

# Swan Valley Forest Management Plan Newsletter



Volume 1, Issue 2: June 23<sup>rd</sup>, 2003

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## Welcome to the Second Issue

Welcome to the second issue of LP Canada's Swan Valley Forest Management Plan Newsletter. The second issue continues where the first issue left off, describing features of LP Canada's upcoming Forest Ecosystem Management Plan (FEMP).

This issue is the last to be distributed through community newspapers in the Swan Valley area. Future issues of the newsletter will be available by paper mail, email, or by simply visiting our website, [www.swanvalleyforest.ca](http://www.swanvalleyforest.ca).

To subscribe to the newsletter for upcoming distribution, please send your mailing preference and details to the LP Canada contact information provided on the first and last page of this newsletter. Subsequent issues will be published on a regular basis, and sent to subscribers free of charge.

This second issue is intended primarily to inform the community about the steps involved in plan production, as well as how LP Canada intends to incorporate local values and research initiatives into the Plan. You can provide your input to the LP planning team by using the Contact information on the front and back pages of this newsletter.



The edge of the Duck Mountain Provincial Forest with agricultural land in the foreground. Photo credit - Rob Arnup

# Developing a Long-Term Forest Management Plan

As outlined in LP's forest management agreement with the Province of Manitoba, LP is required to develop and submit for approval another long-term forest management plan before the current 10 Year Plan expires. The next long-term plan will provide an 'update' on LP's activities under the current plan and provide strategic direction for forest management activities into the future. This 'update' will incorporate new data from surveys and inventories that have been completed over the last 9 years. It will also integrate new knowledge and understanding of the Duck Mountain forest ecosystems we have learned from our many research and monitoring projects, as well as relevant studies from across Canada.

Forestry, similar to other disciplines such as medicine and engineering, is continually evolving new approaches, philosophies and strategies as we conduct research and learn from our current practices. Since the last Plan, many new forest management practices and strategies have been developed across Canada and elsewhere that will be incorporated into the next Plan and provide a foundation for future forest management activities.

The umbrella term for all these strategies, and how they ultimately relate to each other is termed **Sustainable Forest Management** (SFM). The last newsletter introduced this term in more detail, but simply put, it refers to 'management that maintains and enhances the long-term health of the forest, while providing

environmental, economic, social and cultural opportunities for present and future generations.' Other important considerations in an SFM approach include an assessment of both the historic and present forest condition in terms of environmental, economic and social elements as well as the development of a desired future forest condition to maintain these forest elements for future generations.

## Ecological Aspects of Sustainable Forest Management

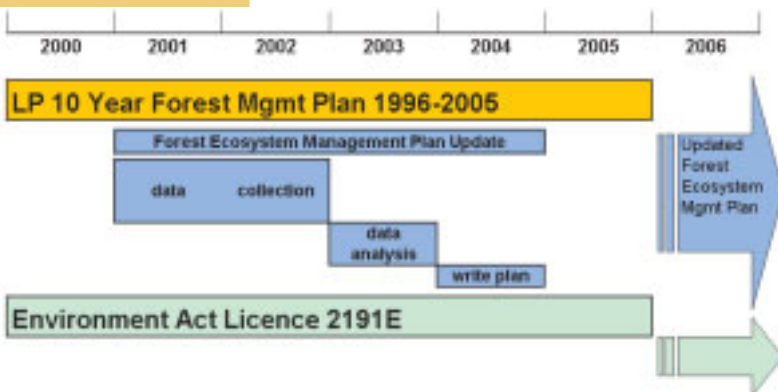
There are many strategies and practices involved in Sustainable Forest Management. One of the key strategies that support the implementation of a SFM approach is ecosystem-based management. **Ecosystem Based Management** (EBM) involves the management of human activities so that forest ecosystems (the species present, the way they function, and how they are all distributed) are maintained, and the natural processes that shaped them (including forest fires, climate, evolution, insect and disease) can continue into the future. EBM addresses the environment circle of the SFM diagram (see the figure top right of page 3). LP committed to implementing an EBM approach in the 10 Year Plan and will report on the success of implementing EBM, as well as provide future direction for LP's continued path towards Sustainable Forest Management, in the next management plan.

