

SECTION 2: SELECTED PUBLICATIONS FROM SFM NETWORK-FUNDED RESEARCH

CONTENTS OF THIS SECTION:

- SFM Network publications;
 - Refereed journal articles; and
 - Graduate theses
- published between 1 April 2002 and 31 March 2003

Publications may be listed under more than one subject

SFM NETWORK PUBLICATIONS

Armstrong GW, Cumming SG. Shadow prices as estimates of the cost of forest fires. May 2002. Working Paper 2002-3.

Lieffers S, Van Rees K. Impact of slash loading on soil temperatures and aspen regeneration. May 2002. Project Report 2002-6.

Sougavinski S, Doyon F. La coupe avec rétention variable de la structure: résultats de recherche, expériences de mise en œuvre et questions opérationnelles: version finale. avril 2002. Une Synthèse.

Sougavinski S, Doyon F. Variable retention: research findings, trial implementation and operational issues: final version. April 2002. Synthesis Report.

Stadt KJ, Huston C, Lieffers VJ. A comparison of non-spatial and spatial, empirical and resource-based competition indices for predicting the diameter growth of trees in maturing boreal mixedwood stands. November 2002. Project Report 2002-8. *Currently available internally. Date for public release: 8 January 2004.*

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Boucher D, De Grandpré L, Gauthier S. Développement d'un outil de classification de la structure des peuplements et comparaison de deux territoires de la pessière à mousses du Québec. *The Forestry Chronicle* 2003 March/April; 79(2): 318-328.

Boudreault C, Bergeron Y, Gauthier S, Drapeau P. Bryophyte and lichen communities in mature to old-growth stands in eastern boreal forests of Canada. *Canadian Journal of Forest Research* 2002 June; 32(6): 1080-1093.

Calogeropoulos C, Greene DF, Messier C, Brais S. Refining tree recruitment models. *Canadian Journal of Forest Research* 2003 January; 33(1): 41-46.

Campbell JJ, Messier C, Bauhus J. Does soil heterogeneity and compaction in ingrowth-cores affect growth and morphology of black spruce fine-roots? *Communications in Soil Science and Plant Analysis* 2002; 33(7-8): 1027-1037.

Charron I, Greene DF. Post-wildfire seedbeds and tree establishment in the southern mixedwood boreal forest. *Canadian Journal of Forest Research* 2002 September; 32(9): 1607-1615.

Chipman SJ, Johnson EA. Understory vascular plant species diversity in the mixedwood boreal forest of western Canada. *Ecological Applications* 2002 April; 12(2): 588-601.

Deslauriers A, Morin H, Begin Y. Cellular phenology of annual ring formation of *Abies balsamea* in the Quebec boreal forest (Canada). *Canadian Journal of Forest Research* 2003 February; 33(2): 190-200.

Dymond CC, Johnson EA. Mapping vegetation spatial patterns from modeled water, temperature and solar radiation gradients. *ISPRS Journal of Photogrammetry and Remote Sensing* 2002 November; 57(1-2): 69-85.

Fantin N, Morin H. Croissance juvénile comparée de deux générations successives de semis d'épinette noire issus de graines après feu en forêt boréale, Québec. *Canadian Journal of Forest Research* 2002 August; 32(8): 1478-1490.

Greene DF, Messier C, Asselin H, Fortin M-J. The effect of light availability and basal area on cone production in *Abies balsamea* and *Picea glauca*. *Canadian Journal of Botany* 2002 April; 80(4): 370-377.

Hogg EH, Hart M, Lieffers VJ. White tree rings formed in trembling aspen saplings following experimental defoliation. *Canadian Journal of Forest Research* 2002 November; 32(11): 1929-1934.

Lesieur D, Gauthier S, Bergeron Y. Fire frequency and vegetation dynamics for the south-central boreal forest of Quebec, Canada. *Canadian Journal of Forest Research* 2002 November; 32(11): 1996-2009.

Miyaniishi K, Johnson EA. Process and patterns of duff consumption in the mixedwood boreal forest. *Canadian Journal of Forest Research* 2002 July; 32(7): 1285-1295.

Nikinmaa E, Messier C, Sievänen R, Perttunen J, Lehtonen M. Shoot growth and crown development: effect of crown position in three-dimensional simulations. *Tree Physiology* 2003 February; 23(2): 129-136.

A – Natural Disturbance Management — Continued

Parent S, Morin H. Reply: effects of adventitious roots on age determination in balsam fir regeneration. *Canadian Journal of Forest Research* 2002 July; 32(7): 1296-1300.

