

The Canadian Ecology Centre

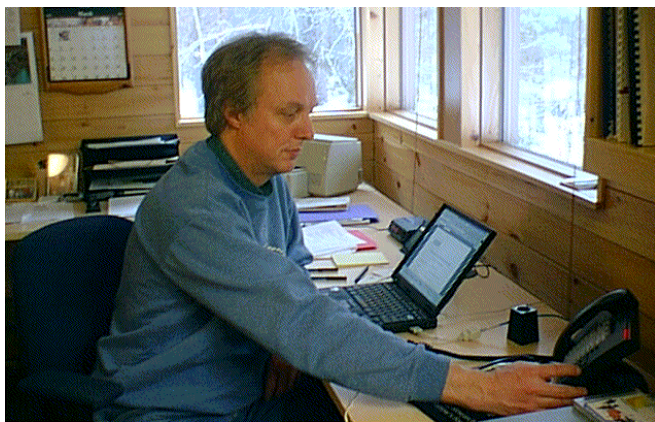


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Manager's Message



George Bruemmer at the Canadian Ecology Centre

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Teaching the Teachers

The Forestry Research Partnership and the Canadian Ecology Centre, in co-operation with the Temperate Forest Foundation, have begun planning and preparing for a Teachers' Tour in August of 2001. The tour will be based out of the Ecology Centre, and will include many interesting and exciting activities.

"We want to give the 50 teachers on this tour a really unique experience", says Bill Steer, Education Co-ordinator at the Canadian Ecology Centre.

"We're going to have plenty of hands-on forestry, and some really different learning experiences for them. They won't be allowed to just watch."

The teachers' tour lasts for a total of four days, including arrival, departure, and de-briefing. The actual dates of the tour are Wednesday, August 15th to Saturday, August 18th.

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It is hard to believe that we are rapidly approaching the first anniversary of the Forestry Research Partnership, and what a great and busy year it has been!

We are seeing some solid results from many of the 32 projects that we have helped to fund, and we are also beginning to see some very effective communication of the data and information contained within these results, to the operational level of forest management. This is one of the main areas where the FRP can make the biggest difference, and where we can measure our success by engaging field practitioners in a way that sees science results applied on the ground. This is not an easy job, but with steady focus of research endeavors, and consistent effort to synthesize and transfer what is learned through the FRP, we can and will be successful.

By bringing together a diverse group of scientists, researchers, and specialists from the Canadian Forest Services, the Ministry of Natural Resources, the Canadian Ecology Centre, and Tembec, we have given ourselves an excellent head start towards realizing our primary objective – increasing fibre supply to Tembec mills by 10 per cent during the next 10 years, in a coherent and sustainable way. With the calibre of people we have working within the Partnership on growth and yield, spatial analysis, bio-diversity, wood quality, tree improvement and genetics, and within many other areas of forest science, we are assured of end results that are correct, credible, and applicable.

A great Thank You is due to the many people who have worked hard to translate the FRP concept into a functioning reality in this initial hectic year. We are on our way to advancing and implementing sound forest science for Ontario, and building an approach and model that many others will want to either join, or emulate.

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“We are going to pack a lot of fun and learning into the tour schedule”, says Bill. “It’s going to be tough, because there is so much to learn about the different aspects of forestry. These teachers come from a lot of different places, but we will have quite a few guide-teachers from the local area, who have experienced past tours, to help out.”

George Bruemmer, FRP Manager agrees. “We want the teachers to leave with a good understanding of forest science, forest management, and forest economics. We want the teachers to see that people employed in the forest industry have to work hard to make a living, but that they are as motivated and dedicated as anyone anywhere. We want the teachers to take the real story of forests and forestry back to their classrooms.”

It is hoped that the Teacher’s Tour will become an annual event for the Forestry Research Partnership, and the Canadian Ecology Centre. The Temperate Forest Foundation assists with funding and sponsorship for 2 years, after which the FRP and the Ecology Centre must make things happen on their own.

