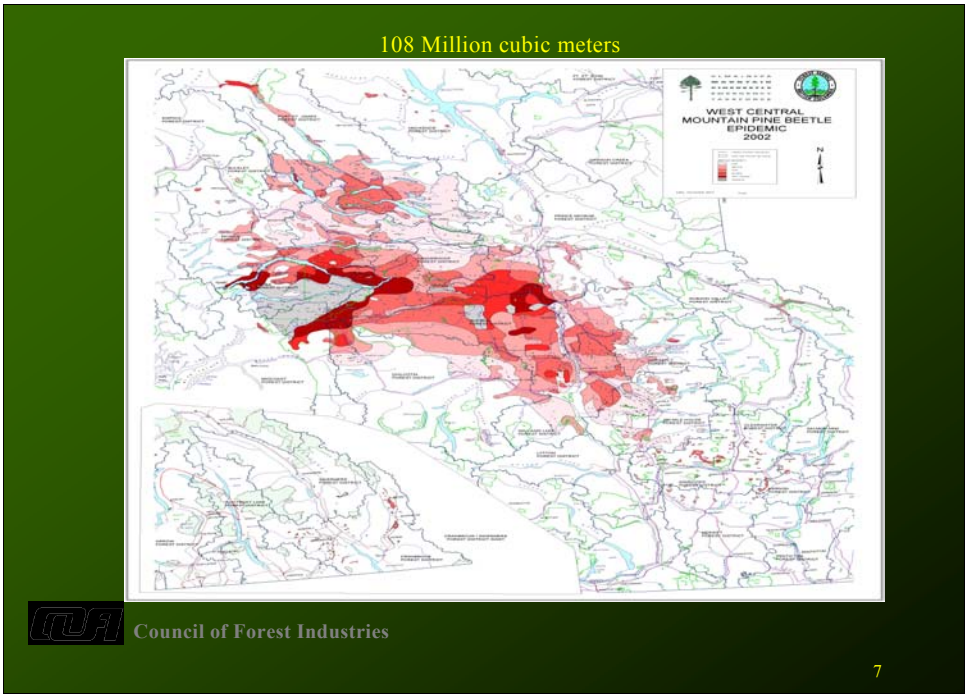
- And by the end of last year the epidemic was estimated to have cumulatively killed 108 million cubic meters; and,

- Preliminary estimates this year project there will be between 150 – 170 million cubic meters of cumulative grey, red & green attack volume. About 3 ½ times the interior's annual harvest level.



So what have we been doing? What actions have we been taking, how successful have we been and what might this suggest for actions going forward?

- Local endemic populations of Mountain Pine Beetle have now exploded into epidemic populations from Takla and Williston Lake areas in the North, all through the interior of BC to Cranbrook in the South.

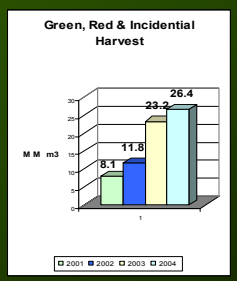
- It is useful to divide the epidemic up into two fundamental situations:
  - Strategies and actions for mitigating the epidemic at the leading edge; and
  - Strategies and actions for mitigating the epidemic after the leading edge has passed.

- Leading edge strategies and actions are and should continue to focus on detecting and removing those stands and trees that still have beetles in them, the green attack stands. Taking action to remove these trees and thereby reducing the beetle population will reduce the rate of spread until mother nature comes to our aid with a killing cold event.

- Based on the collaborative work done to date between the industry task force and the Ministry of Forests, leading edge strategies and actions that have proven to maximize the effectiveness of the existing harvest capacity include:
  - •Good, early information in the late summer /fall to detect where the beetles have flown to;
  - •Small patch salvage and multi year, multi pass harvesting of larger cutblocks to maximize the proportion of green attack removed for every cubic meter harvested;
  - •Use of bladed trails with a smaller footprint to access the many small patches instead of building roads.
  - •Judicious but aggressive use of non-commercial single tree and small group treatments in remote and protected areas.
  - •And continued administrative streamlining of both regular processes and maximum use of the Bark Beetle Regulation developed collaboratively with MoF two years ago. The beetles one year life cycle demands we move through the detection, planning, cutting authorization and road / trail construction cycle in 2-3 months, not the normal 2-3 years.
  - •And while corporate shareholders today demand and expect environmentally responsible performance they also demand and expect fiscally responsible performance.
  - •Given the lack of progress on the softwood lumber dispute we will be living with a form of our existing stumpage system in the interior for a time yet and efforts must continue to make this system more responsive in recognizing the additional cost of these kinds of operations, without the economically crippling affect of the waterbed.
- It is also necessary in this epidemic to bring more harvest capacity to bear from adjacent unattacked areas. The stumpage system is also the single largest impediment to doing this.
  - •This spring's decision to discontinue the waterbed adjustment and discontinue the use of the haul differential tool has eroded our collective effectiveness at reducing the spread rates.
  - •As the Landlord the Crown's economic test to evaluate the financial merit of bringing outside harvesting capacity to bear needs to put a much heavier weight on the future revenue benefits associated with an expense today to protect its timber asset.