Parent S, Morin H, Messier C. Missing growth rings at the trunk base in suppressed balsam fir saplings. *Canadian Journal of Forest Research* 2002 October; 32(10): 1776-1783.

Peters VS, Macdonald SE, Dale MRT. Aging discrepancies of white spruce affect the interpretation of static age structure in boreal mixedwoods [Note]. *Canadian Journal of Forest Research* 2002 August; 32(8): 1496-1501.

Rheault H, Drapeau P, Bergeron Y, Esseen P-A. Edge effects on epiphytic lichens in managed black spruce forests of eastern North America. *Canadian Journal of Forest Research* 2003 January; 33(1): 23-32.

Zhang L, Peng C, Huang S, Zhou X. Development and evaluation of ecoregion-based jack pine height-diameter models for Ontario. *The Forestry Chronicle* 2002 July/August; 78(4): 530-538.

GRADUATE THESES

Stadt KJ. Modeling light for regeneration planning in mixed-species boreal forests [PhD thesis]. 2002. Edmonton, Alberta: University of Alberta.

B – TRIAD/Intensive Forest Management

SFM NETWORK PUBLICATIONS

Saddler JN. The potential of short rotation forestry on marginal farmland in BC and Alberta to provide a feedstock for energy generation and to reduce greenhouse gas emissions. June 2002. Project Report 2002-5.

GRADUATE THESES

Nilsson G. Using cost assessments of planning uncertainties to direct forest management information collection [Master's thesis]. 2003. Edmonton, Alberta: University of Alberta.

C – Integrated Resource Management**SFM NETWORK PUBLICATIONS**

Farley G, Drapeau P, Fortin M-J. Développement d'un cadre conceptuel pour la gestion durable de la forêt boréale intégrant les besoins de la faune en habitat à l'aide de la modélisation spatiale. [2002]. Working Paper 2002-6. *Currently available internally. Date for public release: 26 January 2004.*

Sheppard SRJ, Lewis JL, Akai C. Landscape visualization for First Nations: an extension guide for First Nations, planners and educators. [2002]. Draft. Special Publication. *Currently available internally. Date for public release: 27 February 2004.*

REFEREED JOURNAL ARTICLES

Boyce MS, Vernier PR, Nielsen SE, Schmiegelow FKA. Evaluating resource selection functions. *Ecological Modelling* 2002 November 30; 157(2-3): 281-300.

Bunnell FL, Boyland M. Decision-support systems: it's the question not the model. *Journal for Nature Conservation* 2003 March 1; 10(4): 269-279.

Côte M-A, Bouthillier L. Assessing the effect of public involvement processes in forest management in Quebec. *Forest Policy and Economics* 2002 July; 4(3): 213-225.

Cumming S, Vernier P. Statistical models of landscape pattern metrics, with applications to regional scale dynamic forest simulations. *Landscape Ecology* 2002 October; 17(5): 433-444.

D'Eon RG, Glenn SM, Parfitt I, Fortin M-J. Landscape connectivity as a function of scale and organism vagility in a real forested landscape. *Conservation Ecology* 2002 December; 6(2): Article 10 [Internet; cited 2003 September 5]. Available from: <http://www.consecol.org/vol6/iss2/art10/>.

Dungan JL, Perry JN, Dale MRT, Legendre P, Citron-Pousty S, Fortin M-J, Jakomulska A, Miriti M, Rosenberg MS. A balanced view of scale in spatial statistical analysis. *Ecography* 2002 October; 25(5): 626-640.

Fortin M-J, Payette S. How to test the significance of the relation between spatially autocorrelated data at the landscape scale: a case study using fire and forest maps. *Écoscience* 2002; 9(2): 213-218.

Jiang H, Apps MJ, Peng C, Zhang Y, Liu J. Modelling the influence of harvesting on Chinese boreal forest carbon dynamics. *Forest Ecology and Management* 2002 September 15; 169(1-2): 65-82.

Jordan GJ, Fortin M-J. Scale and topology in the ecological economics sustainability paradigm. *Ecological Economics* 2002 May; 41(2): 361-366.

Legendre P, Dale MRT, Fortin M-J, Gurevitch J, Hohn M, Myers D. The consequences of spatial structure for the design and analysis of ecological field surveys. *Ecography* 2002 October; 25(5): 601-615.

Peng C, Jiang H, Apps MJ, Zhang Y. Effects of harvesting regimes on carbon and nitrogen dynamics of boreal forests in central Canada: a process model simulation. *Ecological Modelling* 2002 October 1; 155(2-3): 177-189.

Weber M, Adamowicz W. Tradable land-use rights for cumulative environmental effects management. *Canadian Public Policy* 2002 December; 28(4): 581-595.

