Legacy Forest Visions

A newsletter on the science and sustainable management of all forest values

WINTER RECREATION DEMAND

Collection of data on winter recreation demand, the first stage of the Comprehensive Recreation Management Plan Project, is now well underway.

The fact that no baseline recreation data exist for the province of Ontario is one of the reasons why there is a need for a comprehensive recreation planning framework.

While some anecdotal information, and detailed data exist for certain areas, there is no reliable information about how many people participate in various forms of outdoor recreation nor where these activities take place.

We know that many people enjoy snowmobiling, skiing, ice fishing and other outdoor activities, but we need more information to help guide management decisions. Thus, collecting this baseline data for an entire year is the first stage.

In December, the Centre for Parks, Recreation & Tourism Research distributed surveys to find out when, where, and why residents of Northwestern Ontario participate in winter recreation and tourism activities. A random sample of Northwestern Ontario residents will receive the surveys, plus members of a variety of outdoor clubs and organizations.

A map for people to show where they like to participate in various recreational activities is the most colourful feature of these surveys. From now through April, surveys will continue to be distributed.

In conjunction with the survey research, focus groups will take place in February and March. They will provide data to supplement the surveys. By talking to small groups of people, we can determine what leads them to choose certain areas in which to recreate.

- Jeff Moore
Lakehead University

PRESENTING...

Dr. Ulf Runesson is a principal investigator for the Legacy Forest (LF) concept and execution. At Lakehead University, he is the manager of LU-CARIS, a cost-recovery technology transfer centre for GIS and remote sensing, and a forestry professor. He is also in charge of a number of large web sites including www.borealforest.org.

For the LF, Ulf is responsible for the construction of the database warehouse, the vegetation inventory for Quetico, and use of all aspects of the internet for information sharing and public education. He will use a blend of time-proven techniques with contemporary tools under development at LU-CARIS, such as new means to web deliver 3-D viewing of LF imagery and interactive on-line GIS queries of many databases.

PRESENTING… cont'd

Ulf has years of experience in project management through complex multi-partner projects. For the last decade, he has worked on several CIDA-funded forest conservation projects in West Africa and South-East Asia under the lead of Dr. John Naysmith. Learn more about his activities at www.lakeheadforestry.ca.

FLUXNET STATION

Peatland Flux Station, Bleue Mer Eastern Ontario, Fluxnet Canada

Fluxnet-Canada is a major interdisciplinary research initiative that examines the absorption, sequestration, and emission of carbon dioxide by Canadian forests and peatlands. Its network is linked to world-wide efforts to track the cycle of carbon dioxide, one of the 'greenhouse gases' (i.e. gases added to the atmosphere that are predicted to impact climate).

This initiative measures how natural disturbance (e.g. fire), climate, and land use (e.g. logging) influence the cycling of carbon between ecosystems and the atmosphere in time from a few minutes to several years.

Using these data in ecosystem models, we will be able to better predict Canada's carbon cycle at regional and national scales under different scenarios of climate and land use.

Fluxnet-Canada currently consists of seven flux stations, involving scientists from universities partnered with provincial and federal governments and industry. Each flux station consists of at least two flux tower sites close enough to each other to experience similar weather. One site must be in a mature forest stand or peatland and the second in a disturbed area.

The exchange of carbon dioxide, water, sensible heat and radiant energy between the ecosystem and the atmosphere is the central measurement of a flux station. The technique used is called Eddy Covariance. Other ecological and biological measurements are also taken, such as soil respiration and plant physiological processes.

Initiatives on a flux station to investigate the impact of disturbance and possibly intensive silviculture on the carbon flux of forest ecosystems in the Legacy Forest are underway. Such information will be critical for under-standing the role of boreal forests and forest practices on the global carbon cycle, and Canada's carbon inventory under the Kyoto protocol.

-QingLai Dang
Lakehead University

NEWSLETTER NAME CONTEST

Creating a name to define some-thing is always fun, if not a challenge. In choosing the name for this newsletter, we thought it would be interesting to get our reader's perspective. When creating your suggestion, please remember that it should:

1. Indicate what the newsletter is about - measures and comparisons, stewardship, land use beyond forestry, and the future.

2. Be intriguing, unusual, catchy, stimulate the imagination, and yet be politically correct.

3. Look professional and appealing.

4. Not be expensive to repro-duce (i.e. not many colours).

5. Include the words Legacy Forest, either in the title or the tag line.

6. It need not, but can have a sub-title or tag line that would include information about the organization.

Your idea could win Charles Wilkins' book "Breakfast at the Hoito and other adventures in the Boreal Heartland."

Enter this contest by sending your suggestion to the Editor by mail to Quetico Centre, PO Box 1000, Atikokan, ON P0T 1C0 or email colleen@queticocentre.com.

THE LEGACY FOREST AS A MODEL

In my mind, there is no doubt that the Legacy Forest will become a model for other operationally sized projects. Especially those projects that consider the effects of levels of silviculture on the boreal landscape. The only question is "what sort of model?"

Perhaps, it is best to begin with a definition. Kimmins, an influential forest ecologist at the University of British Columbia, states that a model is "an abstract or physical entity that represents in some way the form and/or function of real-world entities and processes".

