# branchlines

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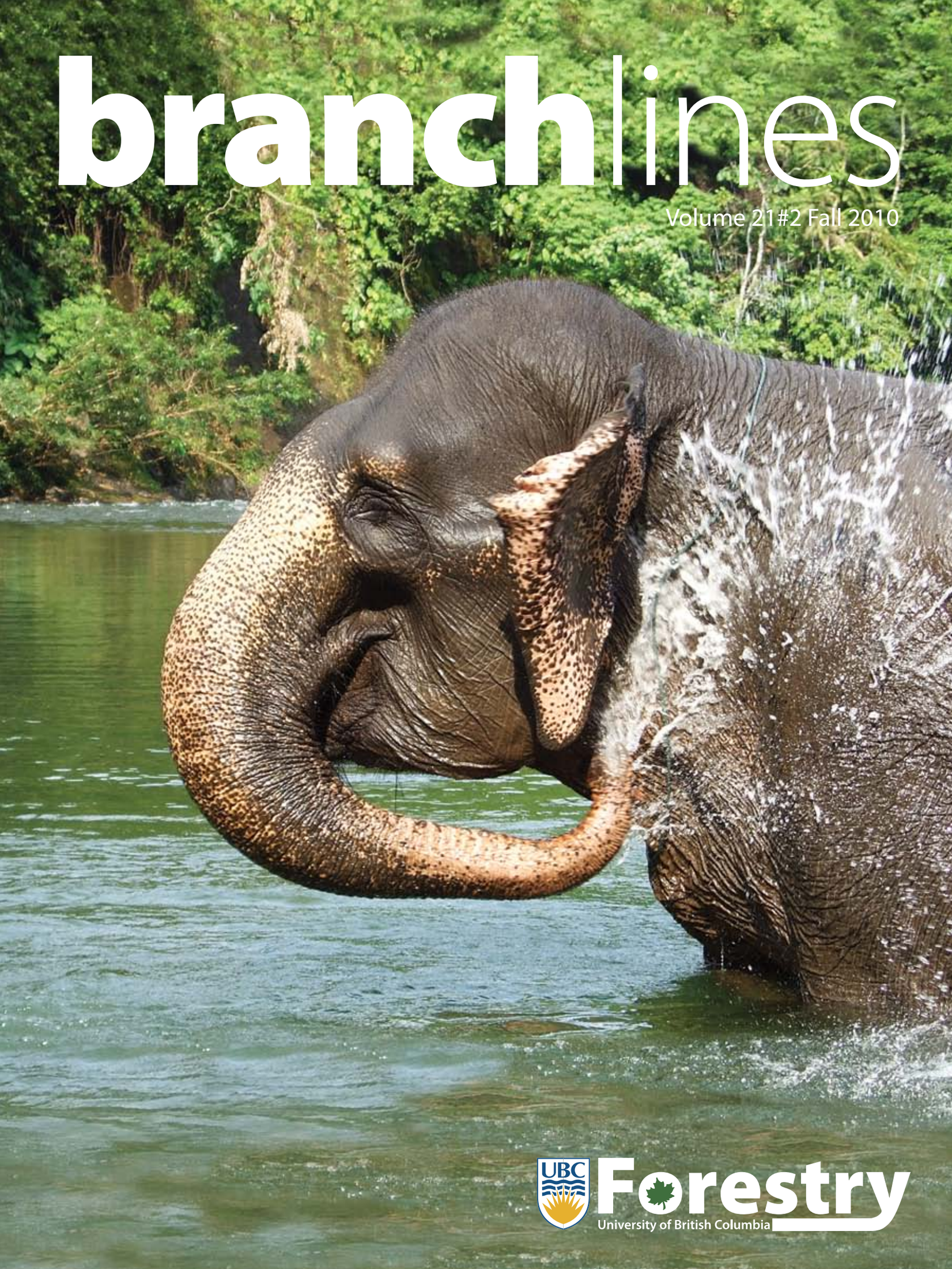


UBC Forestry
University of British Columbia

# **dean's**message

## Future directions for the Faculty of Forestry

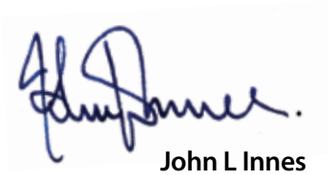
It is a great honour for me to have been named Dean of the Faculty of Forestry at UBC. Our Faculty is one of the best of the world, and the opportunity to lead it forward is daunting. There are a whole range of issues that I believe need to be examined and addressed, especially during this time of great uncertainty for the forest sector. With many forestry schools around the world disappearing, and the supply of university-qualified foresters shrinking, there is a strong need to examine the future role of the Faculty within the university, within the province, and globally.

The Faculty currently has a number of programs, including forest resources management, forest operations, forest sciences, wood products processing and natural resources conservation. We need to examine whether these really meet the current and future needs of society and, if not, how they might be supplemented. Our research capacity goes well beyond these programs, suggesting that there is room for at least one new program that could result in a greater proportion of our faculty members being involved in undergraduate education.

At the graduate level, we are being challenged by the decline in provincial and federal funding opportunities. We are looking at new sources of funding, and also exploring some existing sources that have not traditionally been used by the Faculty. We are also planning to introduce some new professional master programs that will complement our existing undergraduate programs (see page 9).

With the changes occurring in the broad field of forestry, there is considerable room for the Faculty to provide up-to-date training for mid- and late-career practitioners. We have already started in this area, with an arrangement to provide training to mid-career foresters from the Indian Forest Service (see page 5). This has proven particularly interesting for the Faculty, given the emphasis of forestry in India on conservation and meeting the needs of local people.

The Faculty is dependent on the quality of its undergraduate and graduate students, post-doctoral researchers, research associates, staff and faculty members. We will be taking a number of steps to ensure that we can maintain the existing quality and improve wherever possible. This will involve ensuring that standards are kept as high as possible, that all aspects of the academic community are encouraged and that our alumni are engaged with the Faculty. I hope that all readers will help us achieve this. Feel free to contact me anytime at john.innes@ubc.ca.



**John L Innes**
Professor and Dean
Forest Renewal BC Chair, Forest Management

# **forestry**news

## Commonwealth Forestry Congress

The 18th Commonwealth Forestry Congress was held in Edinburgh from 28 June to 2 July this year. It's main theme was how the restoration of the Commonwealth's forests could contribute to tackling climate change. The timing meant that UBC was represented by two deans of Forestry: Jack Saddler and John Innes, as well as by Hosny El-Lakany and Harry Nelson. They joined over 400 people representing 40 countries from around the world. The conference examined the real experiences of real people, rather than looking at the more theoretical aspects of climate change. While there were many messages, a particularly important outcome was the recognition that forest restoration extends beyond the planting of trees to the restoration of the functionality of ecosystem services, the restoration of whole landscapes, the improvement of lives and the empowerment of people to shape a sustainable future for themselves.

## The Asia Pacific Forestry Net

APF Net organized a meeting of forestry college deans in Beijing in July. UBC Faculty of Forestry was represented by Dean John Innes and our director of Asian strategies, Dr Guangyu Wang. The Asia Pacific region contains over half the world's population and over five million people are employed in the region's forestry sector. Education is seen as being increasingly important. The meeting provided an opportunity for universities and colleges to learn about UBC's Faculty of Forestry, and provided us with important feedback about how we might more successfully engage in the region.

## Commonwealth Forestry Association

At the AGM of the Commonwealth Forestry Association (CFA) in June this year, Dean John Innes was appointed chair of the Association. At the same time, Faculty of Forestry PhD candidate Reem Hajjar was appointed vice chair. The Association is the only international association for professional foresters, and its reach is increasingly extending beyond the Commonwealth. The appointments provide the Faculty of Forestry with an important opportunity to lead professional forestry internationally at a time when the demands placed on foresters are changing rapidly.

The "badge of office'" of the position of chair of the CFA is a carved stick originating from Zimbabwe. The carving shows a male and female head, and it appears to have been carved from mopane (*Colophospermum mopane*). The carving symbolizes the importance of people in forestry, especially the dependence of more than a billion people on the goods and services provided by forests.

# The Faculty of Forestry at IUFRO 2010

The UBC Faculty of Forestry had a strong presence at the 23rd IUFRO (International Union of Forest Research Organizations) World Congress, held this August in Seoul, Republic of Korea. Two Faculty members, Drs Shawn Mansfield and Yousry El-Kassaby were amongst the 11 scientists from around the world that were awarded IUFRO Scientific Achievement Awards (see page 22 for details). Faculty members, post-doctoral research staff and graduate students featured prominently in the sessions, and one of the keynote speakers was Faculty Advisory Council member Dr Frances Seymour.

