

## Volume 3, Issue 1 - Scenario Planning

### Welcome to the Newsletter

Welcome to the "Scenario Planning" issue of the LP Swan Valley Forest Management Plan Newsletter. This is the first in a two part series that will focus on scenario planning and the use of computer simulation tools.

This issue provides an overview of what scenario planning is. The second issue will discuss the results from the workshop for the first round of scenario planning and how these results will be used in the remaining two rounds of scenario planning.

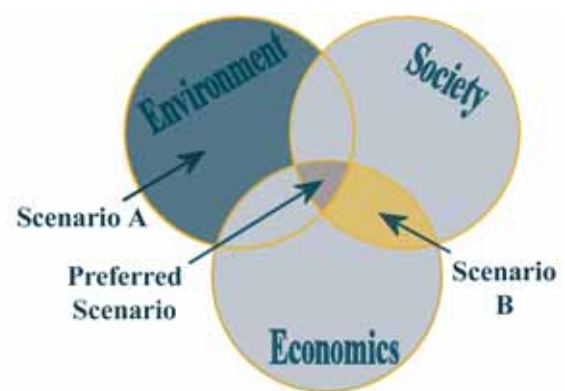


### Scenario Planning

LP is using 'scenario planning' as a method of evaluating potential future forest conditions to develop its 20 Year Forest Management Plan. Decision makers use scenarios to communicate ideas about possibilities, and to quantitatively estimate the benefits and impacts of each alternative relative to the other alternatives (see LP Newsletter Vol. 1, Issue 2-2003).

Scenario planning combines different strategies, goals, practices and events into a "story" to help us understand how the decisions we make today may affect the forest into the future. It is a tool for long-range strategic planning that helps us come to terms with uncertainty and change in the future.

Computer simulation tools are used to generate snapshots of the future forest conditions that are expected to develop over time as a result of forest management activities such as road building, harvesting and regeneration.



Ideally the chosen scenario will balance ecological, economic and social values.

## Three Rounds of Scenario Planning

The LP Planning Team is engaged in three rounds of scenario planning. The first round was completed in November of 2004. The rounds of analysis and consultation will screen competing scenarios until one is selected for implementation. The rounds will also help identify critical elements of the 20 Year Forest Management Plan and its companion Effects Monitoring Program. Evaluating the results of each scenario will involve the public, stakeholders, and Manitoba Conservation. *Ideally the chosen scenario will balance values (ecological, economic and social), meet federal and provincial regulatory requirements and be sustainable over the long term.*

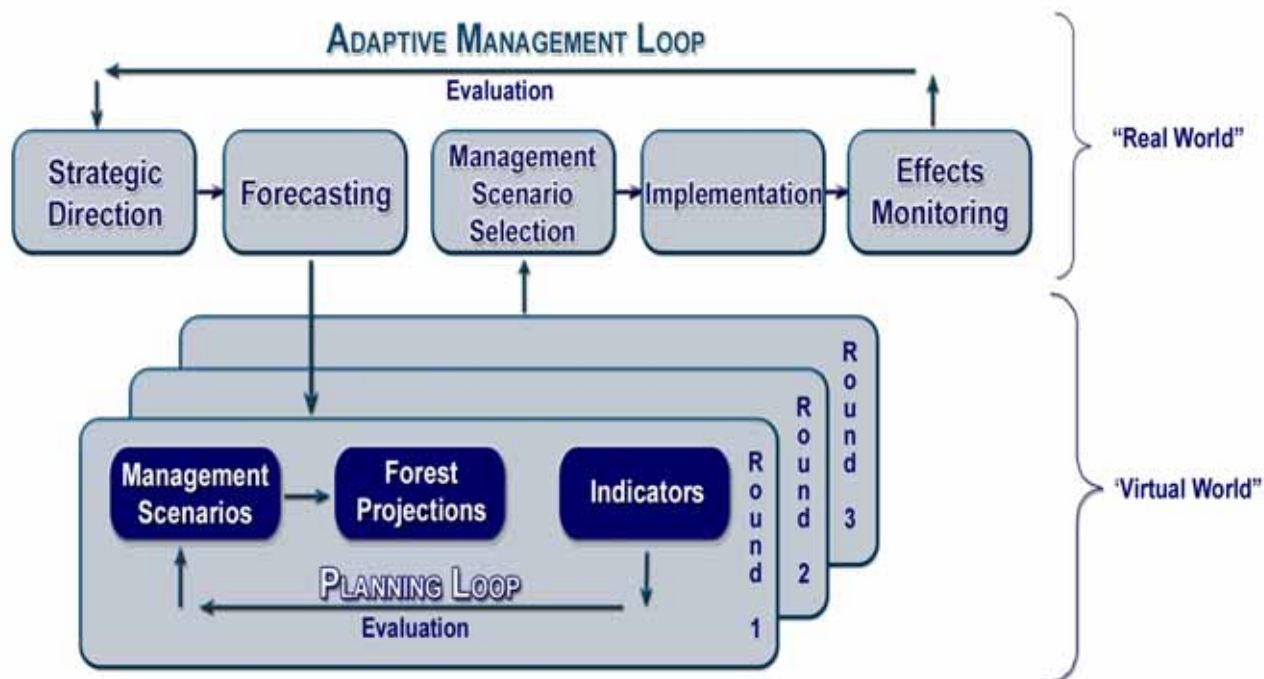
Forest management planning involves an "adaptive

