

CONFERENCE PROGRAM



Eastern CANUSA Forest Science Conference

October 15-16, 2004

Thursday, October 14

Foyer, H.J. Flemming Forestry Centre, Fredericton, NB

7:00-9:00 PM Ice-Breaker Social (with cash bar)
Conference registration

Friday, October 15

Foyer, H.J. Flemming Forestry Centre

7:00-8:00 AM Registration and continental breakfast

GENERAL SESSION

"Issues Driving the Future of Forestry in Maine & New Brunswick"

Auditorium, H.J. Flemming Forestry Centre

Introduction

8:00-8:10 Welcome - **Dr. Ian Smith**, Acting Dean
University of New Brunswick, Faculty of Forestry and Environmental Management

8:10-8:15 ECANUSA Conference Objectives and History - **Dr. David MacLean**,
University of New Brunswick, Faculty of Forestry and Environmental Management

Keynote presentations

8:15-8:20 Introduction - **Dr. Robert Wagner**, *University of Maine* (Moderator)

8:20-8:50 **Changing Maine Forest Landownership: Implications for Forest
8:50-9:00 Q&A Management and Biodiversity**
Dr. Lloyd Irland, President, Irland Group, Winthrop, ME; **John Hagan and
Andy Whitman**, Manomet Center for Conservation Sciences, Brunswick,
Maine

9:00-9:30 **Harvest Intensity got me here, will Partial Harvesting get me there?**
9:30-9:40 Q&A
Mr. Ken Laustsen, Maine Forest Service, Augusta, ME

9:40-10:00 BREAK			
10:00-10:30 10:30-10:40 Q&A	- Forest Management in New Brunswick- The Jaakko Pöyry Study, the Legislature Select Committee on wood supply, and Where Do We Go From Here? Dr. Thom Erdle and Dr. David MacLean , Faculty of Forestry and Environmental Management, University of New Brunswick		
10:40-11:10 11:10-11:20 Q&A	Forest Management in a Public Trust Mr. David Coon , Policy Director, Conservation Council of New Brunswick		
11:20-11:50	Panel Discussion and Questions All four morning speakers		
12:00-1:30 PM LUNCH & POSTER SESSION H.J. Flemming Forestry Center Cafeteria and Foyer Participants will join poster authors in a “walk-around” lunch to view and discuss a wide array of poster presentations.			
CONCURRENT TECHNICAL SESSIONS H.J Flemming Forestry Center			
	<u>Session I</u> ECOLOGY & WILDLIFE Room MCFT129 Moderator: <i>Dr. Graham Forbes</i>	<u>Session II</u> SILVICULTURE & FOREST PRODUCTION Auditorium Moderator: <i>Dr. John Kershaw</i>	<u>Session III</u> WOOD PRODUCTS & ENGINEERING Room MCFT228 Moderator: <i>Dr. Marc Schneider</i>
1:30-1:50 PM	Predicting site occupancy of forest birds using air-photo-derived forest inventory data - M. Betts, A.W. Diamond, G.J. Forbes, M.A. Villard, and J. Gunn	Transition from stand initiation to stem exclusion: development of mixed conifer stands regenerated using shelterwood silviculture - J.C. Brissette, L.S. Kenefic, and P.E. Sendak	Using the Stand Product Optimization Tool (SPOT) for merchandizing standing trees - D.J. McConville
1:50-2:10	A spatial analysis of wildlife-vehicle collisions in Maine - R. Clover and K.P. Bell	Red spruce and balsam fir growth over 50 years following diameter-limit cuttings in the province of Quebec, Canada - M. Fortin, L. Archambault, and J. Bégin	External knot characteristics in black spruce (<i>Picea mariana</i>) from three initial spacings - J. Benjamin, J. Kershaw, Y.H. Chui, and T. Zhang