The most remarkable achievement was the sub-plenary session organized by graduate students from the Faculty. The topic was "An honest conversation about decentralization and forest livelihoods in a globalized world", and took the form of presentations by PhD candidates Reem Hajjar, Denise Allen, Monika Singh and Chen Juan (Department of Forest Resources Management) and research associate Joleen Timko (Department of Wood Science). The session was moderated by renowned social scientist Carol Colfer. As far as we know, this is the first time that a sub-plenary session at a IUFRO World Congress has had exclusively female presenters, has been dominated by graduate students and has had all its presenters from a single institution. Their session reflects on the Faculty of Forestry: the diversity and quality of our graduate students and post-doctoral associates, the reputation of the Faculty of Forestry globally, and the recognition of the relevance of our research to global issues.


Shawn Mansfield (left) and Yousry El-Kassaby (right) at the IUFRO Scientific Achievement Awards Ceremony

At the Congress, a number of critical directions for research were identified. IUFRO will be focusing on the following major themes over the next few years: Forests for People, Climate Change and Forestry, Bio-Energy, Forest Biodiversity Conservation, Forests and Water Interactions, and Forest Resources for the Future. Individual research institutions are being asked to contribute to these themes, and the Faculty of Forestry, which has strengths in each of these areas, will play its part in promoting this agenda.


Left to right: Chen Juan, Joleen Timko, Carol Colfer, Reem Hajjar, Monika Singh and Denise Allen

# Workshop on traditional forest knowledge

During the week prior to the 23rd IUFRO World Congress in Seoul this August, UBC Forestry associate professor Ronald Trosper conducted a workshop on "Roles of Traditional Forest Knowledge in Sustainable Forest Management and Poverty Alleviation." The workshop was one of four provided by IUFRO's Special Program for Developing Countries. Students for the workshops are selected from the continents of Asia, Africa, and South America. UBC graduate students Inae Kim, Monika Singh and Ajith Chandran assisted in organizing and conducting the workshop.

One of the main goals of the workshop was to encourage participants to respect traditional forest knowledge and to learn how to include holders of such knowledge in management decision-making and in research projects. For this reason, the workshop utilized collaborative learning strategies. Participants worked in groups on tasks that addressed other main topics while using the participants' prior knowledge. The instructor ceded control to them in order to show that a scientist did not have to be the main focus of attention for learning to occur. Many of the students had worked with communities; others were primarily trained as scientists who tended to give priority to scientific approaches. The class produced a list of ways to work with communities that exceeded the content of most readings on the topic. Several students indicated that they realized the conduct of the course was intended as a model for community work. These insights were applied to a discussion of the ways in which fact/value and nature/society distinctions are reorganized when considering traditional knowledge, applying insights developed from the work of Bruno Latour.

# Forestry Advisory Council welcomes two new members

Alana Husby and Bill Bourgeois have recently accepted invitations to join our Faculty's Forestry Advisory Council.

**Alana Husby** is a fifth-generation logger and honorary member of the Raven Clan of the Haida Nation. Having developed a passion for timber and the natural environment in her childhood home, Alana followed the family's footprints by pursuing a career in forestry and gaining vital experience in each facet of the logging and lumber process. During this period, she was inspired by the beauty and potential of wood that is traditionally left behind. Alana's creative vision has formed the basis of her growing enterprise which centres around a commitment to sustainable forestry through the supply of FSC- certified reclaimed, rescued or rediscovered wood in BC and now in Panama. Her position as president of Coast Eco Timber Inc, one of the new forest products companies emerging in BC, together with her international forestry experience, will be invaluable to the Council as the Faculty strives to increase its international involvement and outreach.

**Dr Bill Bourgeois**, RPF, has spent over 35 years working to improve forest land management in British Columbia. Most recently he has been vice president with Lignum Ltd and Riverside Forest Products Ltd. Today, Bill works as a private consultant. In his work he has been involved with a number of new and high profile BC, Canadian and international land use and forest management initiatives. Currently, Bill is bringing his skills to bear on developing and implementing a team approach to the promotion of BC secondary manufactured products, both domestically and internationally. He has also been involved with the development of wood biomass conversion technologies and assisting resource dependent communities in transitioning to the new economy. Bill's many years of experience and his internationally recognized expertise will be of great value to the Council as the Faculty seeks advice on aspects of education, research and professional service.

# Capacity building with India's Forest Service

This summer, two groups of top-level leaders of the Indian Forest Service participated in mid-career training programs here in BC. These new programs were jointly delivered by the UBC Faculty of Forestry, BC Ministry of Forests and Range, BC Ministry of Environment, and the Canadian Forest Service. Each group of 30 participants was also introduced to the activities of organizations such as the BC Forest Practices Board, Ecotrust Canada, BC Community Forests Association, FORREX, Municipality of Whistler, Pallan Timber Products, Mill and Timber Products Ltd., Garibaldi Forest Products, Cowichan Tribes, Vancouver Island University Woodlot, First Nation Wildcrafters, Woodlot 1479, Stanley Park Ecology Society and the Cheakamus Community Forest.

The primary purpose of these programs is to provide senior Indian Forest Service officers with an increased knowledge of strategic planning, policy making and governance aspects of forest management. We are expecting five more groups in the next two years to participate in this training. The program starts in India with a one-week orientation. Half of the sixty participants then travel to the US and the other half to British Columbia to attend a two-week training program. During the final week in India, participants share their experiences in both countries. The training programs are coordinated by a consortium consisting of the UBC Faculty of Forestry, the Maxwell School of Citizenship & Public Affairs at Syracuse University in New York, the Indian Institute of Management in Bangalore and the Indira Gandhi National Forest Academy in Dehradun.

This venture represents the highest level of training program ever conducted by the Indian Forest Service and we are proud to be a part of it. Several forestry schools across Europe and North America were considered for partnership in this program and we believe that our involvement reinforces our commitment to being a truly global forestry school that is recognized as such around the world.

For further information contact Jorma Neuvonen, director of special projects, at jorma.neuvonen@ubc.ca.

# Forestry students to help protect the Sumatran elephant and tiger populations

Forest degradation and deforestation in Indonesia has seen a rapid acceleration due to an increase in demand for palm oil, forest products and land for trans-migrant workers. In the period 1994-1998, annual deforestation rates in Indonesia were an alarming 1.6 million ha per year.

On Indonesia's large island of Sumatra, almost all the dry lowland forests and swamp forests have been logged (selectively or cleared) and replanted, or left as wasteland. A particular geographic area of concern is Riau Province. This area has traditionally been the most densely forested province; however, it has recently been subjected to both heavy logging and deforestation, and the rate of forest loss is reported to be the highest in the whole of Indonesia.

The reasons and pattern of the Riau's natural forests removal are much the same as in other parts of Indonesia. Initially the land is logged for traditional forest products. This harvesting provides a form of living to the many trans-migrants who then facilitate extensive land conversions. Land is either converted to palm oil production or the natural forest is transformed into industrial plantations for pulpwood. Today, these trans-migrants have become permanent residents seeking to move from poverty to low to middle class incomes. The pressure for them to take what remains of the natural forest and convert what is left is still very high. In addition, the inflow of new trans-migrants continues and illegal logging remains an issue.

The impacts of Riau's natural forest removal have been enormous. Forest cover has declined by 65 percent over the past 25 years. At least 29% of this loss is attributable to industrial palm oil plantations. Another 24% of the loss is due to industrial pulpwood plantations. At least 17% of the lost forest cover became 'waste land' and the rest of the land use remains ill-defined!

What is the implication of this forest cover loss, especially on wildlife habitat? A World Wildlife Fund (WWF) 2008 report stated that in the past 25 years, the Sumatran elephant population in Riau has declined by up to 84%, from over 1,000 in 1984 to 210 in 2007. The Suma-

tran tiger population has declined by 70%, from 640 in 1982 to 192 in 2007. In 1999, in an attempt to reverse these losses, WWF started working with governments, timber companies and local communities to protect wildlife habitats, especially in the natural forest of Tesso Nilo. One of the central challenges remains: where can sufficient funds be found to create incentives amongst the local communities and new trans-migrants to halt the deforestation of these natural forests?