## Public Participation in Sustainable Forest Management

Another essential aspect of Sustainable Forest Management is managing the forest for what the public values in it, and for the other elements in the forest that haven't traditionally been managed from a timber perspective - these are often referred to as 'non-timber values'. LP is attempting to get the public and First Nation communities within the management area to assist with setting direction for the management of these non-timber values through their direct involvement in the forest planning and management process. This increased emphasis on public participation processes in forest planning

*"The next long-term plan will incorporate new data from surveys and inventories completed".*

**Below:** Timeline for LP's current 10-year Plan and the new Forest Ecosystem Management Plan (FEMP).



relates to the fact that most of Canada's forested lands are owned by the public, and recognizes the importance of environmental, cultural and economic values of forests to individual Canadians. The requirement for public participation in forest management is also reflected in policies such as the Canada Forest Accord. LP has developed a variety of strategies to involve Manitobans in the development of the next long-term plan including these newsletters, a website, various advisory committees and public meetings (as outlined in newsletter # 1).

## Assessing What We Value About Our Forests

In order to manage the forest for all values we must understand the various elements of the forest that are important to you based on social and cultural requirements. It can be difficult to understand what we like about the forest from this perspective – sometimes we just like to be in the forest or know that it exists. However, in order to ensure the things we like about the forest are protected for the future, forest managers need to understand what you 'value' about the forest. Assessing what an individual values within the forest is not an exact science but we are attempting to address this in a number of ways.

We held a preliminary workshop with the LP Stakeholders Advisory Committee (SAC) in March of this year to determine their forest values at the local level. A value can take many forms and represent many different aspects of the forest. An example of some values from the first workshop include the maintenance of natural areas, the ability to go berry picking, the continued availability of hunting opportunities, employment and clean water.

In addition to LP's involvement in assessing values at a local level, Dr. Peter Miller and his research team at the Universities of Winnipeg and Manitoba are conducting a values assessment within the context of a research project entitled *"Public Values, Views and Participation in Managing Manitoba's Mountain Forest Section."* As part of this project, the research team will create, administer and analyze an 'Ecosystem and Forest Values survey' questionnaire. This survey will be completed by the LP Stakeholders Advisory Committee as well as a random sample of people

within the Western Region of Manitoba to provide additional information to LP on forest values from a larger regional perspective.

## Local Level Indicators

We provided an overview of the Criteria and Indicator framework of SFM in

Canada in the last newsletter. This 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. Since this framework was developed at a national level, it may not reflect what Sustainable Forest Management means to people who live in the Swan Valley area or to other Manitobans. To bring this framework closer to home, LP is developing, in conjunction with public advisory committees, a suite of local level indicators (LLI) based on the values citizens hold for the forests within LP's management area. Additional science-based indicators will be developed by researchers who have worked in the boreal forest.

Once the value assessments are completed, as described above, the values will be organized under the 6 Criteria from the C&I framework, translated into local level indicators, and reviewed and refined by the SAC at subsequent workshops. We want to repeat this process with the Winnipeg-based Communities of Interest Advisory Committee. This suite of local level indicators will enhance LP's ability to manage the forest to ensure the values associated with the forest today are maintained for future generations.

Additional local level indicators will be incorporated from the set of LLI developed by the Manitoba Model Forest. These indicators were developed after a series of workshops held in 1998-1999 involving value assessments of approximately 50 participants from across Manitoba including environmental



**Above:** Elements of Sustainable Forest Management include a balance of environmental, social and economic considerations.

organizations, Model Forest members, academics and people living within the Model Forest area.

## The Historic Forest Condition



**Above:** Past fires affect the condition of the forest by creating a mosaic of forest stands

You have likely heard the saying “in order to understand where you are going, you need to understand where you have been” applied to many situations. It also fits with forest management. We have learned that the

boreal forest has changed over time in response to many different things including forest fires, climate and human activities. It is recognized, within the context of Sustainable Forest Management, that studying the historic forest condition will assist us to set direction for future forest management.

The forests that LP manages contain a diverse array of plants and animals, found in forested areas as well as the many lakes, streams and wetlands in the region. The key to this diversity has historically been related to periodic, large scale fires that rejuvenate the forest, resulting in a large patchwork of various types and ages of forest across the landscape. In recent years, a new approach to managing forests has been developed across Canada. An important element of this new approach, often referred to as **‘natural disturbance-based management’**, is an understanding of historic disturbance cycles (including forest fires, blow down, insects and disease) in the forest. Dr. Jacques Tardif, a professor at the University of Winnipeg, has been studying the history of fires and insect infestations in the Duck Mountains for the past 3 years.