management loop", which begins with strategic direction established by public policy and the physical, social and economic environment. Planners make forecasts for several possible future scenarios and then use this information to select a scenario for implementation.

Through effects monitoring LP's forecasted effects are compared to observed effects and then the new knowledge is applied in the next management planning cycle. This adaptive management loop occurs in the "real world" of the forest and communities with each cycle spanning many years or decades.

Each round of scenario planning represents one cycle in an "adaptive planning loop". An adaptive planning loop is similar to the adaptive management loop but

occurs in the "virtual world" of computer simulation with each cycle occurring from several days to several months. Computer simulations are used to *aid* in the decision making process of adaptive management. It is important to note that the computer simulation tools are part of a decision support system and that they are *not* decision makers in themselves. Rauscher (1999) summarizes the purpose of using computer simulations: 1) to assist individuals and groups in their decision making processes; 2) to support rather than replace the judgement of the decision makers; and 3) to improve the quality, reproducibility and explicability of the decision process<sup>1</sup>.



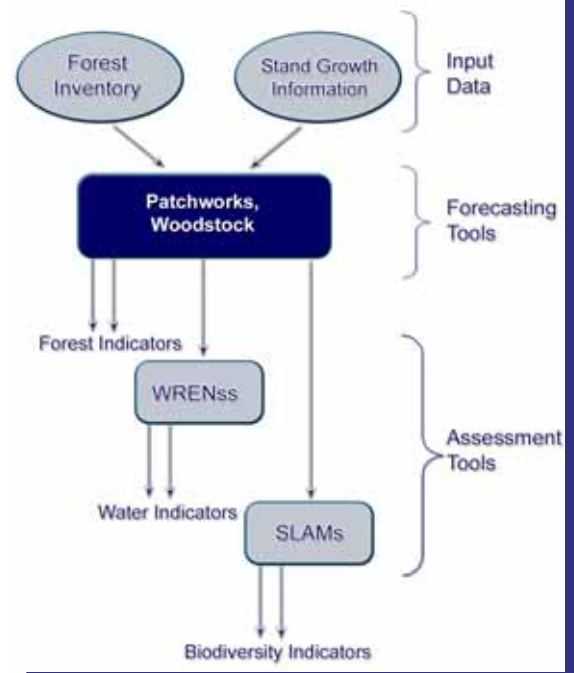
The above figure is a graphical depiction of the adaptive management loop ("real world") and the adaptive planning loop ("virtual world"). Round 1 was completed in November 2004. Rounds 2 and 3 are scheduled for completion in September 2005 and November 2005, respectively.

<sup>1</sup>Rauscher, H.M. 1999. Ecosystem management decision support for federal forests in the United States: a review. For. Ecol. and Mng. 114:173-197).