Recently, there has been a glimmer of hope. The global significance of greenhouse gas emissions caused by deforestation, forest degradation and peat decomposition and burning in Indonesia, especially in Riau, has generated a great deal of attention. The land-use changes have meant that between 1990 and 2009, the province of Riau is reported to have produced more $CO_2$ per year than Germany. Recently, the United Nations Framework Convention on Climate Change has established a Reducing Emissions from Deforestation and Forest Degradation (REDD) mechanism to assist provinces such as Riau in reducing their contribution to anthropogenic induced carbon emissions. For example, through this mechanism, the government of Norway has offered the government of Indonesia one billion dollars in REDD monies over the next three years to assist in bringing about change in forest management.

Now the province of Riau, assisted by WWF, must get ready to take advantage of these new incentive schemes in order to assist in mitigating climate change and increasing or maintaining forest biodiversity. Students at the UBC Faculty of Forestry are planning to help. Working with Drs John Nelson and Gary Bull, a group of next year's graduating students from the capstone undergraduate Sustainable Forest Management course will use the newly created Tesso Nilo National park in Riau as their project site. The students will create a Project Design Document (a REDD project management plan) for the Tesso Nilo Park. They will also create a financial plan and demonstrate how further deforestation and degradation can be halted using forest carbon revenue blended with other potential revenues from timber and non-timber products. Their plan will be directed to the trans-migrants and others, thereby assisting the WWF to meet its goals of mitigating climate change and protecting habitat for the threatened Sumatran elephants and tigers.

**"Norway has offered the government of Indonesia one billion dollars in REDD monies over the next 3 years to assist in bringing about change in forest management"**

In addition to the work of these undergraduate students, a small team of graduate students with extensive backgrounds in forest estate modeling, carbon modelling and investment banking will conduct training sessions at Bogor Agricultural University in Indonesia and assist the undergraduate students in developing a financial plan for attracting investors.

We hope that this initial exercise will lead to further collaborative field projects with WWF and universities such as Bogor Agricultural University.

The field of forestry is changing rapidly. Attempting to balance an even more complex set of social, cultural, environmental and economic values becomes the ongoing challenge for those wanting to be natural resource managers.

For further information contact Dr Gary Bull at gary.bull@ubc.ca.

# Science meets entertainment


Let's face it. How well do we researchers know what the colleague or fellow student down the hall is working on if it doesn't fall into our area of interest? Or one floor above or below us? In the building across campus? It is no wonder that our scientific discoveries about the living world are not always well communicated – not just among ourselves but even more so to the outside world. Not enough of our scientific research reaches the public, or changes the way the public perceives and values nature. Nor does it provide stronger incentive to better treat our world's ecosystems. Even more concerning is that scientific research does not often play a significant role in political decisions; rather, such decisions are based mainly on economic interests that are unsustainable or are even threatening to the Earth's ecosystems.

**"the younger people are, the more receptive they are to new ideas"**

The communication problem is complex. On top of our sometimes poor ability to communicate our science effectively, the public may not even want to know about it. When dealing with scientific evidence that is inconvenient, such as climate change or species extinction that demands a behavior change in people's daily routine, people tend to ignore this evidence. Cognitive psychologists and neurobiologists are beginning to discover that humans evolved in such a way that once certain beliefs and concepts are imprinted in the brain, people tend to seek out compatible beliefs and experiences, and adapt reality accordingly. Information that goes against those pre-formed cerebral structures is either rejected, questioned, reinterpreted or simply forgotten. Nevertheless, the younger people are, the more receptive they are to new ideas. Our project, DRAGONFLY (D-Fly), aims to target the younger, more receptive part of the public (age range 15-35). To do this, we experimented with media for wrapping forest science discoveries into an easily digestible and entertaining package. This has already been done successfully with forensic science; some of you might remember the TV-series, "Quincy", and more recently with forensic anthropology, "Bones". This has never been attempted, however, with forest sciences.

To increase the appeal of forest science to the public, and to subtly introduce basic and novel scientific concepts, Julia Dordel, a recent UBC Forest Sciences PhD graduate, teamed up with Anita Reimer, a former theatre professor and actress in the North American film industry. Together, they launched DRAGONFLY. This experiment was supported by Julia's post-doctoral supervisor, Suzanne Simard. DRAGONFLY consists of a cross-platform fictional action drama webseries (a series of fictional short films on the internet) combined with a factual mini-documentary series to communicate the latest ecosystem science to the general public. It is also designed to encourage viewers to experience the wilderness in Canada and around the world. Collaborating with Blackforest Productions and supported by the David Suzuki Foundation, DRAGONFLY targets viewers who would normally shy away from scientific content and documentaries, and intends to give them an incentive to discover and appreciate the outdoors. DRAGONFLY's mission is to be a stellar example of green production with respect to both media content and its ecological footprint during production.

In August, the first episode was produced and will be launched shortly on the DRAGONFLY webpage (dragonflytheseries.com). DRAGONFLY communicates scientific research using a fictional dramatic plot with action and comedic aspects and captivating characters. The fictional plot is centered on a female undercover

Julia Dordel portraying the forest scientist "Sonia" in DRAGONFLY

agent on a vendetta against a multinational conglomerate that is threatening the last wild places. In every episode, DRAGONFLY introduces scientific concepts and environmental issues and some of the measures people can take in their everyday lives to ease their ecological footprint. Topics range from current logging practices and wood alternatives from innovative sources, to the function and relevance of underground tree networks, and novel ideas about how to live a "low carbon" life. The action drama is linked to short documentary films, explaining the scientific concepts that are introduced in the fictional series.

At this stage, the producers are working on increasing awareness of DRAGONFLY. Apart from continuous personal promotion, DRAGONFLY will be featured on the webpages of The David Suzuki Foundation and The TYEE, with faculty members at the University of British Columbia, as well as over the Internet using social media – aiming at raising awareness for environmental issues and increasing sponsorship opportunities to help sustain future productions of DRAGONFLY.

For further information contact Julia at Jdordel@forestry.ubc.ca or info@dragonflytheseries.com. To view the DRAGONFLY website go to www.dragonflytheseries.com.

The action hero Ann (Anita Reimer) battles crimes staged in the forest

# New course-based programs

The Faculty of Forestry is developing two new course-based master programs. The Master in Sustainable Forest Management will provide opportunities for advanced scholarship and professional growth in natural resource management principles and practice. Graduates will be prepared for careers as forestry professionals in North America and overseas. The combination of prior education and experience, along with the program of study, will allow each student to meet the demonstrable competencies in the seven academic standard groups developed by the Canadian Federation of Professional Foresters Associations. These standards now form the basis for accreditation of professional forestry degree programs in Canada. The seven standards are: tree and stand dynamics, forest to landscape – structure and function, forest management, economics and administration of forestry, leadership skills: communication and critical reasoning, information acquisition and analysis and professionalism and ethics.


The new Master in International Forestry will provide advanced study in forest resource use and conservation for applicants with science or social science-based undergraduate degrees. Graduates of the program will understand the global context for forest management decision-making and be able to apply this in the formulation of regional and international forest policies, agreements and plans. Program components will include: fundamentals of forestry, forests and people, global environmental issues, international law and negotiations, resource and conservation economics and policy, forest products and trade, planning for forest use and conservation. The program will be delivered in partnership with overseas universities enabling participants to complete parts of their program abroad.

The new course-based master programs can be completed in 10 -12 months. Fees will be in the $15,000 to $25,000 range. For additional information please go to www.forestry.ubc.ca/grad.

# Haida Gwaii Semester breaking new ground in forestry education

A new kind of natural resource education is taking shape in Haida Gwaii, a remote island archipelago located off BC's northwest coast. Known for its spectacular coastal rainforests and island seascapes, Haida Gwaii is also at the forefront of environmental conflict and resolution, reconciling First Nations rights and title, and developing a sustainable natural resource-based economy.

Recognizing this unique educational environment and the need to diversify Haida Gwaii's economy, community members conceived an idea to bring university students to the islands to study natural resource management and conservation on the ground. After 16 months of logistical planning and curriculum development, working with UBC Forestry to develop a framework through which to offer courses, a group of undergraduates from universities across Canada arrived on the islands in January 2010 to take part in the first Haida Gwaii Semester in Natural Resource Studies.