Yamasaki SH, Kneeshaw DD, Munson AD, Dorion F. Bridging boundaries among disciplines and institutions for effective implementation of criteria and indicators. *The Forestry Chronicle* 2002 July/August; 78(4): 487-491.

GRADUATE THESES

Didion MP. Improving forest management decisions by modeling landscape disturbance impacts on forest age structure dynamics [Master's thesis]. 2002. Burnaby, British Columbia: Simon Fraser University.

Jabs JH. Effects of regulatory mechanisms on anglers and walleye populations in northern Alberta lakes [Master's thesis]. 2002. Edmonton, Alberta: University of Alberta.

Nanang DM. Optimization based forest planning tools for sustainable forest management [PhD thesis]. 2002. Edmonton, Alberta: University of Alberta.

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Kant S, Zhang Y. Co-management of forest resources in Canada: an economically optimal institutional arrangement. [2002]. Working Paper 2002-4. *Currently available internally. Date for public release: 20 January 2004.*

O'Shaughnessy SA, Johnston M. A framework for determining the ability of the forest sector to adapt to climate change. May 2002. Project Report 2002-2.

Ross MM, Smith P. Accommodation of Aboriginal rights: the need for an Aboriginal forest tenure. April 2002. Synthesis Report.

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Côte M-A, Bouthillier L. Assessing the effect of public involvement processes in forest management in Quebec. *Forest Policy and Economics* 2002 July; 4(3): 213-225.

Jabbour JR, Balsillie D. The effectiveness of public participation in forest management: a case study analysis of the Morice Innovative Forest Practices Agreement. *The Forestry Chronicle* 2003 March/April; 79(2): 329-341.

Luckert MK. Inquiries into the role of economics in Canadian forestry. *The Forestry Chronicle* 2002 July/August; 78(4): 499-504.

van Kooten GC, Shaikh SL, Suchánek P. Mitigating climate change by planting trees: the transaction costs trap. *Land Economics* 2002 November; 78(4): 559-572.

Weber M, Adamowicz W. Tradable land-use rights for cumulative environmental effects management. *Canadian Public Policy* 2002 December; 28(4): 581-595.

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Jabs JH. Effects of regulatory mechanisms on anglers and walleye populations in northern Alberta lakes [Master's thesis]. 2002. Edmonton, Alberta: University of Alberta.

Nanang DM. Optimization based forest planning tools for sustainable forest management [PhD thesis]. 2002. Edmonton, Alberta: University of Alberta.

Nilsson G. Using cost assessments of planning uncertainties to direct forest management information collection [Master's thesis]. 2003. Edmonton, Alberta: University of Alberta.

Wortley DR. Community-based forest management planning in the Yukon: the difficulties of government transfer of responsibility and authority to community agencies [Master's thesis]. 2003. Edmonton, Alberta: University of Alberta.

E – Value Added/Alternative Products

SFM NETWORK PUBLICATIONS

Berkes F, Davidson-Hunt I, Ruta T, Sinclair J. Scientific and First Nation perspectives of non-timber forest products: a case study from the Shoal Lake watershed, northwestern Ontario. June 2002. Project Report 2002-4.

Murray G, Boxall PC. The distribution, abundance, and utilization of wild fruits by the Gwich'in in the Mackenzie River Delta. October 2002. Project Report 2002-7. *Currently available internally. Date for public release: 16 December 2003.*

Saddler JN. The potential of short rotation forestry on marginal farmland in BC and Alberta to provide a feedstock for energy generation and to reduce greenhouse gas emissions. June 2002. Project Report 2002-5.

SFM NETWORK PUBLICATIONS

Farley G, Drapeau P, Fortin M-J. Développement d'un cadre conceptuel pour la gestion durable de la forêt boréale intégrant les besoins de la faune en habitat à l'aide de la modélisation spatiale. [2002].

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Hannon SJ, McCallum C. Using the focal species approach for conserving biodiversity in landscapes managed for forestry. [2002]. Synthesis Report. *Currently available internally. Date for public release: 11 March 2004.*

Leech S, Whittaker C, Innes J, editors. Conference proceedings: BorNet International Conference on Biodiversity Conservation in Boreal Forests; 2002 May 27-28; Uppsala, Sweden. [2002].

Spence JR, Cartar R, Reid M, Langor DW, Volney WJA. Dynamics of arthropod assemblages in forests managed to emulate natural disturbance (BUGS). March 2003. Project Report 2003-2. *Currently available internally. Date for public release: 22 March 2004.*

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Hoyt JS, Hannon SJ. Habitat associations of black-backed and three-toed woodpeckers in the boreal forest of Alberta. *Canadian Journal of Forest Research* 2002 October; 32(10): 1881-1888.