	<u>Session I</u> Room MCFT129	<u>Session II</u> Auditorium	<u>Session III</u> Room MCFT228
2:10-2:30	Influence of forest practices on stand-scale habitat selection of lynx in northern Maine – A.K. Fuller and D.J. Harrison	Long-term stand development and financial returns following herbicide and precommercial thinning treatments in the Acadian forest - R.G. Wagner and R.H. Daggett	Heat and mass transfer characteristics of red maple under microwave heating – D. Jia, M.T. Afzal, and Y.H. Chui
2:30-2:50	Influence of intensive forest management on the habitat, behavior and population dynamics of American marten in northwestern New Brunswick: preliminary results - C. Samson, I. Laurion, A.-M. Pelletier and F. Villeneuve	Sawtimber production with thinning in stratified, mixed-species, even-aged northern hardwoods – P.V. Hofmeyer and C.A. Nowak	Mechanical performance of lagscrewbolted timber joints - M. Gong, K. Komatsu, and M. Nakatani
2:50-3:10	Are there mixed forest specialists? The case of the Blackburnian warbler - L. Young, M. Betts, and A.W. Diamond	Does growth and survival determine the shade tolerance of sugar maple and yellow birch at their juvenile stage? - D. Gasser, C. Messier, and Y. Mauffette	Failure characteristics of bolted laminated strand lumber connections - M. Snow, I. Smith, and A. Asiz
3:10-3:30	BREAK		
	<u>Session I</u> ECOLOGY & WILDLIFE <i>Cont'd</i> Room MCFT129 Moderator: <i>Dr. Graham Forbes</i>	<u>Session II</u> SILVICULTURE & FOREST PRODUCTION <i>Cont'd</i> Auditorium Moderator: <i>Dr. John Kershaw</i>	<u>Session III</u> FOREST MANAGEMENT & PLANNING Room MCFT228 Moderator: <i>Dr. Jeremy Wilson</i>
3:30-3:50	A comparison of amphibian abundance in harvest gaps and natural canopy gaps in a northeastern forest - C.A. Strojny and M.L. Hunter, Jr.	How trees age: research on mechanisms controlling age-related trends in productivity of red spruce - M.E. Day, M.S. Greenwood, S.L. Adams, and M.H. Ward	Changes in the stand type and landscape characteristics with 80 years of intensive forest management in northern New Brunswick, Canada (1946-2027) - D. Etheridge, D.A. MacLean, R.G. Wagner, and J.S. Wilson

3:50-4:10	Effects of white-tailed deer browsing pressure on the regeneration of balsam fir stands - J.P. Tremblay, J. Huot, and F. Potvin	The status of mature and overmature softwood forests in New Brunswick, Canada: is there a widespread decline? - S.L. Taylor and D.A. MacLean	Is the past a useful template for forest management? - J.S. Wilson
4:10-4:30	Carbon sequestration research in New Brunswick: the role of Fluxnet-Canada - C.P.-A. Bourque, F.R. Meng, Z. Xing, N.V. Dai, P.A. Arp, M. Lavigne, R. Cox, and D.E. Swift	Leaf area estimation for <i>Abies balsamea</i> and <i>Picea rubens</i> in managed stands in Maine - S.R. Meyer and R.S. Seymour	Comparing Maine's ecological reserves with managed forests: initial monitoring results - A. Cutko
4:30-4:50	Sampling for coarse woody material: what works in northeastern forests? - M.J. Ducey, J.H. Gove, G.J. Jordan, M.S. Williams, and J.C. Brissette	Relationships between leaf area index, relative density and structure in even-aged <i>Abies balsamea</i> – <i>Picea rubens</i> stands in Maine - R.J. DeRose and R.S. Seymour	High-resolution watertable and soil drainage mapping: a decisive step towards better forest management planning - F.R. Meng, M. Castonguay, and P.A. Arp
4:50-5:10	Reproductive and genetic characteristics of rare, disjunct pitch pine populations at the northern limits of its range in Canada - A. Mosseler, O.P. Rajora, and J.E. Major		Triad forest management: forest zoning in northwestern New Brunswick - M. Montigny and D.A. MacLean
Conference attendees on their own for dinner			

Saturday, October 16

7:00-8:00 AM Continental breakfast (Foyer, H.J. Flemming Forestry Center)

CONCURRENT TECHNICAL SESSIONS Cont'd

H.J. Flemming Forestry Center

	<u>Session I</u> ECOLOGY & WILDLIFE Room MCFT129 Moderator: <i>Sarah Taylor</i>	<u>Session II</u> SILVICULTURE & FOREST PRODUCTION Auditorium Moderator: <i>Dr. Bob Wagner</i>	<u>Session III</u> FOREST MANAGEMENT & PLANNING Room MCFT228 Moderator: <i>Dr. Brigitte Leblon</i>
8:00-8:20	Conceptual model of disturbance and herbaceous layer response in forests - M.R. Roberts	Sapling recruitment and growth dynamics in multi-aged northern conifer stands: a 25-year study - L.S. Kenefic and J.C. Brissette	Alternative harvest designs to avoid ecological damage caused by future energy scarcity - P. Salonijs
8:20-8:40	Vegetation dynamics following the Baxter Park fire of 1977 - E.D. Small and J.S. Wilson	Diameter-limit cutting and silviculture: A comparison of simulated treatments in even-aged northern hardwood stands in Maine - M.P. Maguire, L.S. Kenefic, and R.D. Nyland	Handheld GPS receivers for forestry applications: a case study – D.R. Adams and D. Jaeger
8:40-9:00	The LS Index: a rapid assessment technique for identifying late-successional and old growth forest - A. Whitman and J. Hagan	When to perform mechanical release treatments in spruce plantations? A study covering a range of ecological conditions in Québec - N. Thiffault, R. Jobidon, and V. Roy	An overview of the Nova Scotia SAWS model - E.A. Gunn and J. Beyeler
9:00-9:20	How did Québec achieve zero herbicide in forestry - V. Roy and N. Thiffault	Modeling forest succession in balsam fir-red spruce-yellow birch mixedwood ecosystems using the ZELIG model - G.R. Larocque, L. Archambault, and C. Delisle	Solving stand harvesting adjacency problems using exact mathematical programming models - E. Richards and E.A. Gunn
9:20-9:40	BREAK		