This was not your average group of students. Ready to brave the dark, rainy Haida Gwaii winter, they came armed with abundant energy, open, curious minds, and a diverse range of backgrounds—from forestry to environmental science, anthropology and engineering. The group also included two locals, both of whom had worked in the forest industry and brought personal and practical perspectives to the issues discussed in class. From January to April, these students lived in the village of Queen Charlotte, attended classes at the Haida Heritage Centre in Skidegate, toured the ecosystems and villages of the islands, and became part of the Haida Gwaii community.

The Haida Gwaii Semester curriculum consisted of four three-week modular courses and a semester-long seminar course. Instructors used participatory approaches to student learning, and combined lectures

The Haida Heritage Centre in Skidegate, home base of the Haida Gwaii Semester

Donnie Edenshaw describes totem pole carving techniques

with discussions, small-group projects, guest speakers, and field trips. UBC Forestry played a major role in course instruction. Gary Bull (Department of Forest Resources Management) and Steven Northway (PhD student) taught Socio-Economics of Resource-Dependent Communities, Pamela Perreault (PhD student) instructed First Nations and Natural Resources, and Hilary Thorpe (postdoctoral fellow) taught Case Studies in Haida Gwaii. History and Politics of Resource Management was taught by Jocelyn Thorpe (UBC Department of History) and Andy MacKinnon (Ministry of Forests and Range), Ken Lertzman (Simon Fraser University) and Sari Saunders (Ministry of Forests and Range) instructed Rainforest Ecology and Management. Together, the courses represented an integrated, interdisciplinary examination of problems in natural resource management, employing Haida Gwaii as a living classroom.

In History and Politics of Resource Management, for example, students learned about forest management and conflicts in Canada over the past century. Hearing from guest speakers including Haida elders, Guujaaw (president of the Council of the Haida Nation), and Leonard Munt (District Manager of the Haida Gwaii Forest District) allowed students to link concepts learned in class to the Haida Gwaii context.

Over the course of the semester, students met with over 40 community experts and knowledge-holders: representatives from the Council of the Haida Nation, forest industry, Ministry of Forests and Range, and Parks Canada as well as Haida elders and local entrepreneurs. Students spent time in ecosystems across the islands as well as in each community, from the Haida villages of Skidegate and Old Masset to the forest industry-based Port Clements and Sandspit, which are working to diversify their economies in the face of recent downturns.


The Haida Gwaii Semester class with Rainforest Ecology and Management instructors Andy MacKinnon (back centre) and Ken Lertzman (back right)

**"Ready to brave the dark, rainy Haida Gwaii winter, they came armed with abundant energy and open, curious minds"**

Connecting real people and communities to the concepts learned in class presented students with an extremely valuable learning experience. According to Ally Sherlock, a 3rd-year Natural Resources Conservation student, "the Haida Gwaii Semester was the most stimulating and enriching learning experience I have ever had, where we lived the concepts in order to understand them. It is a rare case where you can study the details of a Land-Use Plan in the classroom, visualize it on the ground with a forest engineer, and then comprehend the human reality of its implementation by participating in a community meeting."

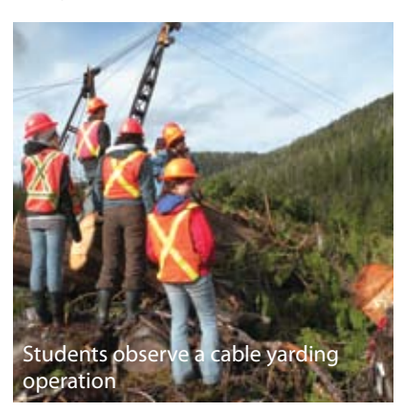
After a busy, intense and rewarding semester, students left Haida Gwaii with new perspectives on forests, resource management, and the communities that depend on them. Five months after the first Haida Gwaii Semester finished, the islands' communities are still feeling the effects of having been enriched by a bright, motivated group of students interested in making a difference in the world, and are looking forward to welcoming the next group of students in January.

The second Haida Gwaii Semester in Natural Resource Studies runs from January to April 2011, with courses offered through UBC Forestry. Applications are still being accepted.

For further information visit www.haidagwaiisemester.com or contact Hilary Thorpe at hilary.thorpe@ubc.ca.


Guujaaw (President, Council of the Haida Nation) in panel discussion


Heather McLeod with Dr Ken Lertzman


Students observe a cable yarding operation

# Climate change adaptation, facilitating action on the ground

Effective forest management begins with an understanding of historic forest conditions and associated ecological processes. It also requires an understanding of the potential range of plausible trends over time, including the powerful influence of climate change. However, incorporating assumptions of climate change into forest management planning is a daunting task replete with uncertainty. Nevertheless, it is necessary as the effects of management under climate change can have profound effects on the health of British Columbia's forests and forest industry, as shown by the mountain pine beetle epidemic. A collaborative effort by forest practitioners and UBC researchers is embracing this uncertainty in the Kamloops Timber Supply Area (TSA).

The Kamloops Future Forest Strategy (K1) was launched in 2007 as an initiative of the chief forester to help create a vision for a resilient future forest under climate change and to develop a strategy for achieving such conditions. The pilot project, led by the Symmetree Consulting Group, used climate envelope mapping to facilitate broad stakeholder dialogue on ecosystem and management vulnerabilities to climate change in the Kamloops TSA.

These important discussions produced a framework for the development of objectives, targets and indicators incorporating scientifically-based assumptions of climate change. The outcome was a series of recommendations for biogeoclimatic subzone groupings as well as for a number of forest values, providing direction for planning processes (eg Timber Supply Reviews, Sustainable Forest Management Plans, Forest Stewardship Plans) to mitigate the effects of climate change and move toward the desired conditions of the future forest.

K1 was a critical first step for understanding the implications of climate change on the forest and range values of the Kamloops TSA. It was also an important milestone in that it brought together for the first time a variety of local groups to seriously consider climate change in the context of forest management.

Dr Harry Nelson of the Department of Forest Resources Management is leading a UBC research team collaborating with Symmetree Consulting Group

Fireweed and lodgepole pine regenerating after a recent wildfire


Mountain pine beetle affected stands near Kamloops BC

on the second phase of the Kamloops Future Forest Strategy (K2), funded under a grant from the Future Forests Ecosystem Science Council. The UBC team includes Drs Anne-Hélène Mathey, Clive Welham, Brad Seely and Stewart Cohen as well as David Pérez and Dr Craig Nitschke. This two year extension (2009 – 2011) of K1 is utilizing process-based computer models (TACA, ForWaDy, FORECAST, and DYNA-PLAN) to answer specific species, stand, and landscape level questions that could not be answered in K1. The goal is to generate more robust, credible and useful knowledge for the adaptation of the existing management framework in BC to changing ecological conditions.

K2 steps beyond the K1 framework of climate envelope mapping through the use of stand and landscape level models that directly incorporate forest regeneration and growth dynamics, as well as the effects of management actions to simulate outcomes under different climate change scenarios. These outcomes can be used to test assumptions and explore potential management actions.

A critical component of this project has been regular consultations with local stakeholder groups from the Kamloops TSA to identify goals toward their vision of the future forests. In turn, this has enabled the development of meaningful objectives and indicators as well as a prioritized list of questions to inform the modelling process. Local involvement has been invaluable for facilitating a shared understanding of modelling assumptions and limitations as well as promoting transparency. This will enable forest practitioners to take the results and use them to guide their forest management planning.


Lupins in an open stand of ponderosa pine

It is the intent of this project that the experience and methodology employed in K1 and K2 will be adapted for use elsewhere in an effort to increase the adaptive capacity of forest management throughout British Columbia.

To date, the Kamloops Future Forest Strategy has produced preliminary recommendations appropriate for forest management under conditions of climate change uncertainty. The specific recommendations encompass a suite of forest values and are useful for evaluation of the feasibility of adaptive forest management implementation under the existing policy framework in BC. David Pérez, a graduate student in the Department of Forest Resources Management, is using these outcomes to understand and address the gaps and barriers to implementation under the present administrative framework. His findings will facilitate the effective and meaningful transfer of research on adaptive forest management to action on the ground.

Further information on the work of the K2 research team is available at www.K2KamloopsTSA.com. David Pérez is a member of UBC Forestry's Sustainable Forest Management Research Group and can be reached at dpforestry@gmail.com.