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Paré D, Rochon P, Brais S. Assessing the geochemical balance of managed boreal forests. *Ecological Indicators* 2002 August; 1(4): 293-311.

Peng C, Liu J, Dang Q, Zhou X, Apps M. Developing carbon-based ecological indicators to monitor sustainability of Ontario's forests. *Ecological Indicators* 2002 August; 1(4): 235-246.

Schmidt BC, Roland J, Wakarchuk D. Evaluation of synthetic pheromones for monitoring forest tent caterpillar (Lepidoptera: Lasiocampidae) populations. *Environmental Entomology* 2003 February; 32(1): 214-219.

Schmiegelow FKA, Mönkkönen M. Habitat loss and fragmentation in dynamic landscapes: avian perspectives from the boreal forest. *Ecological Applications* 2002 April; 12(2): 375-389.

Wallstedt A, Coughlan A, Munson AD, Nilsson M-C, Margolis HA. Mechanisms of interaction between *Kalmia angustifolia* cover and *Picea mariana* seedlings. *Canadian Journal of Forest Research* 2002 November; 32(11): 2022-2031.

Work TT, Buddle CM, Korinus LM, Spence JR. Pitfall trap size and capture of three taxa of litter-dwelling arthropods: implications for biodiversity studies. *Environmental Entomology* 2002 June; 31(3): 438-448.

Yamasaki SH, Kneeshaw DD, Munson AD, Dorion F. Bridging boundaries among disciplines and institutions for effective implementation of criteria and indicators. *The Forestry Chronicle* 2002 July/August; 78(4): 487-491.

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Horvath R. Impacts de la coupe sur la productivité des pessières noires à mousses situées dans le secteur nord-ouest de la réserve faunique Ashuapmushuan [Master's thesis]. 2002. Québec, Québec: Université Laval.

G – Water and Wetlands**REFEREED JOURNAL ARTICLES**

Armstrong N, Planas D, Prepas E. Potential for estimating macrophyte surface area from biomass. *Aquatic Botany* 2003 February; 75(2): 173-179.

Gibson JJ, Prepas EE, McEachern P. Quantitative comparison of lake throughflow, residency, and catchment runoff using stable isotopes: modelling and results from a regional survey of Boreal lakes. *Journal of Hydrology* 2002 May 10; 262(1-4): 128-144.

McEachern P, Prepas EE, Planas D. Phytoplankton in Boreal SubArctic lakes following enhanced phosphorus loading from forest fire: impacts on species richness, nitrogen and light limitation. *Lake and Reservoir Management* 2002 June; 18(2): 138-148.

Patoine A, Pinel-Alloul B, Prepas EE. Effects of catchment perturbations by logging and wildfires on zooplankton species richness and composition in Boreal Shield lakes. *Freshwater Biology* 2002 October; 47(10): 1996-2014.

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Philibert A, Prairie YT. Is the introduction of benthic species necessary for open-water chemical reconstruction in diatom-based transfer functions? *Canadian Journal of Fisheries and Aquatic Sciences* 2002 June; 59(6): 938-951.

Pinel-Alloul B, Prepas E, Planas D, Steedman R, Charette T. Watershed impacts of logging and wildfire: case studies in Canada. *Lake and Reservoir Management* 2002 December; 18(4): 307-318.

Yu Z, Vitt DH, Campbell ID, Apps MJ. Understanding Holocene peat accumulation pattern of continental fens in western Canada. *Canadian Journal of Botany* 2003 March; 81(3): 267-282.

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Kalef N. Interlinking hydrological behavior and inorganic nitrogen cycling in a forested boreal wetland [Master's thesis]. 2002. Edmonton, Alberta: University of Alberta.

Lamb EG. Ecology and management of riparian zone vegetation along small coldwater streams in northwestern Ontario [Master's thesis]. 2002. Thunder Bay, Ontario: Lakehead University.

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Berkes F, Davidson-Hunt I, Ruta T, Sinclair J. Scientific and First Nation perspectives of non-timber forest products: a case study from the Shoal Lake watershed, northwestern Ontario. June 2002. Project Report 2002-4.

Kant S, Zhang Y. Co-management of forest resources in Canada: an economically optimal institutional arrangement. [2002]. Working Paper 2002-4. *Currently available internally. Date for public release: 20 January 2004.*

Murray G, Boxall PC. The distribution, abundance, and utilization of wild fruits by the Gwich'in in the Mackenzie River Delta. October 2002. Project Report 2002-7. *Currently available internally. Date for public release: 16 December 2003.*

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Schramm T. Caribou Mountains critical ungulate habitat and traditional ecological knowledge study: a GIS analysis. June 2002. Project Report 2002-3.