For more information about the Teacher’s Tour, visit the FRP website at

<http://forestresearch.canadianecology.ca>

Or

Contact John Pineau

E-Mail : Jpineau@NRCan.gc.ca



*Teachers' Tour Planning Team (left to right)
John Pineau, Elizabeth DeSwaaf, Bill Steer, Birch Barns*

Feature Research Project

White Pine Competition Studies and Demonstration

Despite the tremendous economic, ecological, wildlife, and aesthetic values of white pine (*Pinus strobus*), Ontario's forests have suffered a dramatic decline in this species during the past century. Reasons for this decline involve a number of interacting factors, including past harvesting practices, insect and disease pressures, and a reduced frequency of low-intensity fires. During recent efforts to restore white pine to denuded sites and harvest remaining stands in a manner that will ensure adequate natural regeneration, it has become apparent that we need a better understanding of how white pine interacts with competing vegetation, so that early stand structure can be managed to optimize survival, stem growth, and quality.

In 2000, the *Forestry Research Partnership* initiated a project to quantify the effects of woody and herbaceous vegetation on white pine establishment, growth, and stem quality. A unique competition study design is being applied to answer operational questions in both restoration (clearcut with standards) and shelterwood (half-crown spacing regeneration cut) silvicultural scenarios, such as :

- How important is herbaceous vegetation control to white pine seedling growth and how long should it be maintained for optimum growth?
- Does woody vegetation provide any early benefit to white pine seedlings and, if so, what are the optimal densities?
- At what point during crop development, and at what density, does woody vegetation negatively affect white pine growth and stem quality?
- Does the presence or absence of herbaceous vegetation interact with the effects of woody vegetation on white pine growth?
- How far from optimal is the current operational practice of releasing the crop after the third growing season?
- How do relationships differ under clearcut and shelterwood silvicultural systems?
- How does vegetation management influence white pine blister rust and weevil?

The competition study design combines treatments that involve different *durations* of herbaceous vegetation control with different *timings* of woody release. Four different woody competition densities will be studied. The resulting treatment combinations lead to a model or response surface that can be used to develop vegetation management prescriptions that optimise seedling volume and quality (Fig.1).

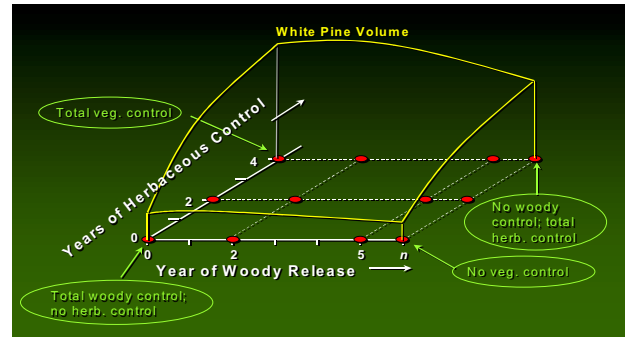


Fig.1 Hypothetical response (stem volume) to the Experimental treatments

Two sites have been selected for the study, located about 80km north of North Bay, in the McConnell Lakes area. The first site was clearcut with standards during the fall of 1999, with the operational objective of restoring white pine to the deep, fine-textured sandy soils. During the fall of 2000, 72 plots of the study design were installed in the area. Plots were cleaned of residual trees and slash, experimental treatments were assigned to the plots, access corridors were brushed, and plots were prepared for planting (Fig. 2).



Fig. 2 White Pine restoration site after plot installation.

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Beginning in late April or early May 2001, existing aspen will be thinned to bring each of the plots to one of the 4 densities prescribed by the experimental treatments. Containerized aspen will be planted, where necessary, to augment naturally occurring aspen and create a uniform density within each plot. All plots will then be planted with white pine, near the end of May or early June. Vegetation treatments will commence by the end of May and be repeated throughout the growing season to maintain the vegetation mixes prescribed by the experimental treatments.

The second site was harvested to half-crown spacing under the shelterwood system during the fall of 1999 (Fig.3). This past fall, the seed cut was completed with a thorough thinning from below. Slash and debris were removed immediately following harvest (Fig.4).



Fig. 3 White Pine shelterwood site after operational seed cut (small trees and shrubs left standing)

The site will be scarified with anchor chains this spring and plots will be established at the end of the summer. Aspen and white pine will be planted and vegetation treatments will commence in the spring of 2002.