This research will be used to help LP understand what has happened in the forest in the past, so we can better predict the outcome of our various activities on the land in the future. We will also be refining our forest

management planning and operational practices to better approximate the natural patterns and processes that occur following natural disturbances at both stand and landscape levels. Scientists believe this approach will ensure the maintenance of biodiversity in the forest (this refers to both the number of species and the different types of forest habitats). Biodiversity is an important element of healthy forests. If we try to maintain all of the forest pieces, we will be more successful at maintaining the linkages between all the elements of the forest; and therefore resulting in a greater probability of healthy forests into the future. We will describe Dr. Tardif’s research in more detail and how it will be implemented in the plan in future newsletters.

### Glossary of Terms

*Historic Forest Condition* - the composition, structure and age of the forest, as it has varied through time based on natural events.

*Current Forest Condition* - the composition, structure and age of a forest in its current condition. Such information is collected by aerial photography interpretation and fieldwork.

*Future Forest Condition* - the estimated (predicted) composition, structure and age of a forest at some point in the future. Such conditions are estimated using computer models under different management scenarios.

*Model* - A computer representation or simulation of real world systems or activities that is used to assist out understanding of complex natural systems.

*EMS* - Environmental Management System: is an organized system of policies, practices and procedures that assists LP to manage and minimize the potential environmental effects of their management activities.

*Indicator* - an element of the forest that may be directly affected by forest management activities, or may indicate the health of the forest.

*Silviculture* - the science and practice of controlling the establishment composition, growth, health and quality of forests.

*Benchmark* - something that serves as the standard by which others may be measured.

*Decision Rules* - criteria that assist in solving complex problems; whether to accept or reject data and options, or how to proceed as changes are made.

# Moving Forward – Understanding our Current Forest to Manage for the Future

In addition to describing the historic forest in the next plan, we will be assessing the current forest condition in terms of the C&I framework previously described. The forest will be described in detail, in terms of each of the 6 criteria, based on the new forest ecosystem inventory that has been developed, and the numerous surveys, monitoring programs and research projects that have been completed since 1994. This will be accomplished by developing working groups of specialists – which we are calling Effects Assessment Teams (EATs) – who are knowledgeable and experienced in specific topic areas such as aquatics, climate change or biodiversity. These teams will help LP to assess the 'effects' of their practices on many different forest components. The teams, comprised of LP staff, consultants, research scientists and government representatives will determine what needs to be done (data and inventory requirements), how to do it (analysis and modeling) and how it all fits together in the long-term plan (management scenarios, implementation and monitoring).

## Scenario Planning - Evaluating Potential Future Forests

We are assessing the **historic** forest condition through research on forest disturbance cycles. The **current** forest condition has been captured through the efforts of the new ecological inventory. The next step is to utilize the historic and current forest conditions to assess potential **future** forest conditions. Sustainability of the forest ecosystems and the plants and animals that live in the forest must be evaluated by looking at the future forest.

What is a scenario? A scenario is a collection of different strategies, goals, practices and events that are combined into a 'story' to help us understand how the decisions we make today, may affect the forest into the future.

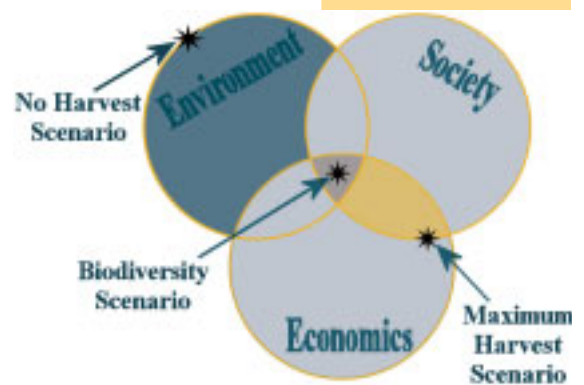
Scenario planning is a tool for long-range strategic planning that helps us come to terms with uncertainty and change into the future. Using computer simulation models to view outcomes of scenarios helps people make choices about forest management practices that they want to implement in order to create a desirable forest for current and future generations. Scenarios used in conjunction with computer modeling help simplify the complex combinations of information and management issues into a limited number of possibilities.

Richard Haynes, a scientist from the U.S. Forest Service suggests that scenario planning helps to describe possible futures, as opposed to a desired future. This process has three main functions: 1) it helps us to understand how all the different management activities are combined to manage the forest, 2) it allows people to evaluate the strengths and weaknesses of various choices and options, and 3) it helps us get an idea of the 'big picture'.

