

News from the Co-editors

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Special Issue of *JEM* Focusses on Mountain Pine Beetle Epidemic

The current mountain pine beetle (MPB) epidemic gripping the province of British Columbia is the largest infestation in recorded history. As of 2005, over 8.5 million ha of lodgepole pine forests were in the red-attack stage. This infestation has spawned a wide range of research projects and trials to assess the impact of the current epidemic on all facets of natural resource management, both environmental and socio-economic. To keep you informed about the latest research on the effects of the MPB infestation, we have gathered together a series of articles that covers a wide variety of topics relating to mountain pine beetle, including shelf life, worker safety, hydrological impacts, restoration, regeneration, wildlife, timber supply, and infestation detection.

Rod DeBoice, the new Provincial Bark Beetle Co-ordinator, provides this issue's Guest Editorial. He describes the role of the Mountain Pine Beetle Response Team and concludes that the key to success in managing the socio-economic and environmental effects of the infestation is for all levels of government, First Nations, forest licensees, scientists, and communities to work together.

Philip Burton argues in his Perspectives piece that "restoration" is a misnomer when used in proposals to intervene in beetle-affected forests—generally these forests are not ecologically degraded and, in most cases, much of the affected area will recover on its own. He suggests that the term "stand rehabilitation" is more appropriate when the goal is enhancing timber values.

How does the wood quality of dead standing trees change over time? How quickly do standing dead trees decay, and how soon will they fall? Two papers, one by **Kathy Lewis** and **Ian Hartley** and the other by **Patience Rakochy** and **Chris Hawkins**, present information to help answer these questions. Lewis and Hartley summarize the published literature on these topics as well as experiential knowledge of foresters and mill operators from the 1980s Cariboo-Chilcotin MPB outbreak. Rakochy and Hawkins examine this issue from a worker safety perspective, and present baseline forest structure information that includes an assessment of wildlife/danger trees in stands attacked by MPB between 1996 and 2004.

Two papers report on the hydrological effects of mountain pine beetle. The first, an Extended Abstract of a paper by **Lars Uunila**, **Brian Guy**, and **Robin Pike**, originally published in its entirety in *Streamline* 9(2), summarizes important hydrological questions and the current state of knowledge, and suggests areas for future research. In the second, **John Rex** and **Stephane Dubé** describe a project that aims to assist salvage harvest planning through the development of a model to predict changes in soil water table levels in beetle-killed stands; they also outline some of their preliminary results in this Extension Note.

John Pousette and **Chris Hawkins** provide readers with an assessment of the assumptions used in modelling the MPB-induced uplift in allowable annual cut for the Prince George Timber Supply Area. They conclude that some of the assumptions used in the analysis, such as shelf life and minimum age of stands attacked by MPB, may be optimistic given the results of recent studies, which point to a mid-term timber supply falldown that is deeper and longer than originally forecast.

Given the extensive area of the MPB infestation, it will be impossible to salvage all affected stands before the dead trees are no longer suitable for the current suite of wood products. This will leave many stands of dead standing lodgepole pine trees. **Ann Chan-McLeod** presents a paper that summarizes the processes by which MPB affect wildlife and wildlife habitats in the absence of salvage harvesting, and the factors that dictate the nature of these effects. She notes that factors influencing the ecological legacy of these unsalvaged stands include time since infestation and severity of attack, the type and amount of remaining live vegetation, ecosystem type, and the characteristics of the surrounding landscape.

Also covering the topic of unsalvaged beetle-killed stands is a Discussion Paper by **Hardy Griesbauer** and **Scott Green**. They review and synthesize the scientific literature on the stand dynamics and growth of advance regeneration in these stands. These stands may be important in helping to mitigate the effects of the mid-term timber supply falldown by providing short- to mid-term harvest opportunities. But, as Griesbauer and Green point out, the inherent variability in the release and growth responses of the advance regeneration will create numerous management challenges. Effective management of advance regeneration will require a better understanding of the stand-level conditions and processes controlling its growth and development.

The efficacy of treatment strategies to combat the current infestation is discussed by **Trisalyn Nelson**, **Barry Boots**, **Ken White**, and **Alanya Smith**. They report on the effectiveness of five direct-control treatments applied across a range of infestation intensities and, based on the results of their research, present five management guidelines.

A Research Report by **Joanne White**, **Michael Wulder**, and **Danny Grills** reports on the effectiveness of SPOT-5 10m multispectral imagery to detect and map red-attack damage. Their results demonstrate that if landscape-level maps of red-attack damage are required, and Landsat TM or ETM+ data are not available, SPOT-5 10-m data could be considered as an alternative data source.

Coastal Disturbance Regimes and Red Alder Establishment also Covered in This Issue

Keith Thomas and **Jennifer Turner** present a general aid for managing red alder in British Columbia's coastal forests, touching on the species' role in nutrient cycling, productivity, disease effects, and biodiversity as well as its economic value.

Lori Daniels and **Robert Gray's** Discussion Paper illuminates disturbance regimes in coastal British Columbia. The authors reject the traditional view that stand-initiating fire, at intervals of 250–350 years, was the dominant disturbance regime in the wet coastal temperate rain forests of British Columbia, proposing instead fine-scale gap dynamics. Improved understanding of the spatial and temporal attributes of disturbance regimes in coastal forests has important implications for sustainable forest management and conservation of biodiversity.

Watch for a variety of natural resource management topics in *JEM* 7(3), including more articles on the impact of the mountain pine beetle epidemic.