

ADVANCES

Showcasing Beetle Economics

The McGregor Model Forest's Showcase 2004 event provided some excellent information on the variety of projects undertaken by the model forest in the last year.

Mike Patriquin updated his project on the impact of Natural Disturbances on Community Stability. The project, which has been underway since October 2002, is now returning some thought provoking results with the completion of an economic model. The model shows the likely economic effect of the fall down in the Annual Allowable Cut (AAC) in the post mountain pine beetle era.

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Managing for Windy Days

Damaging winds can seriously impact the intent and implementation efforts of planners in the forest. Windthrow or blowdown occurs when trees are uprooted or broken by the force of winds. The edges of recent clearcuts are susceptible to windthrow events because trees are not acclimated to the abrupt increase in wind loading.

Steve Mitchell, a professor at the University of British Columbia recently completed a three-year project funded by the Networks of Centres of Excellence - Sustainable Forest Management Network (NCE-SFM) to develop windthrow risk modelling tools. As a component of this project, a model was developed in partnership with Canfor and the McGregor Model Forest Association for Canfor's Tree Farm Licence 30.

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A clearcut edge windthrow in a pine, fir, and aspen stand. A new modelling tool could help to reduce these events.

Model Forest Calendar

JANUARY

- 12-13 Natural Resource Forum
- Prince George
- 13 Prince George LRMP
Mountain Pine
Beetle Workshop - Prince
George
- 20 Prince George LRMP
Mountain Pine
Beetle Workshop - Prince
George
- 25 Mountain Pine Beetle
Research Update - Prince
George

FEBRUARY

- 12 Vanderhoof LRMP
Mountain Pine
Beetle Workshop
- Vanderhoof (Tentative)
- 23-25 Assoc. of BC Professional
Foresters Conference &
AGM - Prince George

MARCH

- 15-17 NTFP Working Forum - Port
Hardy

APRIL

- 14-15 Council of Forest Industries
Annual Conference - Prince
George

To add your event to the Model Forest Calendar, provide details to modelforest@mcgregor.bc.ca.

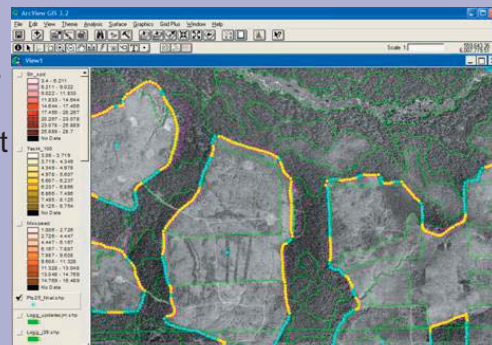
Managing for Windy Days ...from page 1

To build the model, buffers 25 meters deep were created in ArcView GIS adjacent to cutblocks harvested between 1987 and 1997 for 6 sample 1:20,000-mapsheets. These buffers were then divided into 25 square meter segments. Cutblock edge windthrow was mapped from the 1997/98 aerial photographs to form a windthrow layer in the GIS. Windthrow status along with the boundary exposure, wind, topographic, stand and ecosystem data was then extracted for each segment using GIS functions. The resulting 22,000 edge segments were used to fit regression models that predicted the probability of being in a windthrow polygon as a function of edge attributes.

Overall the research found that wind exposure variables are typically more important than stand type or soil variables in predicting risk. The direction a clearcut boundary faces also plays a role in increasing the risk of windthrow. Boundaries facing the south and west had a higher risk of suffering damage than those facing north and east.

The research also found that stands dominated by lodgepole pine, spruce and hemlock are more likely to be affected by strong winds when compared to deciduous, redcedar and subalpine fir. Soil type can also factor into the potential risk of wind damage. The project found that stands growing on mud, sand or gravel were more frequently damaged than those growing on silt, clay or mixed soil materials.

The information obtained through the research led to the development of a windthrow probability map for Canfor's Tree Farm Licence 30. Similar models and maps have now been completed for 5 coastal operations and 3 interior operations in BC. In pooling the datasets and comparing model predictions, Dr. Mitchell and his research group have been able to produce general windthrow probability models for coastal and interior BC.



A screen capture showing ArcView window with orthophotograph of portion of TFL 30.

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Patriquin showed preliminary results of how an anticipated reduction in the AAC of 15 percent would significantly reduce the level of revenue in the region. As the economic driver, dramatic reductions in forestry will have the greatest impact on service and retail sectors of the economy. According to the model, it will reduce the amount of royalties and indirect taxes paid from the region by approximately 25% and lead to the loss of as many as 3100 employment positions.

The results of the economic modeling suggest the negative impacts from a reduction in forestry activity could be reduced through a wide range of activities including increasing activities in other sectors such as mining, oil and gas, through structural changes and the development of new products and services.

The model also allows for the inclusion of potential mitigative measures that could be taken to reduce the impacts. For example a 5% increase in visitors and a 5% increase in traditional agricultural exports would partially offset the impacts from reduced cutting. However these jobs are generally characterized by relatively lower wages and an increase in part-time and seasonal work.

Over the next few months, model results will be provided to a variety of communities throughout British Columbia which are being affected by the pine-beetle epidemic. Funding for the project was provided by the McGregor Model Forest and the Canadian Forest Service's Mountain Pine Beetle Initiative.

New on the Web

The McGregor Model Forest website is being upgraded. The new site will be available to members and the public in February.

www.mcgregor.bc.ca



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Model Forests are an initiative of the Govt. of Canada (Natural Resources Canada - Canadian Forest Service).



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