# Forests are about people!

Outdoor recreation is a growing forest value in BC communities such as Squamish, the self-proclaimed Outdoor Recreation Capital of Canada that once relied heavily on the forest industry. The BC Ministry of Tourism Culture and the Arts uses a variety of policies and directions to guide the management of outdoor recreation in conjunction with other ministries but the application of recreation management is constrained by the lack of a coordinated strategy. The increase in outdoor recreation participation in BC, combined with the complexity of integrating it with other land uses, calls for a united policy to proactively address sustainable outdoor recreation. Although conflict is at the top of the list of outdoor recreation management priorities in BC, most local governments and land managers still struggle with conflict resolution strategies and have yet to address conflict pro-actively. Recreationists are not homogenous and differences in their expectations, behaviours and values may create conflict and decreased levels of satisfaction. The current lack of outdoor recreation conflict management guidelines for decision makers is detrimental to increasing public participation in recreation activities in the province.

Ana Elia Ramón Hidalgo is a doctoral student in the Faculty of Forestry. She has been studying human-nature relationships for the past ten years and is fully committed to the belief that "Forest management is about managing people." As part of her MSc thesis, she studied trail user conflict in Squamish, under the supervision of Drs Howard Harshaw and Stephen Sheppard of the Department of Forest Resources Management. Her research results indicate that conflict management approaches have been successful in addressing several sources of conflict in Squamish. Zoning to separate the most incompatible users (ie, motorized and non-motorized participants) may provide effective conflict management when such conflict stems from the behaviour of a specific group of participants. However, there can still be conflict within zoned areas caused by differences in values and beliefs amongst less incompatible recreation groups. This can be addressed by educational programs with carefully selected content. Among more compatible groups, social value conflict can be addressed by educational programs with carefully selected content.

Ana Elia's study has raised awareness of the need to design conflict management techniques that are specific to the sources of conflict taking place. Inventories of supply and surveys of demand are as necessary as the study of possible social, economic and ecological conflicts. She recommends that the provincial government resume its recreation resource inventory in order to better inform outdoor recreation management practices in the province. Furthermore, it may be valuable to incorporate her findings into the final "Trails Strategy for BC". This could be done in the form of broad recommendations for conflict management which could be incorporated into more specific local guidelines. She encourages managers in BC to develop their own conflict models according to the specific situations of their own trail networks.

Ana Elia's research has received considerable interest from the outdoor recreation community at the local and provincial level. In 2009, Squamish's Mountain FM and Chief local newspaper interviewed her about the progress of her research. During the survey period she was invited to make presentations to a Squamish District Council meeting and to the Squamish Trails Society. In August, 2010, the Trails and Recreation Site Office in Squamish invited Ana Elia to participate in a trail user workshop. Next month she will be presenting her results at a BC Outdoor Recreation Council meeting. Her research results have been profiled by the UBC Forest and Communities in Transition website and the UBC Office of Government Relations. Ana Elia hopes that the presentation of her research results in the public arena will help to raise awareness among policy makers and the public that outdoor recreation research is becoming progressively more important as recreation becomes an increasingly more important forest resource.

Ana Elia can be reached at anaelia@interchange.ubc.ca.

# The Meldrum Creek Fire

## Observations from the Alex Fraser Research Forest

It is an ominous feeling to have evacuation orders and alerts in your community. Rumors run wild, particularly when you can clearly see a column of smoke just over the hill. Community leaders and fire information officers repeated the message to allay the community's fears: "The Meldrum Creek Fire has not crossed the Fraser River." Evacuation orders and alerts on the east side of the Fraser River were a precautionary measure. The weather forecast was for a cold low-pressure system to sweep across the province bringing winds gusting to 70 km/hour. On a personal level, I worried about my family, my friends and co-workers, my home and my stuff. As the manager of the Alex Fraser Research Forest, I worried about the business I run. How do we protect the office? What's the status of the computer backup? How do we protect the work in progress? As a community we worried about our neighbours who were evacuated, housing and feeding them and looking after their pets and livestock; then we worried about how to evacuate the City of Williams Lake. As a province, we spent money at a stunning rate to fight the fires and to support the evacuation and protection of people.

Thankfully the forecasted high winds did not materialize on the Meldrum Fire, and it did not take the strong run that we feared. The eastern flank of the fire held, only 17 km away from Williams Lake. On the fires that did experience those forecasted winds, like the Binta Fire near Burns Lake, the fires took wind-driven runs of 20 to 30 km.

This fire season has been a nervous time in the Cariboo. As of September 10 the Ministry of Forests and Range listed 74 fires larger than 10 ha in the Cariboo Fire Centre, and seven of those were interface fires. The large complex fires were up to 50,000 ha. Fire fighters on the ground and in the air did an incredible job of standing between those forest fires and my home and family, and we all owe them a debt of gratitude for the arduous and sometimes dangerous work they do to protect us.

As the smoke cleared and the remaining hot-spots were getting grubbed out, I wondered if we could be doing things differently. Can we manage the forest differently so that stands are not so explosively combustible each summer? Can we create stand conditions that will support fire-fighting adjacent to communities? Are our present efforts at fuel reduction adjacent to our communities sufficient? Based on the work we have been doing in the Cariboo, I think so.

As a community, Williams Lake has created a Community Wildfire Protection Plan, and we have carried out nearly 200 ha of fuel reduction treatments adjacent to homes. Unfortunately the provincial funding for that work is running short now. But there is much more that can be done, and the work needs to continue. We need to take on community protection as a land management objective, just as we have taken on ungulate winter range and maintenance of biodiversity. We need to create landscape features where crown fire cannot be sustained, so that fire-fighters have a safe place to stand and defend communities. We need to match our excellence in fire control with equal excellence in forest management for community protection.

We cannot live in a forest and expect that forest fires will not happen. I believe we know what we can do to make things better. We need leadership and financial support from the Province to make fuel management equal with fire fighting.

Ken Day, manager of the Alex Fraser Research Forest in Williams Lake, can be reached at ken.day@ubc.ca.

Smoke over the Williams Lake Stampede Grounds Aug 5 2010

# HIV / AIDS and forest resources in Malawi

Collecting firewood

The majority of people in Sub-Saharan Africa rely on forest products for subsistence and to supplement their cash incomes. This region also has the highest prevalence of the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) in the world. Forest resources can play a key role in enabling people to control or adapt to the disease by providing fuelwood, food, and medicine. For instance, certain non-timber forest products including wild herbs, fruits, insects, seeds and wild eggs have been found to be high in key nutrients required by people living with HIV/AIDS, particularly protein, fat, iron, zinc, and vitamins A and C.

The HIV/AIDS pandemic has resulted in increasing pressure on the already dwindling forest resources on which vulnerable populations depend. As such, HIV/AIDS is both a health issue and a development problem. The disease has complex links to rural livelihoods, human capacity, and conservation, and is thought to be responsible for undoing decades of economic and social development and causing rural disintegration. The role of forest biodiversity as a safety net for the rural poor during times of crisis has been noted in studies across the developing world. However, studies on the linkages and interactions between the use of forest resources and contemporary epidemics in general, and on the environmental dimensions of the HIV/AIDS pandemic in particular, are few. More specifically, scholarly inquiry into the death of a productive household member due to HIV/AIDS, and the ramifications of such an event on household livelihoods, has been lacking. This is an important research gap given the extent of prime-age adult mortality attributable to the HIV/AIDS pandemic, particularly in Sub-Saharan Africa. A study, led by researchers in the UBC Faculty of Forestry, aims to address this research gap.

In collaboration with the Government of Malawi's Department of Forestry and the Forestry Research Institute of Malawi, we conducted focus groups and semi-structured interviews with local villagers, district forestry officials, and traditional healers in four districts (Zomba, Mchinji, Mzimba, Chiladzulu) to provide information on the following questions:

1. How does household dependence on forest biodiversity change from the onset of HIV/AIDS through morbidity and mortality?
2. Is there evidence to suggest that level of dependence varies according to the role of the deceased within the household economy (eg, wage earner, resource collector)?
3. What changes in the availability of local forest resources have been observed in the case study sites?
4. What innovations (eg, new or adapted technologies, changing gender roles) have emerged to enable HIV/AIDS-affected households to deal with a decreased availability of important forest resources?