I believe the Legacy Forest serves as a model in several ways:

1. As an example of how different groups can work together to achieve a goal,

2. As an vehicle to create and share information,

3. As a working example of the application of adaptive management on the landscape, and

4. As an opportunity to verify ideas and theories about how the system works.

The last especially interests me – as a forester and a forest ecologist – and the remainder of this article will focus on that aspect of the Legacy Forest. My work involves the use of process-based ecosystem models – mathematical representations to describe existing conditions and make predictions about the future state of a forest.

Computer modelling is the most exciting and potentially powerful of the many tools in a forest manager's backpack. Models often begin with an idea or a theory – not unlike the way many of us approach a task or a challenge. However when dealing with computer models, concepts must be translated into precise mathematical language, equations that describe things like photosynthesis and decomposition.

For example, I might believe that forest floor litter made up of foliage decomposes faster than that made up of stems and thick branches. To model that process, I must develop an equation that describes exactly the rate of decomposition using elements of the environment (e.g. temperature and precipitation) that I believe influence that process.

Why do I care about decomposition? Because decomposition produces nutrients and nutrients fuel vegetation growth. This results in trees, parts of which fall eventually to the ground as litter to begin the process anew.

All of my theories and equations are worthless however unless I can get real numbers to calibrate my equations (How fast does foliage decompose?) and verify the computer output (Are the predicted nutrients actually there? Do the trees grown by the model resemble the ones we see in the forest?).

Based on real data and fine-tuning of the various equations, we can develop important modelling tools that will assist in the sustainable management of our forests. Good process-based models are especially useful when we consider the effects of future conditions, such as global warming.

Through its commitment to publish and share information, The Legacy Forest will provide valuable information, to folks like me, to improve our understanding of forest systems and the processes that drive them.

-Nancy Luckai
Lakehead University

If you would like to receive this newsletter by email, please contact the Editor by email at colleen@queticocentre.com.

EVENTS

Steering Committee Meeting
November 28, 2002
During the quarterly meeting of the Steering Committee, a data sharing agreement was outlined. It defines how to attract and facilitate future research through collecting, storing, and freely sharing data on the Legacy Forest.

Soils Research Meeting
December 5, 2002
At the Centre for Northern Forest Ecosystem Research, Reino Pulkki and Kevin Crowe hosted a meeting during which soils researchers from OMNR and Lakehead University discussed opportunities for collaborative research.

Stratification Meeting
December 10, 2002
At the Centre for Northern Forest Ecosystem Research, the Stratification Committee met to examine soil productivity and silvicultural history already present on the landscape.

Legacy Forest Poster
December 11, 2002
Kevin Ride designed a poster on the Legacy Forest that was accepted for presentation at the World Forestry Conference XII in Quebec City, Quebec to be held September of 2003.

**Progress Report**
December 13, 2002
Our Progress Report was submitted to Living Legacy Trust. A copy can be found at www.legacyforest.ca.

Working Forest Interview
January 13, 2003
Reino Pulkki discussed the objectives and strategies of the Legacy Forest with a reporter from *The Working Forest* newspaper. The interview will be in the next edition of *The Working Forest*, available at www.workingforest.com.

Winnipeg Demonstration
January 21, 2003
Ulf Runesson demonstrated the image analysis techniques, used in constructing the data warehouse, to Pine Falls, Manitoba Conservation, Louisiana Pacific, and Tolko.
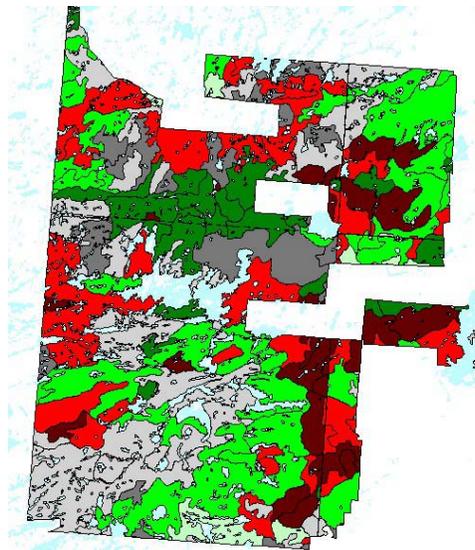
EIT Web Site
February 1, 2003
A web page for the Education and Innovation Team (EIT) will go online and be linked through www.legacyforest.ca.

Thunder Bay Presentation
February 1-2, 2003
Kevin Ride will present the Legacy Forest at the CONFOR conference, an annual conference that brings together a broad spectrum of graduate students who research forestry and the forest environment.

Quetico Centre Demonstration
February 13, 2003
Ulf Runesson will demonstrate the image portion of the Legacy Forest's data warehouse to Quetico Park staff and representatives of the Superior National Forest of Minnesota.

Steering Committee Meeting
February 21, 2003
The Steering Committee will meet to define the membership structure of the Legacy Forest.

Sault Ste. Marie Conference
February 25-26, 2003
Reino Pulkki will serve on a panel at the Living Legacy Trust Conference on Biodiversity. He will network with and inform researchers of opportunities in the Legacy Forest.

Sault Ste. Marie Presentation
February 26, 2003
Kevin Crowe will present the Legacy Forest at the Ontario Forest Research Institute.