

## Full Steam Ahead

Steam explosion—a new hardwood pulping technology—has burst onto the forest industry scene with a certain degree of fanfare. The steam explosion process is energy efficient, releases less pollutants than conventional pulping methods, and produces a top-notch product. The recent announcement of an \$80 million steam explosion mill at Meadow Lake, Saskatchewan has brought that small community to international attention, because it will be home to the first such operational pulp mill in the world. Construction of the mill is slated to begin in 1989, with eighty full-time workers producing 100,000 tonnes of pulp a year once the mill is complete.

Meadow Lake Sawmill will supply this new mill with the aspen it needs, while itself undergoing a \$3 million, 3-phase modernization over the next two years. Formerly owned by the Government of Saskatchewan, the mill's new proprietor is Norsask Forest Products Inc., a venture headquartered in Meadow Lake. Norsask is jointly owned by Techfor Services Ltd. and by MLDC, an investment company of the Meadow Lake Tribal Council.

The Canadian Forestry Service's district office in Prince Albert has been watching the Meadow Lake developments with great interest. Over the past four years, through projects funded by the Canada-Saskatchewan Forest Resource Development Agreement, staff from the Prince Albert office have



*The Meadow Lake Sawmill will play a vital role in maintaining wood supply for a new steam explosion pulp mill in Meadow Lake, Saskatchewan. (Picture courtesy of Frontier Photos Ltd., Saskatoon)*

assisted Meadow Lake Sawmill with some of its thinning, site preparation and tree planting operations. The Prince Albert office has also worked, again under Agreement-funded projects, with the Meadow Lake Tribal Council on thinning, resource inventory and management planning initiatives on

band lands. With the big announcements made, there may be further opportunities for the Canadian Forestry Service and the owners of Norsask Forest Products Inc. to maintain the momentum of good forest management practices that's already been generated. ♣

**CONGRATULATIONS** to Dr. Yasu Hiratsuka, a senior research scientist with the Northern Forestry Centre. Dr. Hiratsuka recently travelled to Vancouver to accept the Dr. and Mrs. D.L. Bailey Award from The Canadian Phytopathological Society. Dr. Hiratsuka won the award for his book "Forest tree diseases of the prairie provinces", published by the Northern Forestry Centre last year. This compendium is appreciated by a wide audience ranging

from forest managers to universities to horticulturalists. It describes major forest tree diseases found across Alberta, Saskatchewan and Manitoba in terms of their cause, distribution and hosts, symptoms and signs, disease cycle, damage, and control. 1988 is the first year since the award was initiated in 1983 that this honor has been granted to a forestry publication. Previous years' winners received their recognition for agriculture-related publications. ♣

## GET IT ON CREDIT . . .

If your organization wishes to reprint an article from Timberlines, please feel free to do so. We would ask that credit be given to the source: Timberlines, Northern Forestry Centre, Canadian Forestry Service. ♣



# Aiming for the Best of Both

In the not-too-distant past, mature aspen in Alberta's mixedwood forest was overlooked while forest companies waited for the white spruce underneath to grow to the point where it was harvestable. Now that aspen is beginning to figure more prominently in oriented strandboard, furniture and pulp and paper operations, those same mature specimens present an opportunity—and a bit of a dilemma. How can the aspen be harvested without damaging the spruce understorey?

That question is being addressed through a cooperative project involving the Northern Forestry Centre, Alberta Forest Service, the Forest Engineering Research Institute of Canada (FERIC), and three Alberta forest companies: Blue Ridge Lumber (1981) Ltd., Weldwood of Canada Limited, Hinton Division and Pelican Spruce Mills Ltd. All participants are represented on a steering committee, currently chaired by Lorne Brace of the Northern Forestry Centre. Plans over the next two years call for comparison trials of conventional, modified and new logging equipment and techniques. The Alberta Forest Service and the companies, with committee input, have agreed upon the stands to be logged. These are located on company leaseholds. The companies are making logging crews and equipment available. Researchers with the Northern Forestry Centre will survey the white spruce understorey before and after aspen harvesting to assess logging damage, while staff with FERIC will do a logging productivity study and cost analysis.

Last April's Northern Mixedwood Symposium in Edmonton brought the mature aspen/spruce understorey dichotomy to the forefront, providing some of the impetus for proceeding with this research project. Mr. Brace, a research scientist with the Northern Forestry Centre, expects logging with conventional equipment will be completed this fall. Results of those trials will determine the project's next steps. Costs are being covered by the Canada-Alberta Forest Resource Development Agreement, by FERIC and by the participating forest companies. 🌲

The recent name change from Champion Forest Products Ltd. to Weldwood of Canada Limited, Hinton Division is a visible symbol of the dynamism currently driving operations at the company's pulp mill near Hinton. Once construction to expand the mill is completed next year, production will be doubled to close to 385 thousand metric tonnes annually. The company is now planning to ensure that the wood will be available when it's needed, to ensure pulp operations flow smoothly.