We also conducted a systematic analysis of the published and grey literature in this domain. The

Traditional healer with medicinal plants

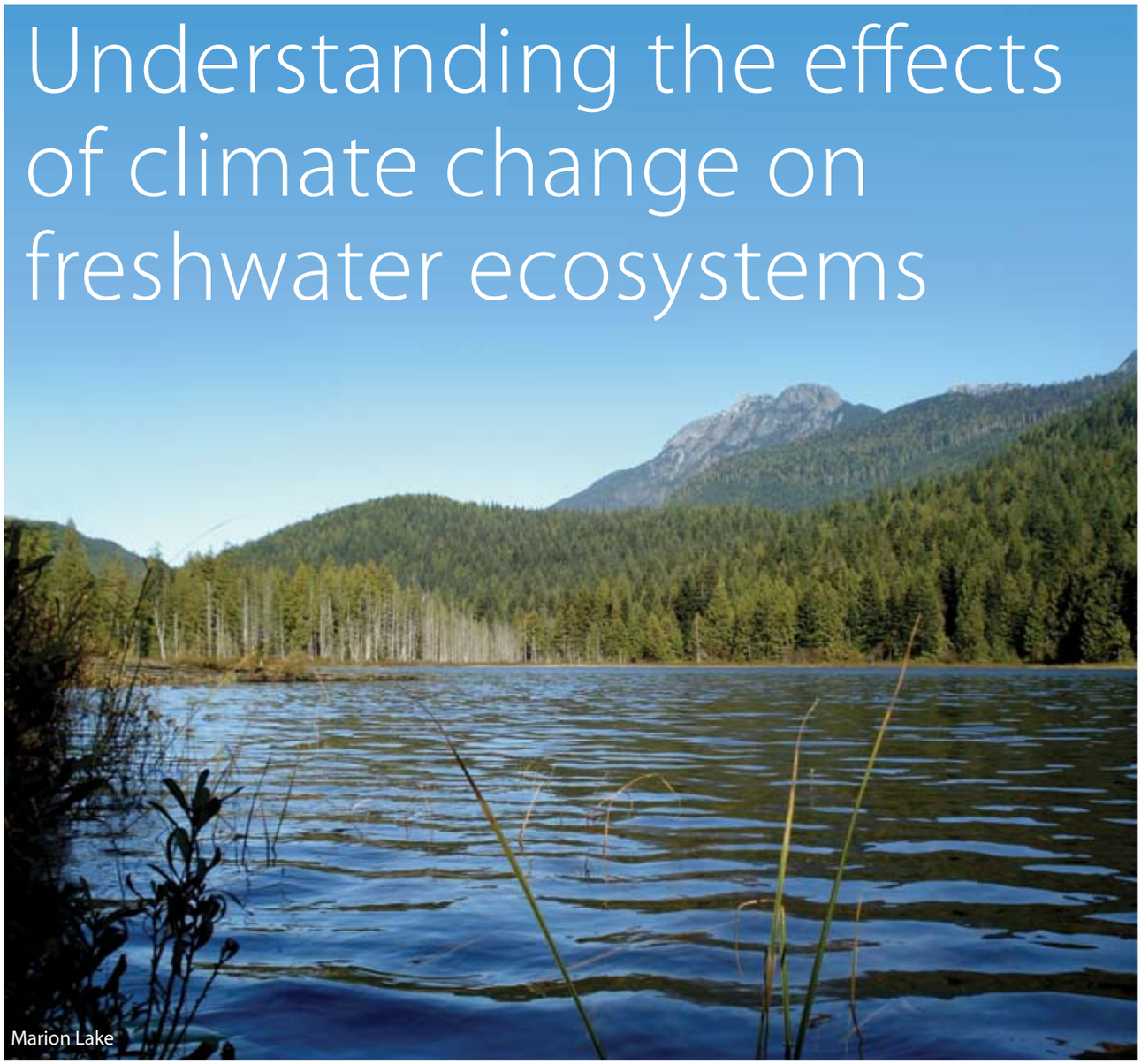
data from the focus groups and interviews are being analysed both qualitatively and quantitatively. Preliminary results indicate that: HIV/AIDS-related morbidity and mortality appear to increase an affected household's dependence on forest biodiversity; the loss of forest biodiversity can threaten livelihood sustainability (eg, by reducing the availability of important medicinal plants, forcing people to skip meals to compensate for a lack of firewood for cooking); and that households are innovating to adapt to reduced availability of forest resources (eg, replacing firewood with agricultural by-products, changing gender roles). The results from our recently published systematic analysis of the literature in this domain also indicates that the death of a wage earner versus a resource harvester could impoverish a household by making it more reliant on collected natural capital that would previously have been bought. The results of this study will help policy makers in Malawi and elsewhere to better understand the critical role of forest resources in the lives of rural HIV/AIDS-affected villagers. We anticipate some of our results will also be incorporated into the Government of Malawi's 2011 Forestry HIV and AIDS Strategy. Complete results will be posted on our website (www.africad.ubc.ca) in the near future.

**"The HIV/AIDS pandemic has resulted in increasing pressure on the already dwindling forest resources on which vulnerable populations"**

This project is coordinated by AFRICAD (the Africa Forests Research Initiative on Conservation and Development), a conservation-oriented research initiative located within the Faculty of Forestry at the University of British Columbia. For further information contact AFRICAD's managing director, Joleen Timko at joleen.timko@ubc.ca.

Above photos – Interviews in progress

# Understanding the effects of climate change on freshwater ecosystems



Marion Lake

Climate change is already having substantial impacts on ecological systems and is expected to be the major future threat to the biodiversity and function of ecosystems worldwide. Conservative estimates predict a 3 °C rise in surface water temperatures over the next century. Freshwaters are especially vulnerable to warming as they are already under considerable stress from fishing and other forms of exploitation, pollution, and the invasion of exotic species. For example, humans have greatly increased the amount of nitrogen and phosphorus in the biosphere by fertilizing crops. These nutrients tend to run off the surrounding landscape and accumulate in water bodies. This results in harmful algal blooms which can impact fisheries by reducing oxygen concentrations to levels that are stressful to fish. In addition, large predatory fish are under considerable pressure from over-fishing and the introduction of non-native competitors and predators. Large fish play important roles in aquatic ecosystems by feeding on smaller fish and invertebrates that can control production at the base of the food web.

So many changes occurring at once greatly complicates the task of forecasting their impact on ecosystems, as different sources of stress may interact in ways that are difficult to foresee. Biologists have some understanding of how climate change affects individual organisms or populations of a single species. However, we know very little about the cumulative effects of warmer temperatures, nutrient pollution and changes in top predator populations on whole ecosystems. Revealing how these changes filter through networks of species interactions to drive ecosystem responses requires direct experimental tests.

Researchers from the Department of Forest Sciences and Biodiversity Research Centre at UBC, University of California San Diego, and Simon Fraser University are in the second year of a collaborative warming experiment in 1,000L artificial ponds on the UBC campus to address these knowledge gaps. The experiment is examining the interactive effects of climate change and other stressors by increasing water temperature by 3°C, fertilizing tanks with nitrogen and phosphorous, and manipulating the


UBC's experimental pond facility

presence of predatory stickleback fish. Sampling focuses on key food web components including invertebrates and algae inhabiting the open water and the bottoms of the ponds. Ecosystem functions such as primary production, decomposition of leaves, and the emergence of insects and amphibians are also being measured. Although the experiment is still underway, clear patterns have already emerged.

Predation on grazing zooplankton by fish and nutrient additions both increased the abundance of algae suspended in the water column. This substantially reduced water clarity. Warming enhanced the effects of fish on algae in winter but not during the warmer months. In summer, warming unexpectedly reduced the effects of nutrients by preventing algal blooms from developing. Thus, warming altered the sensitivity of pond food webs to both nutrient pollution and predatory fish, but these effects depended on the ambient temperature.

**"So many changes occurring at once greatly complicates the task of forecasting their impact on ecosystems"**

The experiment is also investigating the movement of resources between the ponds and the surrounding terrestrial environment. Freshwaters gain energy and nutrients from falling leaf litter, and many bird and spider diets include emerging adult aquatic insects or amphibians. By trapping adult aquatic insects emerging from the artificial ponds, and measuring the breakdown of terrestrial leaves in the water, the experiment revealed for the first time how warming and associated stressors change the movement of resources between adjacent ecosystems. Warming and nutrients strengthened the coupling between terrestrial and freshwater ecosystems by increasing the emergence of adult aquatic insects and accelerating breakdown rates of terrestrial leaves. In contrast, fish predation on insect larvae decreased the emergence of adults and slowed the breakdown of leaves. Thus, fish predation acted as a barrier between the land and water by preventing the escape of freshwater biomass and uptake of terrestrial detritus.

