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SCIENCE WORKS!

Forest Co-op Board of Directors

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Members of the Forest Co-op, science partners, funding program representatives, and friends have continued to use opportunities presented by the Forest Co-op to discuss, develop, and deliver high caliber science projects relevant to the multi-faceted field of forest management. Rigorous science establishes a solid basis for forest management decisions. It reduces uncertainty, increases public confidence that our forests are managed sustainably, and reduces dependency on the often costly "precautionary principle".

Science works! Here are examples of science at work from our Growth and Yield and Fish and Wildlife Science Units. An impressive network of Forest Co-op Permanent Growth Plots (PGPs), combined with data from MNR's Permanent Sample Plots, has enabled development of improved yield curves that are used in Forest Management Plans in Southern and Northeastern Regions. The Forest Co-op plans to facilitate this for Northwestern Region as well. In developing the new Landscape Guide and Stand & Site Guide, MNR has drawn on all the relevant fish & wildlife science available, including the Forest Co-op Marten Population Dynamics and Habitat Project (Kapusksing and Ear Falls), Marten Cores Project, and Goshawk Project. These guides will have a significant influence on the pattern, composition, and structure of Ontario's Crown forests, the means by which habitat is provided through planning and operations, and the effectiveness and efficiency of that direction.

The Forest Co-op is a unique forum for bringing together people from two levels of government, the forest industry, academic institutions, and consulting firms, all with an interest in improving the scientific basis for forest management. The Board invites new members and project partners to discover how the Forest Co-op difference can make science work.

Kandyd Szuba, PhD, Chair, Board of Directors

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FOREST CO-OP AGM & SCIENCE DAY

The Forest Co-op held its Annual General Meeting (AGM) in April 2006 in Mississauga, Ontario. The AGM was followed by a Forest Co-op Science Day entitled "Science — Taking Stock and Moving Forward". The presentations delivered throughout the event highlighted the benefits of the Forest Co-op as a project delivery agent and provided updates of current Forest Co-op projects as well as up and coming and potential projects.

Thank you to all those who delivered presentations and to everyone who participated in the event. Copies of the presentations are available for download on the Forest Co-op website at http://www.forestco-op.ca/science_day/index.htm



FOREST CO-OP FISH & WILDLIFE SCIENCE UNIT (FWSU)

This newest Science Unit is a forum for the exchange of information, and a place to generate science projects relevant to forest management. At a “virtual” meeting on May 25, the 3rd for the Forest Co-op FWSU, members enthusiastically described current Forest Co-op, MNR, CFS, and other fish and wildlife science projects (below).

F&W Group	Project Description	Contacts
American Marten	Forest Co-op - Trapper harvest in relation to core habitat characteristics	Brian Naylor (MNR SSI ¹), Stephen
	Forest Co-op – Intensive study of population dynamics in relation to	Jim Baker (MNR – ARDB ³); Ian
	MNR-CFS – Characteristics of marten natal den sites	Stephen Mills (MNR NESI ²)
Small Mammals	MNR & U of Guelph – Long term (>40-year) small mammal trapping study in Algonquin Park	Scott Jones (MNR PTAP) ⁵
Wolves, Fishers, Mink	MNR – Population estimation, habitat, and road effects on wolves in the Timmins area; mink harvest dynamics; fisher populations in south-	Jeff Bowman (MNR WRDS) ⁶
Wolverine	MNR – Detailed study of radio-collared wolverines in the Red Lake	Jeff Bowman (MNR WRDS) ⁶ , Neil
Furbearers	MNR – Electronic database of trapper harvest records from across On-	Jeff Bowman (MNR WRDS) ⁶
Caribou	MNR – (i) Caribou research needs survey and follow-up workshop. (ii) Database on caribou research & monitoring projects undertaken by	Ed Iwachewski (MNR – CNFER) ⁸
Songbirds	MNR – CNFER songbird habitat model development	Jim Baker (MNR – ARDS ³);
	MNR – Nest success in selection cuts in Algonquin Park	Dawn Burke (MNR SSI) ⁹
	MNR – Meta-analysis of bird response to partial harvest	Stephen Mills (MNR NESI ²)
	CFS – Effects of riparian harvest (streams) on songbirds (White River Forest)	Steve Holmes (CFS) ¹⁰
	CFS – Field test of relationships in NER habitat matrix	Steve Holmes (CFS) ¹⁰
	CFS – Long term census of woodpeckers in mature, old, and partial cut stands in Rushbrook Provincial Park	Ian Thompson (CFS) ⁴
	CFS – Use of residual patches in the Romeo Malette Forest	Lisa Venier with Doug Pitt (CFS) ¹¹
	CWS/Abitibi – Dev't of habitat matrix using satellite imagery	Derrick Romain (Abitibi) ¹²
Goshawk	Forest Co-op – Test of habitat guidelines; development of a spatial	Brian Naylor (MNR SSI ¹) for Peter
Birds	MNR - Continuing support by the WAP for (i) red-shouldered hawk, spring woodpecker, & nocturnal owl surveys, and (ii) migration counts,	Scott Jones (MNR PTAP) ⁵
Aquatic Inverte-	CFS – Effects of riparian harvest (streams) on water quality and aquatic	Dave Kreutzweiser (CFS) ¹³