Strategies for Mitigating - Performance Measures

- So how are we doing?
  - Volume directed at the beetle
    - 1999/2000 - 6.0 million m3
    - 2000/2001 - 8.1 million m3
    - 2001/2002 - 11.8 million m3
    - 2002/2003 - 23.2 million m3
    - 2003/2004 - 26 to 27 million m3?



  - Percentage directed at green attack stands
    - 2000/2001 - 65% of available harvest capacity
    - 2001/2002 - 67% of available harvest capacity
    - 2002/2003 - 81% of available harvest capacity
    - 2003/2004 - 82% of available harvest capacity?

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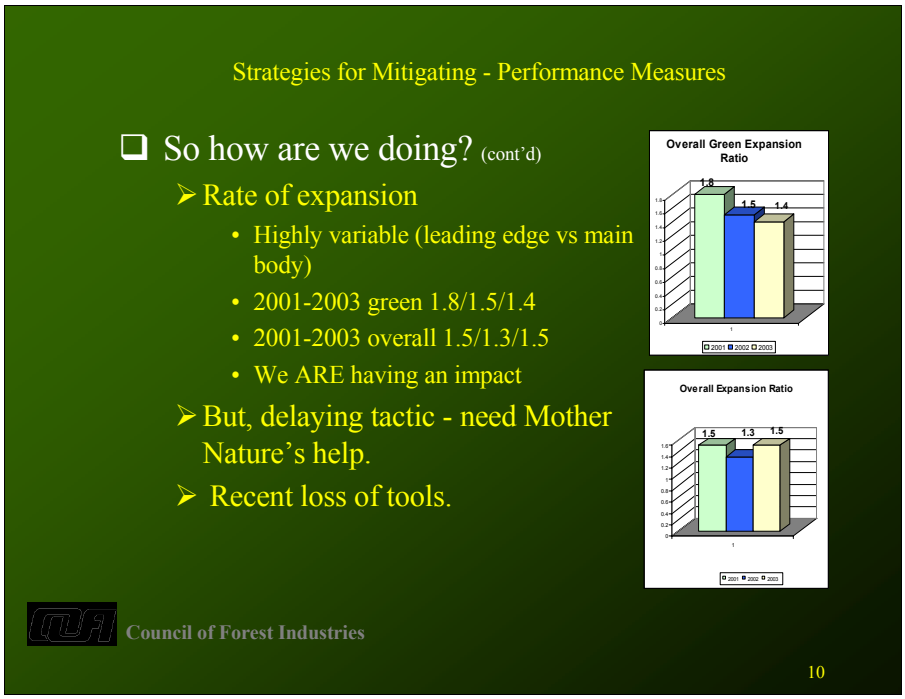
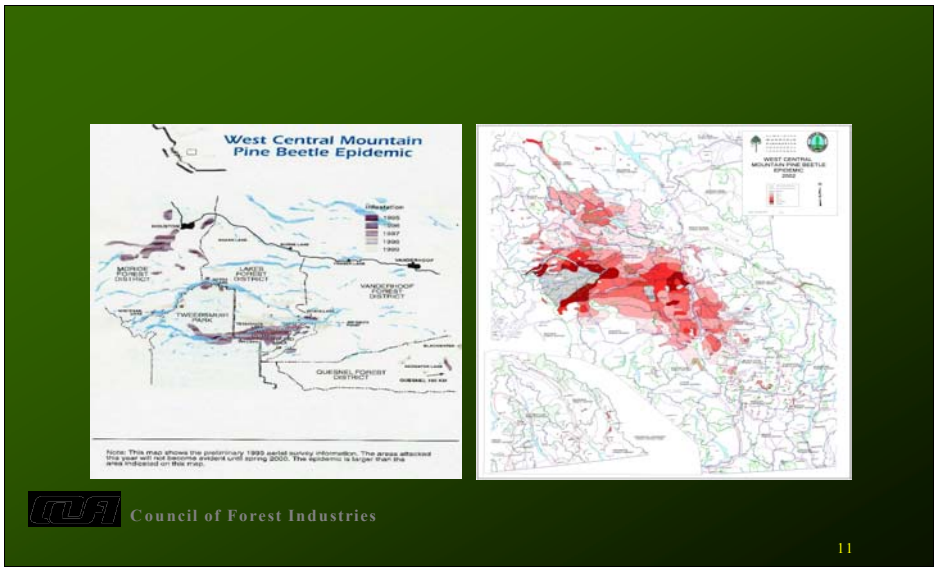
- The evidence that these leading edge actions are worthwhile, and are having an effect, are contained in a series of performance indicators used jointly by the Task Force and the Ministry of Forests' Bark Beetle Coordinator:
  - The volume we have jointly been able to direct at the beetle has climbed from 6 million m3 in 1999 to over 23 million m3 this last year. And plans are in place to direct 26 – 27 million m3 towards beetle attacked stands this coming winter and next summer.
  - A second indicator, the percentage of harvest directed at green attack has also steadily climbed from under 65% in 1999 to over 81% this last season. And plans are in place to direct 82% towards green attack in the leading edge areas this coming winter and next summer.