Fertilized tanks, top photo with warming and bottom photo without warming, show how increased summer temperatures might actually prevent the algal blooms characteristic of nutrient pollution

These early results provide some important considerations for predicting and managing the outcomes of climate change. First, the effects of climate warming interact with local changes in nutrients and predation, producing both dampening and synergistic effects. Forecasting the effects of warming therefore requires consideration of conditions within specific lakes. Second, the interactive effects of warming, predation and nutrient pollution vary seasonally. The temperature-dependent effects may provide clues to the response of ecosystems at different latitudes or altitudes. Finally, measurements of cross-ecosystem subsidies indicate that the effects of multiple stressors can transcend traditional ecosystem boundaries that are often used to partition management agencies. The results show that understanding how ecosystems will respond to rising temperatures will not be a simple task. However, they give some clues of how the cumulative effects of different environmental changes may play out in the future.

This research is funded by NSERC, the New Zealand Foundation for Research, Science and Technology, and the University of California, San Diego. For further information contact post doctoral fellow Dr Hamish Greig at hamish.greig@ubc.ca or Dr Pavel Kratina at kratina@zoology.ubc.ca.

# The International Energy Agency's Bioenergy Task 39 and its role in forestry

As a result of the oil shocks of the late 1970s and the challenges that industrialized countries experienced during these trying years, the OECD (Organization for Economic Cooperation and Development) countries banded together to form the International Energy Agency (IEA). The IEA is an autonomous organization linked to the OECD and its primary initial role was to make sure that the industrialized countries were never again caught out by shock energy prices. Over the years IEA has broadened its mandate and as well as auditing/predicting the availability, maturity and likely cost of various energy sources, it now has a broad objective of assisting member countries in the development and coordination of their environmental and energy policies.

The IEA has multiple subgroups known as "Implementation Agreements" that work on various energy sources (coal, oil, nuclear, etc) with a subgroup focused on renewable forms of energy (wind, geothermal, bioenergy, etc). One of these groups is IEA Bioenergy which coordinates the activities of about 12 "Tasks" or networks. These Tasks cover everything from social issues, to GHG balance and environmental impacts to more technical themes such as gasification, pyrolysis or biochemical ways to produce bioenergy. Task 39 is looking at the policy, technical and sustainability issues involved in the production and eventual commercialization of liquid transportation biofuels produced from biomass, particularly forest and agricultural residues and potentially from bioenergy crops. The Forest Products Biotechnology/Bioenergy group at UBC Forestry has been the long term coordinator/Task leader of this international network. Through Task 39, UBC Faculty of Forestry researchers are coordinating biofuel R&D efforts across the globe. Currently the Task provides comprehensive information that assists with the development and


**"The expertise and experience that UBC Forestry brings to the coordination of IEA Bioenergy Task 39 has helped define how to best build a potential bioenergy/ biorefining sector on the existing forest processing infrastructure"**

deployment of transportation biofuels.

Three recent reports produced by Task 39 are receiving considerable attention. They discuss the sustainability of biofuels, the current status and potential for algal biofuels and the status of commercialization of second generation biofuels. This latter report on commercial plants is linked to an interactive website (that can be accessed at www.Task39.org) that shows the location, size, status, technical details, feedstock, etc of the various 2nd generation demonstration plants worldwide. Both the algal biofuels and commercialization of second generation biofuels status reports are being widely referred to, particularly because they conclude that it will be some time before biofuels will contribute significantly to reducing our dependency on oil. Policies such as those developed in the US that mandated the use of so-called "cellulosic biofuels" have not been met, primarily because as predicted by the IEA Bioenergy report, commercialization has proven to be both a technical and financial challenge. These findings have major implications for the national carbon budgets that many countries have agreed to, suggesting that other approaches may be necessary if short-term targets are to be achieved.

The expertise and experience that UBC Forestry brings to the coordination of IEA Bioenergy Task 39 has helped define how to best build a potential bioenergy/ biorefining sector on the existing forest processing infrastructure. A major goal is to assess the potential for the conversion of forest residues to liquid biofuels that can be used to displace fossil-based liquid transportation fuels. It has been proposed that the most likely approach to a new way of utilizing forest biomass is to use a "biorefining" approach (while operating within the limits of sustainable harvesting and management). In the same way that an oil refinery's main products are petrol, gasoline and diesel but with the approximately 2,000 other products that go into plastics, dyes, etc, needed to make its operation economically viable, a forest based biorefinery will likely still have lumber, engineered wood, pulp, etc, as its core products, however with an assortment of other products such as wood pellets, energy, chemicals, etc, produced as co-products derived from both mill and forest residues.

Canada's forests have multiple values including social and ecological aspects in addition to their historical economic uses. Groups such as IEA Bioenergy Task 39 are helping to define the balance between sustainable biomass use, within ecologically and social boundaries, while assessing the potential for biomass residues or bioenergy crops to meet the world's liquid transportation fuel requirements.

For further information contact Jack Saddler (Task leader) at jack.saddler@ubc.ca or Jana Hanova (Task coordinator) at jhanova@forestry.ubc.ca.

# IUFRO Scientific Achievement award winners Yousry El-Kassaby and Shawn Mansfield

**Yousry El-Kassaby** is a member of UBC's Forest Sciences department and holder of the NSERC-Industry Senior Research Chair in Applied Forest Genetics and Biotechnology. His research program is focused on understanding the fundamental genetic principles governing forest tree species domestication and integrating these principles in the tree improvement delivery system for optimizing the balance between genetic gain and diversity. Yousry's research team combines molecular genetics, biometrics and geographic information system tools to unravel the interplay between the intricate genetic principles controlling biological systems and forest management practices that are shaping the genetics of species under domestication. The team's research program covers the entire spectrum of the domestication process starting from natural populations leading to plantations (ie, from the forest to the forests). Their research has been instrumental in the development of best practices and policies pertaining to breeding methods, management of seed production populations, seed testing and seedling production.

Yousry and his team have systematically investigated the various facets of forest tree domestication starting from phenotypic selection, breeding and the selection of elite genotypes for the establishment of seed production populations, seed biology and commercial seedling production, and ending with the establishment of high gain reforestation sites with genetically improved genetic stocks. Examples of the team's significant contributions include the development of a new breeding concept called "Breeding without Breeding", which has been adopted and implemented by several developed and developing countries; an in-depth investigation of the genetics and pollen dynamics of seed orchard populations; the effective integration of management practices (such as supplemental-mass-pollination and bloom-delay) for the production of better seed crops with greater genetic gain and diversity; documenting management practices that have caused unintentional directional selection during commercial seedling production and offering solutions to avoid such impacts, and the linkage between genotypes to phenotype for traits of commercial importance.

Yousry El-Kassaby has published more than 200 research articles, reviews, invited papers and book chapters. In his recent role as the IUFRO Biotechnology Task Force Coordinator, he produced the book "Forests and Genetically Modified Trees" published by the Food and Agriculture Organization of the United Nations. Yousry can be reached at y.el-kassaby@ubc.ca.

**Shawn Mansfield** is a member of UBC's Wood Science department and holds a Canada Research Chair in Wood and Fibre Quality. His research program is aimed at understanding the fundamental genetic and molecular underpinnings of cell wall biosynthesis. His team uses a unique combination of molecular biology, biochemistry, analytical chemistry and plant cell wall characterization to elucidate the influence of various biosynthetic pathways on the development, growth, chemistry and ultrastructure of secondary xylem formation in trees. This research has contributed to understanding the inherent links between the basic plant fibre traits to processing and end-product quality, and as such truly attempts to link genotypic traits to phenotypic properties. The ultimate results of this research can potentially be translated into substantial economic, social, and environmental value for the long-term sustainability of Canada's forest sector.

Shawn's team is currently evaluating the fundamental molecular regulation of carbon allocation in trees. Photosynthetic carbon capture by terrestrial plants represents a major sink for atmospheric $CO_2$, and the terminal product is the plant cell wall. Production and coordinated deposition of this composite cell wall provides protective and structural properties to the plant, and permits its successful survival. Globally, terrestrial ecosystems contain ~560 Pg of carbon, the largest percentage of which is in trees. Strategies that enhance net primary production in general, and cell wall synthesis in particular, have the potential to provide meaningful offsets to current anthropogenic fossil fuel emissions. Understanding the intricacies of the biosynthetic processes governing cell wall biosynthesis throughout the life cycle of trees is pivotal to understanding programmed cellular growth patterns, response(s) to environmental cues, the ability to withstand environmental stresses (biotic and abiotic), and the complex network and regulatory frameworks fundamental to the development of cell walls (morphology, ultrastructure and chemistry). Shawn and his research team have published several seminal articles demonstrating that altering sucrose metabolism can influence carbon partitioning to cellulose production. Their results have identified a key mechanism to select for trees, breed trees, or design trees with cellulose - one of the important natural biomacromolecules. Cellulose is used in a broad spectrum of products such as food additives, clothing and paper as well as a feedstock in the production of bioenergy.