¹BN at MNR Southern Science & Information, North Bay (705-475-5564). ²SM at MNR Northeast Science & Information, Timmins (705-235-1235). ³JB at MNR – Applied Research & Development Branch (519-826-6543). ⁴IT at CFS Sault Ste Marie (705-541-5644). ⁵SJ at MNR Provincial Terrestrial Assessment Program, Sault Ste. Marie (705-946-7442). ⁶JeffB at MNR Wildlife Research & Development Section, Peterborough (705-755-1555). ⁷ND at MNR Northwest Science and Information, Thunder Bay (807-939-3120). ⁸EI at MNR Centre for Northern Forest Ecosystem Research, Thunder Bay (807-343-4016). ⁹DB at MNR Southern Science and Information, London (519-873-4624). ¹⁰SH at CFS Sault Ste. Marie (705-541-5661). ¹¹LV at CFS Sault Ste. Marie (705-541-5644). DR at Abitibi, Iroquois Falls (705-258-3931 x4453). ¹³DK at CFS, Sault Ste. Marie (705-541-5648).

The Forest Co-op FWSU forest industry members expressed interest in exploring the potential for new projects on the use of residual trees by wildlife, timing restrictions in wildlife AOCs and stream crossing AOCs, and the use of partial harvests (CLAAG, HARP, SLAM trials) by wildlife. The Forest Co-op FWSU will use all of this information to identify priority areas for future Forest Co-op projects at a face-to-face meeting this fall.

COLLABORATION AT WORK WITH THE ASSISTANCE OF THE FFT'S EFPSP.

Through the fall and winter months, partners at the Forest Co-op fostered a number of collaborative proposals to be considered for funding by the Forestry Futures Trust's (FFT) Enhanced Forest Productivity Science Program "Phase 2" (EFPSP). From the 12 initial letters of intent followed by the 8 submissions that were forwarded to the full proposal stage, 4 Forest Co-op projects have received funding approval over the past few months:

In the Forest Co-op "NEBIE Boreal" Project, natural origin stands approaching the onset of old growth are being compared with new stands established through extensive, basic, intensive and elite levels of silviculture for response to two questions:

- 1) "How much fibre can be gained through integration of silviculture treatments?"
- 2) "Will floral species be lost despite our best efforts to retain tree species and structural diversity?"

This 3-year program, focusing on study areas in Dryden, Kapuskasing, Sioux Lookout, Thunder Bay and Timmins, will cost an estimated \$1.2 million. EFPSP is contributing \$211,400 and the balance of the program is being funded by Forest Co-op partners including Bowater, Buchanan, Forestry Research Partnership (Tembec), Natural Resources Canada, Ontario Ministry of Natural Resources and Weyerhaeuser. University of Guelph is also a partner in this initiative. The project lead is Wayne Bell – Ontario Ministry of Natural Resources.

MOSSY (Modeling Ontario's Stand Succession and Yield) is a user-friendly empirical model (decision support tool) that provides forest managers with defensible estimates of forest succession and yield, while also providing a software shell for the new and provincially approved Northeast Region and Southern Region benchmark yield curves. The goal of the Forest Co-op "MOSSY" Project is to provide estimates of yield and natural succession based on the re-measured

Provincial growth and yield permanent sample plot dataset, and to be compatible with current forest management planning procedures and tools. This improved foundation will enhance forest management decision-making across the area of the undertaking, and contribute to strategic and operational opportunities for enhanced forest productivity over the long term. This 3-year project will cost an estimated \$157,000. EFPSP is funding \$60,000 and the balance of the program is funded by Forest Co-op partners including Abitibi, Domtar, Forestry Research Partnership (Tembec), Neenah Paper, Ontario Ministry of Natural Resources and Weyerhaeuser. The project leads are Al Stinson and Fred Pinto – Ontario Ministry of Natural Resources.

Recent advances in remote sensing technology allow the precise mapping of individual tree crowns, which allows the accurate determination of stocking levels. The Forest Co-op "Imagery" Project will test the utility of using Large Scale Photography (LSP), with high resolution imagery and ITC techniques, to determine future yields based on values derived from the analysis of managed forest stands and density management diagrams. Density / stocking is a major determinant of current and future volume and diameter. With a budget of approximately \$347,000 over 2 years, this project will receive \$112,000 from EFPSP and the balance will be funded through the Forest Co-op partners, Bowater and Ontario Ministry of Natural Resources, and the collaboration of Carleton University. John MacGillivray – Bowater is the project lead.