Data collected from these studies will help foresters select the best vegetation management strategy for a given regeneration target or objective. The study plots themselves will also play an important role in illustrating the value and importance of vegetation management in white pine regeneration.

Personnel working on the project include: Doug Pitt and Andrij Obarymaskyj (CFS); Mya Park, Ray Ferguson, and Wayne Bell (OFRI); Andree Morneault and Dianne Othmer (OMNR, Southcentral S&TDU); and Al Stinson (Tembec).

For more information, contact Doug Pitt at: Dpitt@NRCan.gc.ca



Fig.4 White Pine shelterwood site after seed cut was completed

Intensive Forest Management Summary Mail Out

A summary document of papers and presentations from the Intensive Forest Management Workshop held at the Canadian Ecology Centre this past November was recently mailed out to workshop participants, members of the FRP, and Tembec staff. The document is in word format and is contained on a CD-ROM. It includes detailed information from all presentations made at the workshop. If you would like a copy of this CD, please contact Christina Morris at:

chrmorri@nrcan.gc.ca
(705) 759-5740 ext 2322

Our Winning Website

The Forestry Research Partnership website continued to grow and develop during the winter of 2000/2001. Many exciting enhancements are now being planned and implemented so that the site will become an even more highly useful stop for forest scientists, forest industry workers, and for the general public.

“We want to make sure our website provides up-to-date data and information, using state-of-the-art Internet technology”, says Guy Smith, Technology Transfer Lead for the Partnership. “We also want it to attract attention, to be interesting, informative, and a bit flashy as well!”

The FRP website already includes a G.I.S./Spatial component and the Technology Transfer Team is working to enhance this map display so that virtually every project has some sort of associated geographical view. To date, all Permanent Sample Plots for Growth and Yield analysis found within Tembec licenses in Ontario are available for viewing through the FRP website spatial tool, most with a complete summary of data collected. The FRP is also working with OMNR, and the Forest Science Co-op to present additional data sets, covering the license areas of several other companies.

Science and Tech Intern Jessie Johnston, continues to develop new and exciting graphics for the website, and is nearing completion of ‘the Virtual Trail’, a web-based tour through the Growth and Yield Trail recently developed near the Canadian Ecology Centre in Samuel de Champlain Provincial Park.

In addition, Science and Tech Interns Christina Morris and Doug Tribe are starting to edit and re-package the existing FRP site content into more plain-language discussions that include photos and graphics relating to individual projects. This past month, the Spatial Feasibility Assessment Project for Intensive Forest Management was re-vamped for the website,

complete with photos of the core project team, Ajith Perera, Dave Schroeder, and Dave Baldwin.

“It’s important to us that we put faces to names”, says Guy Smith. “It fosters good communications, and allows practical relationships to develop within the FRP.”

One final exciting and important plan for the FRP website involves the development of a refined and specific search engine that links directly to relevant papers and articles on other Forestry sites. This search capability will be of tremendous value to forest scientists and practitioners by providing direct access to helpful and related material, rather than the usual thousands of possibilities (hits) that a typical search engine returns to a user.

“We will be able to take a scientist or a forester directly to something that is relevant and helpful to them”, says Guy. “We are also working at the Canadian Forest Service to ensure that our present and past research is digitally packaged and available on the Natural Resources Canada website for link from the FRP site. We’re working things from both ends, so to speak. Our hope is to have the new search engine up and running on the FRP site by late summer.”

For more information contact Guy Smith at:

Gusmith@NRCan.gc.ca

Please visit the FRP website at:

<http://forestresearch.canadianecology.ca>



A screen capture of the FRP Website splash page

FRP Staff Update

There have been some changes to Forestry Research Partnership staffing at the Great Lakes Forestry Centre this past February. Science and Technology Intern Paula Konka, has left the FRP to take a position with the Ministry of Natural Resources in Kingston; a successful outcome of the internship program, and a big thank you is due to Paula for a job well done. Two new interns have joined the fray.



Christina Morris, Technology Transfer Intern prepares this newsletter at the Great Lakes Forestry Centre

Christina Morris will be helping with a variety of tasks, including the production and distribution of this newsletter, the monthly update, and in maintaining the FRP database. Christina will also be assisting with website editorial content.



