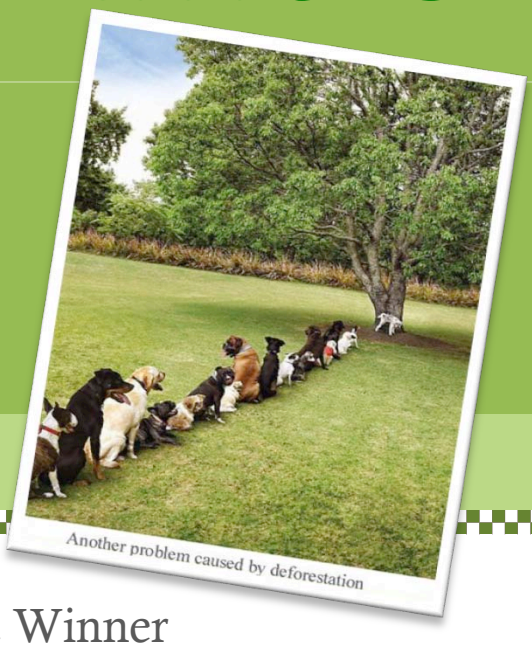
Faculty of Forestry, University of Toronto | Investing in a Green Future for over 100 years

Forestry Matters

A people without children would face a hopeless future; a country without trees is almost as helpless.

Theodore Roosevelt (1858-1919), 26th President of the United States


Another problem caused by deforestation

April/May 2010

Dates to Remember

July 1	Canada Day—Be Proud. Summer hours also start now.
July 2	Presidential Holiday- University is closed
August 2	Civic Holiday
September 6	Labour Day

The abuse of a harmless thing is the essence of sin.

-A. W. Tozer (1897-1963)

Poster Award Winner

Smith Sundar, a PhD candidate at the Center of Biomaterials and Biocomposite Processing, University of Toronto , was awarded first prize in the student poster competition for outstanding research at the 11th International Conference on Biocomposites: Transition to Green Materials for his poster entitled "(Chemical modification of cellulose and its orientation in magnetic field"). Mr. Sundar is supervised by Dr. Mohini M. Sain, professor and director for the Center of Biomaterials and Biocomposite Processing at the Faculty of Forestry.

Remember When?

How many of you can remember this scene? How many of you can remember the name of the guy operating the truck? It was Tony's Catering so everyone called him Tony. His name was actually Nick. It was his brother Tony's business. Nick retired about 2 years ago.



Just Stuff

Forest Biomaterial Science 2nd Annual Mini-research day April 28th.

There were 14 presentations by graduate students and 1 undergraduate major in FBS to show case their research. Coffee and lunch provided a lot of time for interactions and discussion of research.

Judging was by Prof. P. Cooper and Dr. S. Robinson (post doc fellow).

1st prize was awarded to Carlos Quijano-Solis

2nd Crystal Wu

3rd Mojgan Nejad

Honourable mention to Tyler Hall and Myung Jae Lee.

11th International Conference on Biocomposites: Transition to Green Materials.

Dr. M. Sain and Dr. M. Kortschot recently hosted the 11th International Conference on Biocomposites-Transition to Green Materials. After a slow registration start with due to a bad tempered volcano in Iceland the conference turned out to be a great success. Delegates from around the world attended the two-day conference. Everyone enjoyed the quality of speakers, the exhibits and poster displays. Attendees enjoyed the hotel, its meals and the proximity to the downtown core.

Thanks need to be extended to the following Faculty of Forestry staff for their dedication in making the conference a success.

Amalia Veneziano
John McCarron
Ian Kennedy
And to graduate student Carlos Quijano-Solis
Thanks also to Joan Bunyan and Kathy Geisbrecht for helping with the registration desk during the critical crunch times.

Leaving Us.

Michael Drescher will be starting a new job is as assistant professor in the Faculty of Environment at the University of Waterloo starting this July. He will be working on the ecology and planning of coupled natural-human systems.

Congrats Mike……..

Summer Safety

The most important thing to remember is: "Safety Starts With YOU". It does not matter if you are in the bush somewhere in Northern Ontario, Brazil or working in a lab here in downtown Toronto. If you ever feel uncomfortable or unsafe with something you are doing STOP working immediately. Report your concerns to your supervisor and/or a member of the safety committee. Is up to them to address your concerns quickly and to come up with a safe solution that is agreed upon by everyone (you, your supervisor and the safety committee).

If you do suffer any kind of injury (big or small) you must fill out an accident report. This is your own best interest in case your injury causes further problems down the road. I suggest you bookmark UofT's safety web site for your information.

