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Jim Burbee, Manager
Tweedsmuir Forest Ltd.
3003 Riverview Road
Prince George, BC
V2K 4Y5

Dear Jim Burbee:

Staff from Ministry of Forests, Forest Analysis Branch, have examined a report documenting a comparison of timber supply analysis results generated using the Tesera Scheduling Model (TSM) and FSSIM. The chief forester's guidelines on timber supply analysis for Innovative Forest Practices Agreements discuss the need to understand how a model works in order to be able to appropriately interpret analysis results. A benchmarking or comparison exercise is one suitable method for gaining such understanding.

In his review, Mike Clarkson of Forest Analysis Branch concluded that:

- When using the same inputs and assumptions, TSM and FSSIM generate similar timber supply projections. TSM differs in some of the functionalities to FSSIM (in particular ageing to mid-period rather than use of a look ahead), However, all models require assumptions, and those made in TSM seem appropriate for forest level modelling. TSM has the functionality to model harvest, forest regeneration and growth, and forest cover constraints, and meets Forest Analysis Branch needs to support the chief forester in his AAC determinations.

- The results based on spatially explicit modelling of cutblock adjacency and green-up - specifically a lower forecast of timber supply than under spatially inexplicit modelling - are not surprising. He notes that it would be highly useful to understand the timber supply impacts of a range of alternative cutlock designs and other components of spatially explicit analysis, since there may be several alternative sets of those components that meet forest management objectives.

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Ministry of Forests Forest Analysis Branch
Location: 3rd Floor, 595 Pandora Avenue, Victoria, British Columbia
Mailing Address: PO Box 9512 Stn Prov Govt Victoria, BC V8W 3E7
Tel: (250) 953-3836
Fax: (250) 953-3838

- Simulated annealing provides a good approach for ensuring the schedule of harvests and activities is reasonably good, since a simple simulation approach could lead to poorer results than could be obtained through better scheduling. However, the role of objective weighting needs to be explicit and should be examined as part of the analysis. The weights are analytical inputs whose impacts should be understood if the overall results are to be understood.

- Acknowledging his cautions, he recommends that TSM should be accepted in all of its potential modes of operation - spatially inexplicit simulation, spatially explicit simulation, and simulated annealing - for use in timber supply analysis to be provided for AAC decision support.

I agree with all of Mike's comments, and would like to re-iterate the need to investigate the impacts both of alternative inputs and approaches to spatially explicit modelling (for example, different cutblock and patch layouts), and of the objective weights. Based on the Forest Analysis Branch review of the TSM benchmarking, I believe it is suitable for providing decision support for AAC determinations.

Yours truly,

Chris Fletcher
A/Manager
Analysis Section

cc: Michael Clarkson
Analysis Forester

Bruce MacArthur
Tesera Systems Inc.
Box 2130
Prince George, BC
V2N 2J6