Sheppard SRJ, Lewis JL, Akai C. Landscape visualization for First Nations: an extension guide for First Nations, planners and educators. [2002]. Draft. Special Publication. *Currently available internally. Date for public release: 27 February 2004.*

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Natcher DC, Hickey CG. Putting the community back into community-based resource management: a criteria and indicators approach to sustainability. *Human Organization* 2002 Winter; 61(4): 350-363.

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Lee S. Forest values and perceptions of people in northwestern Ontario [Master's thesis]. 2003. Toronto, Ontario: University of Toronto.

Wortley DR. Community-based forest management planning in the Yukon: the difficulties of government transfer of responsibility and authority to community agencies [Master's thesis]. 2003. Edmonton, Alberta: University of Alberta.

I – Social and Economic Criteria and Indicators

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Armstrong GW, Cumming SG. Shadow prices as estimates of the cost of forest fires. May 2002. Working Paper 2002-3.

Leake NL, Adamowicz WL, Boxall PC. An examination of economic sustainability indicators in forest dependent communities in Canada. November 2002. Project Report 2002-9. *Currently available internally. Date for public release: 8 January 2004.*

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Natcher DC, Hickey CG. Putting the community back into community-based resource management: a criteria and indicators approach to sustainability. *Human Organization* 2002 Winter; 61(4): 350-363.

Yamasaki SH, Kneeshaw DD, Munson AD, Dorion F. Bridging boundaries among disciplines and institutions for effective implementation of criteria and indicators. *The Forestry Chronicle* 2002 July/August; 78(4): 487-491.

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Lee S. Forest values and perceptions of people in northwestern Ontario [Master's thesis]. 2003. Toronto, Ontario: University of Toronto.

Nadeau S. Characterization of community capacity in a forest-dependent community: the case of the Haut-St.-Maurice [PhD thesis]. 2002. Corvallis, Oregon: Oregon State University.

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O'Shaughnessy SA, Johnston M. A framework for determining the ability of the forest sector to adapt to climate change. May 2002. Project Report 2002-2.

Saddler JN. The potential of short rotation forestry on marginal farmland in BC and Alberta to provide a feedstock for energy generation and to reduce greenhouse gas emissions. June 2002. Project Report 2002-5.

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Jiang H, Apps MJ, Peng C, Zhang Y, Liu J. Modelling the influence of harvesting on Chinese boreal forest carbon dynamics. *Forest Ecology and Management* 2002 September 15; 169(1-2): 65-82.

Peng C, Jiang H, Apps MJ, Zhang Y. Effects of harvesting regimes on carbon and nitrogen dynamics of boreal forests in central Canada: a process model simulation. *Ecological Modelling* 2002 October 1; 155(2-3): 177-189.

Peng C, Liu J, Dang Q, Zhou X, Apps M. Developing carbon-based ecological indicators to monitor sustainability of Ontario's forests. *Ecological Indicators* 2002 August; 1(4): 235-246.

van Kooten GC, Shaikh SL, Suchánek P. Mitigating climate change by planting trees: the transaction costs trap. *Land Economics* 2002 November; 78(4): 559-572.

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Wright G, Smith DW, Gamal El-Din M. Advanced oxidation for the treatment of resin and fatty acids. March 2003. Project Report 2003-1. *Currently available internally. Date for public release: 19 March 2004.*

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Gamal El-Din M, Smith DW. Mass transfer analysis in ozone bubble columns. *Journal of Environmental Engineering and Science* 2003 January; 2(1): 63-76.

Gamal El-Din M, Smith DW. Measurements of the size, rise velocity, and specific interfacial area of bubbles in an impinging-jet bubble column. *Journal of Environmental Engineering and Science* 2003 March; 2(2): 127-138.

Yu Z, Mohn WW. Bioaugmentation with the resin acid-degrading bacterium *Zoogloea resiniphila* DhA-35 to counteract pH stress in an aerated lagoon treating pulp and paper mill effluent. *Water Research* 2002 June; 36(11): 2793-2801.

Zhang X, Stebbing DW, Soong G, Saddler JN, Beatson RP. A combined fungal and enzyme treatment system to remove TMP/newsprint mill white water substances. *TAPPI Journal* 2002 May; 1(3): 26-32.

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Jen R-C. High temperature membrane bioreactor treating kraft evaporator condensate under steady and transient conditions [Master's thesis]. 2002. Vancouver, British Columbia: University of British Columbia.