	FOREST POLICY	SILVICULTURE & FOREST PRODUCTION	FOREST MANAGEMENT & PLANNING
	<u>Session I</u> Room MCFT129	<u>Session II</u> Auditorium	<u>Session III</u> Room MCFT228
9:40-10:00	From forest communities to community forests? An exploration of the community forestry concept in the Acadian Forest - K. Albert	A new stochastic dynamic programming approach for stand management - E.A. Gunn and J. Comeau	Predicting slow drying fire weather index moisture codes with NOAA-AVHRR images in Canada's northern boreal - S. Oldford, B. Leblon, M. Flannigan and D.A. MacLean
10:00-10:20	Making public policy: the role of foresters in New Brunswick's Jaakko Poyry Report - B. Ashton and B. Anderson	Optimizing the diameter structure of boreal spruce-fir stands managed under the selection silvicultural system in a perspective of ecosystem management - J.M. Lussier	Fire danger monitoring in a northern boreal forest region using radarsat-1 imagery - K.N. Abbott, B. Leblon, G.C. Staples, D.A. MacLean, and M.E. Alexander
10:20-10:40	The effects of economic prosperity on environmental health: an historical GDP versus bird population analysis in Canada - V.A. Lantz	Hardwood tree plantations in Indiana: establishment success in relation to silvicultural practices, motivations to afforest, and ownership characteristics - A.S. Davis, D. F. Jacobs, and A.L. Ross-Davis	Can we solve operational planning problems using linear integer programming? - V. Colden and E. Richards
10:40-11:00	Principal findings and policy implications from the first full annual inventory of Maine - W.H. McWilliams and K.M. Laustsen		
11:00-11:50	CONFERENCE WRAP-UP SESSION Auditorium, H.J. Flemming Forestry Center <u>Speakers</u> <i>Silviculture & Production</i> – Mr. Greg Adams, J.D. Irving, Ltd. <i>Ecology & Wildlife</i> – Dr. Dan Keppie, UNB <i>Forest Management & Operations</i> – Dr. Jeremy Wilson, Univ. Maine		
12:00-1:00	BANQUET LUNCH H.J. Flemming Forestry Center Cafeteria (Tickets required)		



Poster Presentations

H.J. Flemming Forestry Center Foyer

Ecology & Wildlife

Patterns of tree regeneration in leave patches

D. Badin and M.R. Roberts

Soil temperature and moisture conditions in an aspen, jack pine, and black spruce forest stand in northern Saskatchewan (BOREAS)

V. Balland, P.A. Arp, R. Errington, and J. Bhatti

Mapping critical loads and exceedances for eastern Canada

I. Demerchant, R. Ouimet, S. Watmough, J. Aherne, V. Balland, and P.A. Arp

Identification of ectomycorrhizal fungi forming symbiotic association with American chestnut and their utilization in restoration efforts

S. Hiremath, K. Lehtoma, and C. McQuattie

Screening for genetic resistance and propagating beech bark disease-free American beech (*Fagus grandifolia*)

M. Ramirez, J. Loo, and M. Krasowski

Energy budget above a balsam fir forest in the maritime region of New Brunswick

Z. Xing, C. P.-A. Bourque, and F.R. Meng

Modeling carbon dynamics as related to nutrient cycling and forest management

C. Zhang, F.R. Meng, P.A. Arp, D.A. MacLean, J.S. Bhatti

Forest Management, Planning, & Policy

A forest in conflict: the proposal for a 3.2 million acre National Park and Preserve in Maine's working forest

E.D. Baldwin, L.S. Kenefic, and W. LaPage

Forest road network planning for the UNB forests lands

B.W. Peters, D. Jaeger, and E. Richards

Biological control of outbreaking populations of the balsam fir sawfly with its baculovirus