Your Safety Committee Chairs are John McCarron (416-978-5756) and Sally Krigstin (416-946-8507)

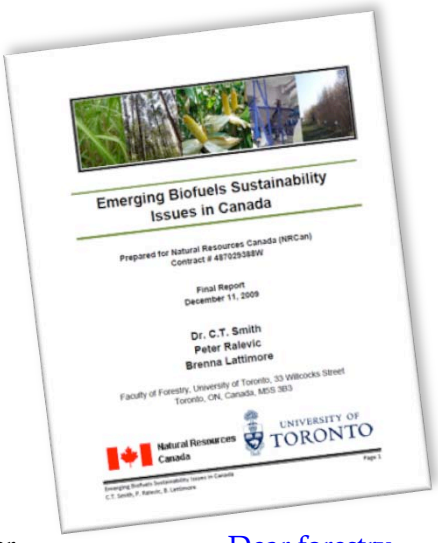
Research project informs Natural Resources Canada on sustainable biofuel production
By: Brenna Lattimore and Peter Ralevic

In September 2009, Natural Resources Canada commissioned a project that sought to identify the emerging sustainability issues related to biofuel production in Canada. The project, "Emerging Biofuels Sustainability Issues in Canada", was led by Dr. Tat Smith, Peter Ralevic (PhD student) and Brenna Lattimore (researcher and sessional lecturer) of the Faculty of Forestry.

The purpose of the report was to identify the social, economic, environmental, and institutional issues associated with next-generation biofuel production (i.e. forest and crop residues), including life-cycle analysis of greenhouse gas balances and land use change impacts. Estimates of biomass availability were also synthesized and analyzed based on these considerations. The report drew on a large body of scientific literature and expert consultation both nationally and abroad. The primary questions that the report addressed included the following:

1. What is known about sustainable harvesting levels for biofuels from agricultural and forestry residues in Canada?
2. What is the availability of biomass in Canada to support next-generation biofuel production and what barriers exist for its use?
3. How might Canada identify and address land use change that is directly or indirectly the result of biofuels production?

Based on the extensive scientific literature review, expert consultation and reviews from various members and scientists from different federal departments, the findings were presented to the Interdepartmental Working Group on Biofuels Policy (IWGBP) at NRCan's head office in Ottawa in December, 2009. The IWGBP, which consisted of representatives from the Canadian Forest Service, Agriculture and Agri-Food Canada, Health Canada and Environment Canada, found the results a useful resource to help design Canadian biofuel policies and inform various departments of the issues and opportunities that exist.



The research team is thankful to the various scientists and experts from the Office of Energy Efficiency (NRCan), Environment Canada, Canadian Forest Service (NRCan), Agriculture and Agri-Food Canada, Health Canada, provincial ministries, as well as the private, academic and public sectors who provided feedback and information for the project. The research team is also very thankful to master's student Cam McBurney, for facilitating the collection of references and for creating an extensive database of scientific literature for the IWGBP.

For a copy of full report, please contact tat.smith@utoronto.ca.

Dear forestry colleagues—

Please join me in congratulating one of our MFC grads, Brenna Lattimore, for her paper being placed in the ScienceDirect "Top 25 Hottest Articles" in the Energy Biomass and Bioenergy) category in the period October to December 2009!

Please Click Here for more information:

FYI, the reference is: Lattimore, B., C.T. Smith, B.D. Titus, I, Stupak, G. Egnell. 2009. Environmental factors in woodfuel production: risks, and criteria and indicators for sustainable practices. *Biomass & Bioenergy* 33(10): 1321-1342.

Tat

Wood decay? Yes please! PhD student Daniela Tudor and Dr. S. Robinson (post doc fellow) are working on inducing natural coloration of low-value hardwoods to create new value-added products. In this process, fungi are inoculated onto clear wood (logs, lumber, turning blanks) and left to colonize for several months (known as 'spalting'). The end result is wood with dramatic black winding lines, bright colors, and pale white sections.

The Faculty of Forestry currently has two growth chambers dedicated entirely to induced spalting, as well as a large culture collection of pigment and zone line fungi. If you are interested in learning more, or even taking a tour of the process, contact seri.robinson@utoronto.ca.

RESEARCH NEWS

Jay Malcolm along with collaborators Ian Thompson, Dave Morris, Jean Marc Moncalvo, and Loren Johnston were awarded an Ivey Foundation Research Grant:

Purpose:
The main goal of the project is to better understand the effects of biofuel harvesting on boreal biodiversity. Specifically, we will: 1) undertake boreal field studies in areas with variable removal of dead wood to identify key indicator taxa and to estimate thresholds of habitat supply, 2) create a modelling framework in which short- and long-term implications of particular management practices for woody debris habitat supply can be estimated, 3) make our research results as applicable to existing policy as possible by developing and communicating a tool through which habitat and biodiversity implications of particular management practices become transparent, and 4) contribute to the regulatory framework by making our research outputs accessible to a wide range of audiences, including policy makers and practitioners.