Members of the Northern Forestry Centre's management committee met with Weldwood officials in July to familiarize themselves with forest management developments on lease lands. Don Laishley, Forest Resources Manager with Weldwood, pointed out some mixedwood management difficulties the company faces to Dave Kiil, Director General of the Centre. Talk then focused on what might be needed in terms of research to deal with these problems. As part of the long-term strategic planning the company is undertaking regarding wood supply, Weldwood is looking at the benefits offered by geographic information systems for organizing, updating and projecting information. With the Northern Forestry Centre

## Industry Visit Positive

having just launched a new research project encompassing site classification, forest inventory and geographic information systems (see "Long Distance Linkups" elsewhere in this issue), much common ground was defined.

A follow-up meeting between Northern Forestry Centre and Weldwood personnel is on the agenda for this fall. In the meantime, our management committee is visiting Procter & Gamble Cellulose Co. Ltd. and Canadian Forest Products Ltd. in Grande Prairie during the month of August. 🌲



*The Northern Forestry Centre recently spearheaded collection and shipment of 460 kg of tree seed to Heilongjiang Province, People's Republic of China. The lodgepole pine, white spruce and jack pine seed was contributed by provincial governments and forest industries across the region, and is destined to reforest a large area that burned in May, 1987. Here, Mr. William Lesick, MP for Edmonton East, presents Mr. Jianxiang Bi, of the Foreign Affairs Office in Heilongjiang Province, with seed representative of the three species. The amount of seed collected is enough to reforest about 60 thousand hectares!*





*Geographic information systems can store, analyze and retrieve information in ways useful to many natural resource sectors, including forestry. (Picture courtesy of Intergraph Systems Ltd.)*

# LONG DISTANCE LINKUPS

The rapid change underway in the region's forest industry—the Weldwood and Norsask developments detailed elsewhere in this issue are just two examples—is placing great demand on forest industry data bases. To a forest manager with a provincial government or forest industry, it's imperative that forest inventory and other land-related information be current, and that it be simple and fast to access and use. Geographic information systems (GIS), which are sophisticated computer data managers and analyzers, are becoming popular tools throughout the forest sector. Now, the Northern Forestry Centre is moving toward geographic information systems as vehicles for putting its research results at the fingertips of forest managers.

The Centre has launched a new research project called "GIS - Forest Inventory and Site". Dr. Ian Corns, a research scientist with the Northern Forestry Centre, is project leader. This initiative brings together those research programs that have traditionally assisted forest inventory work, such as large-scale photography and remote sensing, with those such as site classification that have not yet seen widespread application. Large-scale photography, remote sensing and site classification share at least one common denominator, the use of maps of various kinds. Geographic information systems themselves are repositories of information contained on maps, information which can be cross-referenced and overlaid to help in making

land management decisions. "GIS - Forest Inventory and Site" will look at ways to package the Northern Forestry Centre's research expertise, so that information can be slipped into geographic information systems now in place at various government and research agencies, and forest industries across the region.

The complexities of welding the Northern Forestry Centre's knowledge to GIS technology in the region will doubtless be mirrored in long working hours and furrowed brows as work proceeds. But the potential payoffs for everyone involved, in having a storehouse of readily accessible information, are tremendous. ♣

## Jack be Nimble, Jack be Quick...

Manitobans are well acquainted with the importance of jack pine to their province's forest industry. This versatile tree takes on new life as pulp and paper, newsprint and lumber, as well as treated wood products like railway ties, posts and poles. All these export products draw dollars into Manitoba's economy. Protecting the jack pine resource, and its earning power, is the purpose of a research project recently set up under the Canada-Manitoba Forest Renewal Agreement.

The project involves testing the resistance of jack pine seedlings to western gall rust, a slow killer of a disease that renders affected trees commercially unusable. But these are no ordinary seedlings. They are "super trees", the culmination of many years of tree genetics research by Dr. Jerry Klein, a research scientist with the Northern Forestry Centre. These seedlings are destined to be taller and contain more wood volume than their less well-pedigreed brethren. However, the fact that such trees are taller and stronger

may give them, ironically, an increased vulnerability to western gall rust. This disease shows a preference for vigorous, fast-growing trees. Where superior jack pine seedlings are planted in highly managed forests, procedures such as thinning, vegetation control and fertilization, together with the seedlings' natural advantages, may put the young trees at increased risk from the disease.