G. Moreau, E.G. Kettela, G.S. Thurston, S. Holmes, C. Weaver, B. Morin, D.B. Levin, and C.J. Lucarotti

Integrating carbon sequestration objectives into forest management planning

E.T. Neilson, C.P.-A. Bourque, F.R. Meng, D.A. MacLean, and P.A. Arp

Small forest catchment and stream research: field measurements and model

M. Steeves, V. Balland, F.R. Meng, M. Castonguay, and P.A. Arp

Silviculture & Forest Production

An Age-Related Comparison of Diurnal Photosynthetic Trends in Red Spruce (*Picea rubens*)

S.L. Adams, M.E. Day, M.S. Greenwood, and M.H. Ward

Considering heteroscedasticity and repeated measurements in forest growth modeling

M. Fortin, C.H. Ung, L. Archambault, and J. Bégin

Disturbance history of old-growth red spruce stands in northern Maine: linking tree-ring and stem-mapped data

S. Fraver and A.S. White

Relationships between potential rooting depth, tree growth, and white pine (*Pinus strobus* L.) decline in southern Maine

G. Granger and W.H. Livingston

Regeneration strategies of Japanese barberry (*Berberis thunbergii* DC) in coastal forests of Maine

J. D'Appollonio, W.H. Livingston, and R.G. Wagner

Regeneration of northern white-cedar following silvicultural treatment: a long-term study

B. Hébert, R. Gagnon, C. Larouche, J.C. Ruel, L.S. Kenefic, and J.C. Brissette

Ecology and silviculture of northern white-cedar

P. Hofmeyer, L.S. Kenefic, R.S. Seymour, and J.C. Brissette

Proposed studies for investigating the onset of radial growth reduction caused by balsam woolly adelgid damage on balsam fir in relation to climate using dendroecological methods

A.M. Kanoti, and W.H. Livingston

Influence of temperature, moisture regime, forest canopy, predation, herbaceous competition, and sowing date on germination, emergence, and early survival of native and non-native tree species in the acadian forest

K.G. Kanoti and R.G. Wagner

USDA Forest Service research on the Penobscot Experimental Forest: 50-year update

L.S. Kenefic, J.C. Brissette, and T.L. Stone

Effects of alternative diameter-limit cutting treatments: some findings from a long-term northern conifer experiment

L.S. Kenefic, J.C. Brissette, and P.E. Sendak

Dynamics of tree growth and composition following partial cutting in an oak-pine forest in Maine

L.S. Kenefic, S.P. Elias, A.J. Kimball, and J.W. Witham

Maine's Commercial Thinning Research Network: a long-term research installation designed to improve our understanding about how forests respond to thinning

D.J. McConville, R.G. Wagner, and R.S. Seymour

Understory height growth dynamics in uneven-aged, mixed-species northern conifer stands

A. Moores, R.S. Seymour, and L.S. Kenefic

Crown dimensions of four northern hardwood species in developing even-aged stands: the influence of shade tolerance on growing space occupancy

D.G. Ray, R.D. Nyland, and R.D. Yanai

Long-term effects of harvest intensity on soil o horizon thickness in spruce-fir stands in Maine

A.B. Reinmann, L.S. Kenefic, I.J. Fernandez, and W.C. Shortle

Documenting the ecological effects of new silvicultural systems in Maine's Acadian forest

M.R. Saunders, R.G. Wagner, M. Hunter Jr., S. Woods, D. Schofield, C.A. Strojny, K. Abell, and S. Thomas

Silvicultural treatment affects composition, growth, and yield in mixed northern conifers in Maine

P.E. Sendak, J. C. Brissette, R.M. Frank, and L.S. Kenefic

The Cooperative Forestry Research Unit: a partnership between Maine's forest managers and the University of Maine since 1975

Robert G. Wagner and Daniel J. McConville

Influence of silvicultural intensity and compositional objectives on the productivity of regenerating forest stands in Maine

R.G. Wagner, M.R. Saunders, K.G. Kanoti, J.C Brissette, and R.J. Dionne

Elementary silviculture: presenting forest science to children through the NSF's GK-12 fellowship

J.D. Waskiewicz and L.S Kenefic

Wood Products & Engineering

Effect of thermal treatment on selected properties of oriented strandboard

F. Chan, H. Darmstadt, C. Roy, B. de Coumia, C. Lamason, and Y.H. Chui

Evaluation of stress calculations on I-joists with web holes by one point load failure test

S. Lai, M.T. Afzal, and Y.H. Chui

Innovative Fastener for Engineered Wood Product Connections

B. Murty, A. Asiz, and I. Smith