## LP's Computer Simulation Tools and Decision Support Systems

LP scenario planning uses forecasting and assessment computer simulation tools. First, forecasting tools (Woodstock/Patchworks) are used to generate possible future forest conditions. The data entered into the forecasting tools include forest inventory and stand growth information. Forecasting tools then produce basic indicators such as harvest volume, the age of the forest, and the location of the road network. Indicators that are more complex, such as areas of wildlife habitat or the effect of forest management on water yield, are generated through the application of assessment tools. Biodiversity and water indicators are being derived through Spatial Landscape Assessment Models (SLAMS) and Water Resource Evaluation Non-point silviculture sources model (WRENss), respectively. These same indicators will help inform management decisions and track progress when the plan is implemented.

To learn more about Patchworks and Woodstock visit the following sites: [www.spatial.ca](http://www.spatial.ca) and [www.remsoft.com](http://www.remsoft.com).



## CCFM Criteria and Effects Assessment Teams (EATs)

The Canadian Council of Forest Ministers has developed a Criteria and Indicator Framework (C&I) of Sustainable Forest Management (see LP Newsletter Vol. 1, Issues 1 and 2 - 2003). The framework was developed at a national level to monitor and report on Canada's success in sustainably managing our forests. The framework contains six main criteria (or topic areas) and many indicators that are used for monitoring. The six criteria encompass the following values:

1. Conservation of biological diversity;
2. Maintenance and enhancement of forest ecosystem condition and productivity;
3. Conservation of soil and water resources;
4. Forest ecosystem contributions to global ecological cycles;
5. Multiple benefits to society; and
6. Accepting society's responsibility for sustainable development.

LP's current forest condition will be assessed in terms of the C&I with the local level indicators used in scenario planning. These assessments will be made by Effects Assessment Teams (EATs). EATs are working groups of researchers, consultants, and LP and government representatives that provide technical support for critical forest values inputs and analyses. There are a total of eight EATs: Biodiversity, Climate Change and Carbon, Culture & Heritage, Fire, Forest Productivity, Insects & Disease, Social and Economic, and Water. Each EAT is associated with various components of the C&I Framework, some of which have been working on projects for the last ten years while others have been formed in the last two years.

Canadian Council of Forest Ministers  
<http://www.ccfm.org>

## Horse Logging in 2005?

The "virtual world" of scenario planing requires advanced technology as does the harvesting and conversion of trees in LP's forest operations. But not all aspects of LP's operations are "high tech" and today's operating principles have strong historical foundations.

Horse power was a popular means of moving wood from the turn of the century to well into the 1950s when modern technology replaced the horse in the bush. Don Ellingson of Benito, a farmer, horseman and independent logger thought he would give horse logging another shot. Don breeds, trains and sells "Suffolk Punch" draft horses and uses them mainly for pulling wagons and sleighs. Having horse logged with his father in the 60s Don has always been around horses and thought that logging would provide a useful training ground for some of his young animals. As a result Don spoke to LP Planner Keith Proctor about it. The pair worked out some details and the operation began. Don rotates between cutting the trees and skidding the wood, and spends several hours dropping and limbing trees before using the horses to skid the wood from the stump to the landing. The horse power for the skidding comes from pulling veterans Jack and Flame (7 year olds), while Joe and Cotton (2 year olds) have never done any pulling before. None of the animals had been used in horse logging operations before. Each animal

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*"Horse power was a popular means of moving wood from the turn of the century..."*

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weigh between 1,400 and 1,900 pounds and can skid between 200 and 600 pounds. Don and skidding partner Roger Abrahamson each work a one-horse setup and rotate the horses on duty to pull 8, 16 and 24 foot logs from the bush to the landing site, a distance of about 300 yards.

Over the winter Don moved about 150 cords of aspen with his animals and hopes to continue horse logging. He plans to build a wheeled arch to help with the loads and to try his hand and animals on a summer logging job.

So what makes horse logging distinctive from modern equipment? There are pros and cons to each style. Limits on skid distance, low productivity and smaller log sizes are the greatest disadvantages. However, horse logging allows for a less intrusive means of moving wood, more control and less residual damage in a partial-cut situation, plus a lower cost of equipment and maintenance.



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