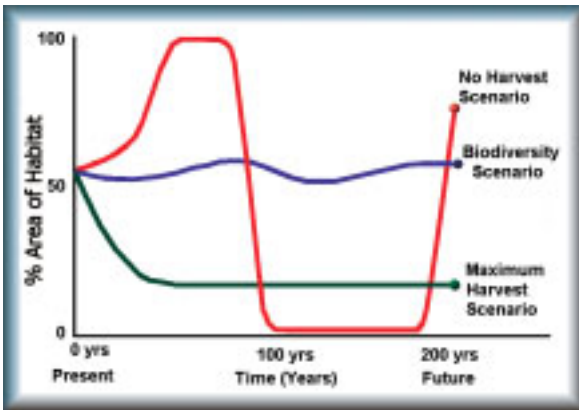
Another way to look at scenario planning is to ask "What if...?". For example, what if we managed the Duck Mountains for the most variety in plant and animals possible, and to have the greatest number of combinations of different forest types. Would this scenario (or possible condition of the forest in the future) ensure the continuation of wildlife, recreation potential, bird habitat? To generate one or more future forest conditions, you need several things:

- i) a computer model to project how the present forest will change over time;
- ii) scenario plans or strategies; and
- iii) meaningful results that can be used to evaluate potential future forest conditions.

The computer model choice is relatively simple. LP has purchased the most widely used model in forestry, which is the REMSOFT suite of models (Woodstock, Spatial Woodstock, and Stanley – [www.remssoft.com](http://www.remssoft.com)). The use of Woodstock also ensures compatibility with the provincial government's modeling efforts.



**Above:** Elements of Sustainable Forest Management, and how each Scenario contributes to the elements.



**Above:** Computer model results of three scenarios and how each affect proportion of wildlife habitat over a 200 year period.

Defining scenarios is a phenomenal opportunity for public and stakeholder input into how the forest is managed. To show the entire range of possible future forests, several scenarios need to be defined and modeled. For

example, one scenario could be a 'no harvest' scenario, where there are no forest management activities, then simply watch the forest change with time. The 'no harvest' scenario allows you to see the dynamics of the changing forest without man's intervention, and this is a valuable benchmark to have. A second scenario plan at the other extreme could be 'maximum harvest', which would be run as a benchmark only. A third scenario in the middle could also be defined, based on mutually agreed upon goals, such as 'Maintain or Enhance Biodiversity'. Each of the scenarios may have multiple goals such as biodiversity, recreation potential, and available wood flow. Meaningful results from the computer analysis

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*"Each of the scenarios may have multiple goals such as biodiversity, recreation potential, and available wood flow."*

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of each scenario is critical to evaluate the desirability of effects on the future forest condition. The graph (top left) shows results of three scenarios over 200 years.

A graph is needed for each result, such as bird habitat, wood flow, water yield, amount of old forest, etc. The graph shows the percentage of wildlife habitat changing over time for each scenario.

The evaluation of the results of each scenario or plan will involve the public, stakeholders, and Manitoba Conservation to determine which plan is best at achieving all the values for the future forest. This is a critical area of public input. The challenge is choosing what values (e.g. % of old forest, habitat) are important.

The future forest condition, based on the results of the Woodstock computer model, will be evaluated using the national and local level indicators from the Criteria and Indicator Framework for Sustainable Forest Management. Ultimately, these indicators will be measured and monitored into the future once the long-term plan is approved and implemented. These local level indicator measurements will be aggregated upward to the national Criteria and Indicator (C&I) level to assist Canada with C&I reporting.

## LP ... In The Community

**LP Canada Ltd. is actively involved in a number of community events and educational programs to help promote awareness of Sustainable Forest Management activities occurring within Swan Valley and surrounding areas. We also sponsor a variety of local initiatives.**

- School presentations and class field tours of active harvest and renewal areas.
- Planning and implementation at the 2003 Manitoba Envirothon, with over 180 volunteer hours contributed during events. Sponsorship of the local SVRSS Envirothon team to the National Envirothon competition.
- Visual Displays presented at the Swan Valley Sport Fish Enhancement Banquets, Northwest Round-Up, and Local School Career Workshops.
- Participation on Urban Forest Committee and Arbour Day Events.
- Participation on the Loggers and Haulers Association and development of the Duck Mountain Forest Interpretative Centre.
- Contributions to the Manitoba Model Forest.
- Sponsorship of the Ducks Unlimited program - Greenwing Adopt-A-Class for Grade 4 classes.
- Sponsorship of the new hospital in Swan River

# LP's Information Technology



Forestry is more than just harvesting trees. Forest resource planning has become an integral part of business today, whereby the planning environment is complex, demanding, and labor intensive. Forest planning is critical to LP's successful woodlands operation. Effective forestry planning is driven by good data. Data maintenance, organization and technology are the components that build good data. As a result our Swan Valley Forest Resources staff is proficient in the use of advanced technology both in the office and in the field. Technology plays a vital role in our operations from our Geographic Information System (GIS), data management, Environmental Management System (EMS) to our field oriented Global Positioning System (GPS) technology.