The Forest Co-op "Prescribed Burn" Project will investigate the effects of prescribed burns and basic silviculture (site preparation, planting, tending) on forest growth and yield, stand dynamics and early stand floristics as compared to natural fire. EFPSP is contributing \$150,000 to the total 2-year project budget of \$487,000. Forest Co-op partners including Abitibi, Bowater, Buchanan, Domtar, Forestry Research Partnership (Tembec), Neenah Paper, Ontario Ministry of Natural Resources and Weyerhaeuser are funding the balance of the project. Mark Roddick – Ontario Ministry of Natural Resources is the project lead with the collaboration of Rob McAlpine and Al O'Connor.

Our thanks to our many partners and the Forest Futures Committee for their support of these initiatives.



Forest Co-op Membership

Active Members

Abitibi-Consolidated Company
of Canada— Paul Poschmann

Bowater Canadian Forest
Products Inc.— John Lawson

Buchanan Forest Products Ltd.—
Genevieve Wiens/ *Glen Niznowski

Domtar Inc.—
Kandyd Szuba /* Brian Nicks

FERIC— Mark Ryans

Forintek Canada Corporation—
Yves Levesque / * Tony Zhang

Lake Abitibi Model Forest—
Wayne Young

Natural Resources Canada (CFS)—
Pardeep Ahluwalia /
Wendy Beilhartz /
William Meades / Rod Smith

Neenah Paper Company of Canada—
Bob Forbes

Ontario Ministry of Natural
Resources—
Rob MacAlpine /*Eric Doidge
Ed Iwachewski / *Wayne Fiset
Al King / *Taylor Scarr
Joe Kapron / *Scott Jones
Mary-Ellen Stoll / *Bob Watt
Tricia Greer / *Bill Towill
Wayne Fiset / *Vivienne Scott
Tim Sullivan
Frank Kennedy
Alex Gardner/ *Brian Batchelor

Tembec Industries Inc.—
Sue Pickering / *Jeff Leach

Weyerhaeuser Company Ltd—
Murray Ferguson

Associate Members

Confederation College of
Applied Arts & Technology—
Brian Kurikka/*Dave Archibald

GeoSpatial Consulting Inc. —
Craig Robinson / *Geordie
Robere-McGugan

KBM Forestry Consultants Inc.—
Rod Seabrook / *Laird Van Damme

Sumac Forest Information
Services Ltd.—
Dave Carr / *Todd Domney

FOREST CO-OP GROWTH & YIELD SCIENCE UNIT (GYSU)

The Forest Co-op Growth & Yield Business Unit has a new name, – the Growth & Yield Science Unit (GYSU), and a new industrial partner – Buchanan Forest Products Ltd. However, our foundational commitment and vision of establishing and remeasuring a comprehensive network of permanent growth plots (PGPs) remains unchanged, and we are now well into our eighth field season. This year's investment in data exceeds \$444,000 and will provide for the remeasurement of 458 boreal PGPs (established in 2001), the remeasurement of 22 plots in south-central Ontario, the establishment of 40 new PGPs in under-represented boreal conditions, and the establishment of 20 new PGPs on management units under licence to Buchanan Forest Products Ltd. The dedication and wealth of experience present within the small G&Y contracting community serving the GYSU has resulted in a year-over-year improvement in levels of productivity. This in turn has allowed the GYSU to stay on-target, and within budget; without having to compromise on data quality or standards - a tip of the hat to those who collect our data. Our experiment in scanning field tally sheets into pdf's has also proven successful, and the money saved on photo-copying alone has permitted us to undertake the scanning of past records. This was no minor task as the PGP plot network now exceeds 2,500 plots, and quite literally creates a 'wall of data' in the office of Dave Wood.

Continuing support from Forestry Futures Trust Ontario through the Enhanced Forest Productivity Science (EFPS) Program has been an encouragement to the members of the Forest Co-op, and has helped the GYSU build and maintain a critical mass of data. The old saying if you build it they will come has once again proven itself true, and the GYSU is thankful for the growing interest and support of the science community. A large number of EFPS funded projects are predicated on the availability of PGP data, and the Forest Co-op is experiencing a rapid increase in the number of requests for our data. Our bi-annual meetings are now frequently attended by an increasingly diverse group of research scientists, and the GYSU is glad to welcome all interested individuals. Our next meeting is scheduled for September 25-27 in Mattawa. The event will take place at the Canadian Ecology Centre and will include a series of presentations in collaboration with the Forestry Research Partnership on the afternoon of Monday, Sept. 25 followed by an all-day field tour on Tuesday, Sept. 26 and the business meeting on Wednesday, Sept. 27.

A NEW FACE AT THE FOREST CO-OP



It is our pleasure to introduce you to Janeece Arella, the newest member of the Forest Co-op team. Janeece joins our organization as the Administrative Assistant to the General Manager. Please welcome Janeece when you next have an opportunity to be in contact with our office.