Executive Summary:
Dead wood, including both downed wood and snags, provides critical habitats for a diverse array of forest organisms, but at the same time represents a resource that is highly sensitive to forest management activities. Harvesting of wood biofuel to offset fossil fuel emissions has the potential to intensify fibre exports and dead wood habitat loss and represents a preeminent concern with regard to sustainable forest management in boreal Canada. We propose to undertake four related activities to address this issue. First, through boreal field studies in areas with variable removals of dead wood, we will identify key indicator taxa and estimate thresholds of habitat supply. Unfortunately, despite widespread appreciation of the importance of woody debris for forest biodiversity, we have little knowledge about the organisms most vulnerable to such harvesting and associated thresholds of habitat supply.

In this first part of the research, we will undertake research on key groups of saproxylic insects (those dependent upon dead and dying wood), fungi, and ground fauna in a series of closed-canopy boreal forest stands from which variable amounts of wood have been removed. In addition, we will extend the research to a series of operational clearcuts, and undertake comparisons between intensified-harvest clearcuts (in which full tree harvesting was coupled with on-site and roadside chipping of slash for cogeneration at the Kapuskasing mill) and normal-harvest (stem-only) clearcuts. Second, because management of habitat supply is a complex problem, with inputs over time from disturbance events and stand development and variation in the quantity and quality of dead wood as it decays, we will partner with existing research on the regulatory framework for biofuel harvesting in Canada and create a modelling framework in which short- and long-term implications of particular management practices for woody debris habitat supply can be estimated. The modelling will be undertaken to investigate: 1) a range of likely management scenarios within the existing regulatory framework (focussing on Ontario) and 2) a comparison of the long-term implications of the normal and intensified-harvest clearcuts. A third and related activity is to make our research results as applicable to existing policy as possible by developing and communicating a tool through which habitat and biodiversity implications of particular management practices become transparent. Fourth, we will contribute to future development of the biofuel regulatory framework by making our research outputs accessible to a wide range of audiences, including policy makers, ENGOs, and practitioners, with an overall goal to encourage successful integration of science into environmental policy and stewardship initiatives. The work proposed here is of particular value in the context of the Ivey Foundation's goals. It fits directly into the third Program Cluster in that the applied research described here is: 1) precedent-setting in that it makes use of novel and unique experimental designs to provide critical information on biodiversity indicators and supply thresholds, 2) designed specifically to have broadly applicable outcomes through identification of indicator species and biological thresholds, development of a tool to easily understand the relationship between harvesting practices and long-term woody debris habitat supply, and modelling of the implications of approved, operational-scale biofuel harvests for habitat supply and biodiversity, and 3) will feed directly into conservation policy and land-use planning processes and the establishment of policy that sets out clear, measurable targets and standards through extension activities.

MFC CLASS RETURNS FROM BRAZIL

A Cameras View

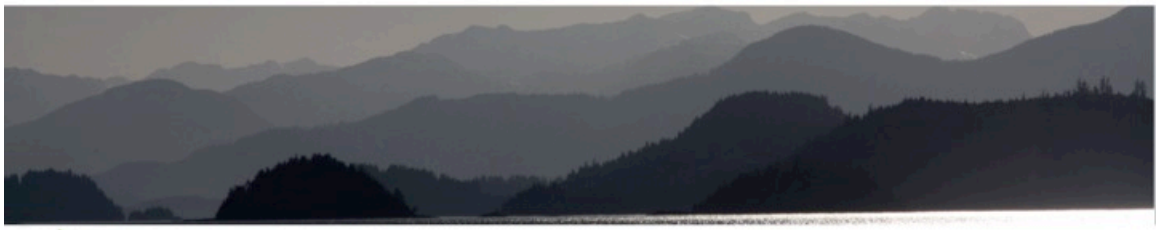
BUSY BUSY BUSY!!!!!!

As the spring term comes to an end one might think that life at the Faculty of Forestry quiets down and we all go into a state of ahhhhhh-- relax for the summer. This is as far from the truth as it can get. April and May have been crazy months, lets see what we have been doing:

- Exams
- FBS research day.
- Haliburton Forest research day
- 11th Annual International Conference on Biocomposites
- MFC International field trip to Brazil
- Undergraduate tropical field course in Dominica
- Urban Forestry field trip (Grad students and undergrad students)-southern Ontario
- Dr. Sain has a group of people from India visiting and taking courses for a month
- Summer research projects have started for researchers and their students
- MFC internships are getting underway
- A display at the Green Living Show in Toronto
- An alumni info session and teleconference about the Faculty's future

TAKE ADVANTAGE OF THIS AMAZING OPPORTUNITY

Haida Gwaii **Semester** in Natural Resource Studies



The Haida Gwaii Semester provides senior undergraduates an immersion opportunity in a unique resource-dependent community. Courses include *Rainforest Ecology and Management*, *First Nations and Forests*, *History and Politics of Resource Management*, *Diversifying Resource-Dependent Communities*, and *Directed Studies in Haida Gwaii*.

WWW.HAIDAGWAIISEMESTER.COM

2011 Semester: January 10 – April 15

Registration now open!