Dr. Yasu Hiratsuka, a forest pathologist with the Northern Forestry Centre, is collaborating with Dr. Klein and with the Manitoba Forestry Branch on the jack pine/gall rust study. Forty families of genetically superior jack pine have been exposed to western gall rust in our research greenhouse. These will be watched carefully over the next few months to see what kind of defence they mount against this threat. Findings from the study may have important implications for hard pine breeding programs and reforestation activities. ♣



*Staff from the Manitoba Forest Branch recently assisted Northern Forestry Centre research personnel with a jack pine/western gall rust study.*

### ERRATUM

In the article "Hot Spots Meet Hi-Tech" in the Spring 1988 issue of *Timberlines*, the Great Lakes Forestry Centre was omitted as a major cooperator in the infrared scanning project. The Northern Forestry Centre apologizes for this oversight.





# Jumpingpound Demonstrates

"This is exactly what we've been looking for!" Such praise is becoming common from outdoor education teachers once they finish touring the Jumpingpound Demonstration Forest, about 50 kilometres southwest of Calgary. In the first three months of operation since its official opening in May, the forest entertained about 3,000 visitors. Teachers are enthusiastic about the opportunities inherent in the site to acquaint their students with the life cycle of a managed forest, including disease control, tree breeding, harvesting and site preparation operations.

The demonstration forest is reached by following Highway 68 (Sibbald Creek Trail) for 18 kilometres south from the Trans-Canada Highway. A ten-kilometre vehicle trail with ten stops and a day-use area forms the backbone of the demonstration forest, and there is also an interpretive kiosk on the

site. The trail is designed to handle car and tour bus traffic, and the interpretive kiosk is wheelchair accessible. Overall, visitors to Jumpingpound get a well-rounded look at the economic and environmental roles our forests play.

The Canada-Alberta Forest Resource Development Agreement has played a pivotal role in developing the Jumpingpound Demonstration Forest. The Agreement has also contributed funds toward establishing another demonstration forest near Whitecourt. Completion of this site, named after Alberta forestry pioneer Eric Huestis, is anticipated to take about two years. Visitors can expect to see, in addition to forest management operations, a seismic demonstration area showing oil and gas exploration techniques and a beaver dam interpretive area. The official opening of the E.S. Huestis Demonstration Forest will take place sometime next year. ♣

**NEW STAFF:** David Langor, a forest insect taxonomist. Currently working toward his Ph.D., Mr. Langor will be available to identify insect specimens for Northern Forestry Centre clients.

**RETIREMENTS:** Dr. Joe Baker, after 27 years with the Canadian Forestry Service; Wil Holland (24 years of service); Tony Colistro (13 years), and Donna-Mae Burke (5 years).

**GONE SOUTH:** Dr. Dick Barney, back home to Missoula, Montana, and Dr. Stew Pickford, to Seattle, Washington. Dr. Barney joined us under an International Assignment Agreement, and Dr. Pickford under the Canadian Forestry Service's Science and Technology Exchange Program.

The NORTHERN FORESTRY CENTRE, located in Edmonton, Alberta is the western and northern regional establishment of the Canadian Forestry Service. The Northern Forestry Centre co-ordinates all federal forestry research and development activities throughout Alberta, Saskatchewan, Manitoba and the Northwest Territories.

Northern Forestry Centre  
5320 - 122 Street  
Edmonton, Alberta  
T6H 3S5 Ph: (403) 435-7210

Saskatchewan District Office  
101 - 15 Street East  
Prince Albert, Saskatchewan  
S6V 1G1 Ph: (306) 764-5627

Manitoba District Office  
104, 180 Main Street  
Winnipeg, Manitoba  
R3C 1A6 Ph: (204) 983-7001

## NOTE

The exclusion of certain manufactured products or company names does not necessarily imply disapproval, nor does the mention of other products or company names necessarily imply endorsement by the Canadian Forestry Service.

Timberlines is written and edited by A. Ascher  
Graphic design by D. Lee

©Minister of Supply and Services Canada  
1988 ISSN 0833-0689



## POPLAR COUNCIL OF CANADA CONSEIL DU PEUPLIER DU CANADA

1988 ANNUAL MEETING  
October 26-28, 1988 Edmonton, Alberta

Highlights include tours of the Alberta Research Council's Forest Products Testing Laboratory, the Department of Forest Science at the University of Alberta, the Northern Forestry Centre of the Canadian Forestry Service, and Pelican Spruce Mills Ltd.'s oriented strandboard plant near Edson.

Contact: Robert L. Gambles  
c/o Faculty of Forestry  
University of Toronto  
203 College Street  
Toronto, Ontario  
M5S 1A1  
Ph: (416) 978-6313  
FAX: (416) 978-3834



Government  
of Canada

Gouvernement  
du Canada

Canadian  
Forestry  
Service

Service  
canadien des  
forêts

Canada