- A third indicator, the expansion rate ratios for both green attack and the overall expansion are declining or at least are steady.
- Yes, the epidemic is still expanding, and we will need mother natures help to collapse it, but it appears to be expanding at a reduced rate as a result of our joint efforts and expense.

➢However, in the context of my comment a moment ago on last spring's decision to discontinue the haul differential tool and to discontinue the waterbed adjustment, you will note that the three performance indicators I referenced show a declining rate of improvement. We should be targeting an increased rate of improvement.

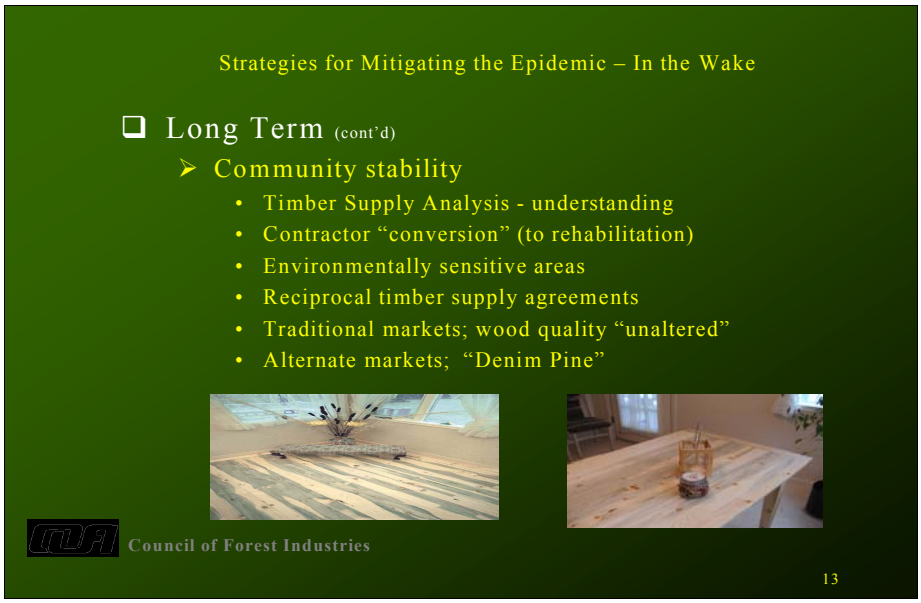


- A less quantitative but more visual indicator that the leading edge measures can and do work is seen in comparing these two maps.
  - •After the 1999 flight it was apparent there were three main epicenters of attack, Tweedsmuir / Ootsa, Houston & Quesnel.
  - •After the 2002 flight you can see how serious the Tweedsmuir / Ootsa and Quesnel epicenters have become.
  - But the Houston epicenter remains relatively stable.
  - •Good early detection, good early access, early aggressive small scale and small block harvesting not impeded by administrative delays or economic barriers have allowed licensees and MoF in the area to keep pace with the beetle populations.
  - •Given this concrete evidence that we can buy time, we can preserve asset / value through these tools we urge that last spring's decisions around the haul differential and waterbed adjustment be reconsidered.
- I would now like to move on to the second major strategic element to this epidemic, the development of strategies necessary for mitigating the effects of the epidemic in the wake of the leading edge.
- In those areas of the interior where the leading edge has passed through, it is now time to turn a significant amount of our attention to "life after beetles" …. To managing timber supply and economic community stability issues rather than the beetle populations.
- The Chief Forester's recent work suggests we have 5 to 15 years in which to prepare for the consequences of this epidemic.
- We need to take advantage of this time and begin that process, yesterday.
  As I understand it this is the primary purpose of this afternoon and I would like to help set the stage for this by itemizing some ideas about how this might be done:
  - •First, we need to wrap our arms around managing this strategic effort throughout the interior.
  - •Much like the Beetle Coordinator or "Beetle Boss" has worked to coordinate efforts throughout the interior, on solving operational and strategic forest management issues at the leading edge of this epidemic, an accountable senior individual and/or senior single office needs to be assigned the chore of team leader to manage the timber supply, and economic and community stability aspects of life after beetles.
  - •And the team that is formed to collaborate on these efforts needs to include community, First Nations, other resource users, and economic development expertise to be able to explore a full suite of options and then tailor those options to specific community circumstances.