Doug Tribe is ready for work at the Great Lakes Forestry Centre

Doug Tribe will be working to digitally package materials for both the FRP website and the Canadian Forest Service/Natural Resources Canada site. Doug will be synthesizing, writing and editing research material that includes CFS Express Notes and various FRP research summaries for display and linking on both sites.

In addition, Christina and Doug will be helping with the annual Envirothon Event in Sault Ste. Marie, and also with efforts to expand Envirothon to other locations, possibly in Mattawa and North Bay, potentially in affiliation with the Canadian Ecology Centre.

“We are delighted to employ young people within the partnership”, says George Bruemmer, FRP Manager. “An important goal of the FRP is to encourage and develop educational opportunities, and ultimately careers within the Forestry Sector. The FRP provides exposure to a tremendous variety of forestry science and forest management related activities and people. It will be a great experience for both Christina and Doug.”

Guy Smith, Technology Transfer Lead with the Partnership concurs. “These new young faces are great to have around. They help us so much with tech transfer, and I think they are learning a lot about forestry, and about themselves at the same time.”

For more information contact Guy Smith at: Gusmith@NRCan.gc.ca

Hot off the Press

Two new Forestry Research Partnership publications were released since the beginning of 2001, both receiving rave reviews. The main Partnership brochure provides background, and general information focusing on Partnership goals and objectives. Five thousand were printed, and a distribution plan was recently developed and implemented. The Growth and Yield Trail Guide, an excellent interpretative summary of the newly constructed Permanent Sample Plot based trail near the Canadian Ecology Centre in Samuel De Champlain Provincial Park was also released, with plenty of copies ready for the coming busy park season. The Forestry Research Partnership acknowledges the fine effort made by former Intern Paula Konka in bringing about the successful production of these publications.

If you would like to receive copies of these publications, please contact:

Christina Morris at chmorri@nrca.gc.ca

Looking Ahead



Al Stinson at the Canadian Ecology Centre

Even though the Forestry Research Partnership helped to fund 32 separate projects during 2000/2001, staff are already hard at work determining potentially weak areas, and attempting to scope out where additional resources and research initiatives are required. Al Stinson, Forest Research Operations Co-ordinator with the FRP is optimistic about the coming year.

“We have quite a number of excellent multi-year projects that will continue to be funded by the Partnership this year, and some new ones that will help us fill in a few gaps”, says Al.

Among the projects being worked up for the new fiscal year; a field inventory of sites where growth and yield initiatives and data collection have been undertaken in the past, hopefully providing input into yield curve development. Andy Mutchmor has been contracted to carry this project to completion. Another proposed project will include a comprehensive look at commercial thinning activities, with workshops, field tours and demonstrations, and the beginning of some commercial thinning trials. Jon Cutter, a North Bay consultant, will be overseeing this project, with final results including the production of a comprehensive manual, and the delivery of an A to Z workshop on commercial thinning.

In addition, the Bench Mark Yield Curve Project is being considered for re-focus, resulting in two

separate FRP projects, one looking at the short-term development of a series of bench mark yield curves for different species, and treatments; the other looking at the long-term development of dynamic yield curve algorithms. In addition, the Partnership will re-vitalize and refocus a few projects that didn't get off the ground during the past year, including a study on the impacts of wood fibre supply on mill communities, and forest carbon issues.

“Quite a few new projects are planned, and quite a number require renewed funding”, says Al. “We want to get everything ready for the Living Legacy submission, so that full funding is in place to carry out these very useful projects .”

For more information, contact Al Stinson at:
Al.stinson@mnr.gov.on.ca

Commercial Thinning Workshop Planned for April

A workshop focusing on Commercial Thinning is scheduled for April 24th and 25th in Timmins. Gord Kayahara of the North East Science and Technology Group with the Ministry of Natural Resources will be hosting this workshop, which will include an examination of issues surrounding acceptance-monitoring relating to commercial thinning. This workshop is associated with a proposed comprehensive FRP funded Thinning Project for 2001/2002.

For more information contact:

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Technology
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Additional Information about this workshop will soon be available on our website at:
<http://forestresearch.canadianecology.ca>

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