The technology behind LP's data management is the Geographic Information System (GIS) called *Woodlands - The System*® or WtS for short. The Winnipeg-based firm *Linnet — The Land Systems Company* ([www.linnet.ca](http://www.linnet.ca)), in partnership with LP Canada and the Manitoba Government, developed *Woodlands - The System*; it is a fully integrated forestry management system. Linnet is the leading provider of land management systems for industry and government, serving clients across North America and around the world.

*Woodlands - The System* seamlessly blends a powerful data and technical infrastructure with fully integrated GIS desktop applications to deliver a system that manages the information flow for all facets of forestry operations at LP Canada. WtS modules target planning, operations management, scaling, wood flow, procurement, contracting and financial settlements. WtS is helping LP optimize its

operations by streamlining management tasks.

Foresters, planners, biologists and field staff use this desktop GIS to plan, manage and record the results of harvesting, silviculture and road development. LP staff use WtS to deliver the analyses, maps, and reports required to plan and manage operations in the bush. It also helps LP keep track of obligations and day-to-day operational schedules.

LP Canada has "certified" its operations from planning to field and renewal operations under the Sustainable Forestry Initiative. The basis of this lies in our Environmental Management System (EMS). Our web-based EMS contains all our operational procedures, protocols, manuals, checklists, inspections and work instructions. Field and office staff have the ability to use this to ensure the most up to date forms, lists and instructions are being used in all aspects of our operation. This tool also manages and organizes our 'evidence' as presented to an independent 3<sup>rd</sup> party certification auditor.

LP operations staff also have the ability to download digital aerial photographs and other data like, roads, streams and harvest blocks onto our Global Positions System units. They can then head to the field for assessments, surveys, and inspections. Our Pre-Harvest Survey (PHS) crews collect and measure data in the field, the data is recorded on 'optical cards'. After data transfer, LP staff have access to the information almost immediately within our WtS application. For more about our technology visit our website [www.swanvalleyforest.ca](http://www.swanvalleyforest.ca), follow the links: Planning > GIS.



Components of Woodlands the System, used to track and manage the information flow for all facets of forestry operations at LP Canada.



**Above:** Best practices seminars held by LP on May 23rd, June 9th and 10th for Contractors and Private Land Owners.

## LP Holds Best Practices Training

LP Canada has achieved certification under the Sustainable Forestry Initiative (SFI), part of the SFI program is the requirement to purchase wood from trained loggers. LP Canada Woodlands Operations require that loggers, contractors and other wood suppliers have annual Best Management Practices (BMP) training.

LP staff provided BMP training to more than 200 loggers and contractors on May 23<sup>rd</sup>, June 9<sup>th</sup> & 10<sup>th</sup>. Presentations included forest certification, safety, standard operating procedures, work instructions, mill specifications, harvest inspections, working around water, soil compaction avoidance and fuel handling. Manitoba Conservation discussed forest fire prevention and safety, and Department of Fisheries and Oceans gave seminars on water crossings and fish habitat.

We believe that responsible stewardship of our forest resources can best be accomplished when foresters, landowners, and loggers all work together and training is an important part of this.

## LP's Economic Benefits to the Swan Valley and Surrounding Area

LP provides several kinds of benefits to the Swan Valley and surrounding areas. These include community involvement in terms of financial and material support to a variety of organizations including schools, sports and community events. LP staff is available to participate in a variety of local forestry and environment events, career fairs, and guest speaking invitations to schools and interest groups in the Valley, or touring LP's forestry operations. As a contributing member of the community LP has a significant economic impact locally as well. We thought we would share some of these figures with you.

### Woodlands -

- 15 Salaried and 12 Seasonal Employees, Wages paid \$1.8 million (includes benefits)
- 18 Companies logging for LP on Crown Land, 280 employees, \$18 million in logging pay (this includes stumpage, renewal and other fees paid to the Province)
- 50 Companies logging for LP on Private Land. 280 employees. \$3 million in logging pay.
- Forestry Road and water crossing construction, maintenance & decommissioning costs \$900,000/yr

### OSB Mill -

- 24 Salaried, 120 Hourly and 13 Seasonal Employees. Wages paid \$10.5 million (includes Benefits)
- Mill Construction Costs (1995/96): \$120 million + \$20 million in capital upgrades (1997-2002)
- Contracts & Maintenance: \$2.2 million

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