- Further, we need to resume our work together to persuade the federal government to bring more resources to bear on the problems. The $40 million promised to date will be helpful, but more is needed. Economic and strategic analysis, economic diversification support, environmental impact mitigation work, fisheries and water protection work, rehabilitation of non economic sites and support for University and College research chairs are all suitable roles for federal government resources and would fall outside any subsidy allegations.
- Further, shelf life studies currently underway need to be completed and work on storing wood in reservoirs needs to be advanced. Note I say reservoirs, not lakes. And both need to be translated into operational reality to assist in addressing first those stands that will deteriorate fastest and then to minimizing the un-salvaged losses.

➢And, existing forest management knowledge needs to be translated into "beetle proofing" future stands through practices like:

- Planning and constructing good permanent access systems for improved early response;
- Re-establishing the attacked forests with a mosaic of stand structures and species and age classes so as to reduce the risk of a repeat outbreak; and



- Through the "life after beetles" task team I mentioned, help workers, businesses and communities to first understand the timber supply impacts to their specific communities and then through that understanding develop plans to position themselves to protect the existing forestry economic engine as best as possible as well as prepare to use the "new source" of fiber and, to re-trench and diversity where possible.

➢For example specific actions may include:

- Helping existing contractors convert equipment and skills over to the new need; or
- Providing reciprocal access to timber supplies in adjacent management units; or
- Satisfying information and marketing needs to assure traditional markets for traditional products; or
- Helping to develop alternate market initiatives such as the "denim pine" marketing approach already underway; or
- Developing other economic engines whether it be expanded oil and gas or wilderness tourism or agriculture in ways that compliments the basic forestry economic engine.
- In exploring and implementing these options it will be useful to keep in mind that the basic productive capacity of the landbase has not been reduced.
- The need is to reduce the magnitude and duration of temporary decline in economic activity of the forest industry as we know it today until the forest regenerates and the available wood supply shortage recovers.
- The vision in the wake of the beetles might be rural communities economies that are more diverse and stable and able to both survive during the decline in traditional forestry activities as well as positioned to further grow when the available wood supply increases in 50 to 80 years.

In Conclusion

- Expanding out of control - no end in sight.
  - Unchecked by Mother Nature; 150 - 170 million m3 by fall 2003?
- MoF/Industry efforts ARE having effect
  - But need Mother Nature's help
- There will be life after beetle
  - Federal Role
  - Provincial Government/Industry Role
  - Community Role
- Web Sites:
  - www.mountainpinebeetle.com
  - www.for.gov.bc.ca/PAB/News/Features/beetles
  - www.mpb.cfs.nrcan.gc.ca/
  - www.denimpine.ca

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- In Conclusion:
  - (read from the slide, emphasize the two strategic pieces)
  - Strategic actions for mitigating the epidemic at the leading edge; and,
  - Strategic actions for mitigating the epidemic in the wake of the leading edge, "life after beetles".