Shawn Mansfield and his team's research has provided significant insights into cell wall development and architecture, while simultaneously creating significant opportunities for improved lignocellulosic utilization. Shawn can be reached at shawn.mansfield@ubc.ca.

# **alumni**news

## Message to alumni

In its new strategic plan "Place and Promise", one of the cornerstones is for UBC to engage with its alumni. Specifically, it promises that "The University engages its alumni fully in the life of the institution as valued supporters, advocates, and lifelong learners who contribute to and benefit from connections to each other and to the University". The Faculty of Forestry is fully committed to this promise, and as a first step, we have allocated a full-time staff member, Jenna McCann, to ensuring that our alumni relations move to a new level of activity.

Alumni are often seen simply as a potential source of donations. While we of course greatly welcome your support, I firmly believe that such support has to be earned, and that simply providing an undergraduate, postgraduate or other learning opportunity is insufficient. I would like to see our alumni take advantage of the huge resources offered by the Faculty, particularly in relation to lifelong learning opportunities and to increased networking. To this end, we have renewed our efforts to locate 'missing' alumni. Since July, we have been able to re-establish contact with more than 100 of our alumni whose addresses we were missing. However, there are still over 700 alumni with whom we have lost touch, and we welcome your help in locating these individuals (see page 28 for information on accessing our "lost in the woods" list.

We intend to establish an informal UBC Forestry Alumni Association that will provide a focal point for our alumni and a point of contact for Jenna McCann. Many other Faculties already have such associations and they have greatly helped the improvement of links between Faculty and alumni. If anyone reading this would like to be involved in the running of such an organization, please contact Jenna.

In the coming months, we will be organizing an increasing number of alumni events. These will range from social events to promote networking to opportunities to take part in the Faculty's activities, including learning events such as guest lectures. We will be taking a number of steps to raise the profile of the Faculty of Forestry in British Columbia, especially amongst its urban residents and we very much hope that you will be able to participate in some of these. For example, we plan to provide a neutral forum in which controversial issues, such as sanitation harvesting in parks, can be discussed openly, and where both sides of the argument can bring forward their opinions for and against the subject.

One activity that we are very proud of is the mentoring scheme. In this, we match alumni to current students and encourage interaction – this provides the

students with much needed external contacts and, we hope, provides alumni with the opportunity to interact with our students while learning about not only the problems they face but some of the solutions that we are introducing.

I would very much welcome your views and ideas on the services that we can provide for you, our alumni. We are watching closely what other universities are doing around the world, and shamelessly adopting the best ideas, such as the Alumni E-News that most of you should recently have received. However, the alumni of the UBC Faculty of Forestry are special, and we want to provide you with some unique opportunities. I hope that you will work with us closely in achieving this goal.

**John L Innes**
Professor and Dean
john.innes@ubc.ca

# Reunions and events

**Wood Products Processing graduates 1999-2001** celebrated a reunion on July 17, 2010 in Vancouver. A small but enthusiastic group got together for dinner to share stories and get caught up on ten years of news.

The **Class of 1957** celebrated a reunion at The Lodge at Honeymoon Bay on Cowichan Lake from September 7-10, 2010. By all accounts the class had a wonderful reunion with a great turnout and great weather – what more could you ask for!

The **Class of 1960** held its 50th reunion September 14-16, 2010 in Victoria at the Harbour Towers Hotel. Many stories and laughs were shared over this three day event and plans are already in the works for another get together in 2012.

Calling all Forestry graduates from the classes of 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995 and 2000. The Faculty of Forestry is delighted to invite you to a milestone reunion celebration on Tuesday, November 9, 2010 at the Four Seasons Hotel Vancouver, located at 791 West Georgia Street, Vancouver, BC. The cost to attend is $25. Spouses and guests are welcome. To confirm your attendance, please contact Jenna McCann at 604-822-8787 or jenna.mccann@ubc.ca.

Are you celebrating a class reunion? Please let us know so we can help spread the word. Contact Jenna at 604-822-8787 or jenna.mccann@ubc.ca.

**Please mark your calendars for the following events:**

- November 9, 2010 – Milestone Reunion Celebration
- November 16, 2010 – Donor Night at the Bookstore
- November 24, 2010 – Fall Congregation and Graduation Reception
- November 29, 2010 – Celebrating Achievement: The UBC Blue & Gold Review
- February 25, 2011 – Alumni Reception at the ABCFP 2011 Conference
- March 15, 2011 – UBC Desert Classic Golf Tournament
- UBC Dialogues, various dates and location

**More information on each of these events and all the services available to Forestry alumni can be found at www.forestry.ubc.ca/alum**

# Alumni in action

One of the common questions raised by our alumni is 'What happened to my classmates after graduation?' Similarly, our students wonder 'What can I do with my degree?' To answer both of these questions, this new column will feature stories from our alumni, highlighting the various career paths our graduates have followed.

## Oliver Matters, BSF

Forest Operations '99

**Where did you grow up?**

Victoria, BC

**Why did you choose UBC Forestry? And why the study of forestry?**

I chose UBC because it had the best program overall and the only local program for forest operations.

Why forestry? My uncle was a contractor in Prince George and I spent a lot of time with him. Like a typical pre-teen boy, I fell in love with the smell of diesel and sounds of heavy equipment. As a kid I remember seating a truck tire using starting-fluid – it was like magic and that got me hooked. From that point on it was all about the machines, the road building, and the logging. Next time you walk by a construction site downtown and see a guy in a suit looking in the hole, that's probably me.

**What was your first job after graduation?**

I can't actually remember. I took some time off in the middle of my degree to work so by the time I had graduated I already had a few years of full-time bush experience and had long decided to switch gears toward the business side of forestry. During that interim time

I worked as a field engineer for Weldwood (which was then acquired by Interfor) in their mid-coast operations. It was all camp-work at locations from Butte Inlet to Bella Coola and my life was a series of 10/4 shifts.

Immediately after I graduated I worked as a salesman selling industrial safety supplies and, in my spare time, doing small one-off forestry consulting jobs. Although corked boots were not required, the safety supply sales job was definitely forestry related. We all know how dangerous the industry is and any of us who have spent time in the bush has had the safety message firmly beaten into us. Having the experience definitely allowed me to much more knowledgeable on the products and my customer's needs.

**What are you doing now and how did you end up there?**

I am a senior manager at Deloitte & Touche. Deloitte is one of the world's largest professional services firm and helps its clients realize the maximum potential in their businesses. We have an amazing team that provides professional services such as audit, tax, financial advisory, consulting, and my area, risk management. Having an obvious background in the industry, I continue to specialize in forestry and have had the privilege of working with many of the largest forest products companies in Canada and the US.

While forestry provides me with a broad base of experience, I am also a Chartered Accountant which has provided me with the necessary tools to engage in technical business discussions. The combination of forestry and accounting has been invaluable as, more often than not, client problems are very complex and require a balance of the two disciplines.

**Do you have any fond memories of your time at UBC?**

The social aspects were fun – I think forestry had the best parties. Coconut was always a great hit.

The size and scope of UBC was also great – every person seemed to be studying something different and this made it a very interesting place to be.

**If you weren't working where you are now, what profession would you most like to try?**

If I weren't here, I think it would be fun to try civil engineering. I really enjoyed all the bridge and road projects we did while working on the Coast and really like the complexity of large projects.

That said, it's a tough question because more than ever professions are ephemeral. Circumstances change, opportunities arise, and the next thing you know you are hanging up your Stanfield and learning how to tie a Windsor knot. Professions are planned to a certain extent but are more often defined by the opportunities around you – in many respects we don't pick a profession as much as the profession picks you.

**What is the toughest business or professional decision you've had to make?**

The toughest decision was to redefine myself from forester to business person when people around me didn't think I could do it. Terrible at math and no background in business many tried to change my mind. Nonetheless, it was clear to me that everything I did in the bush was ultimately predicated on a business decision made in some board room. If I really wanted to have a say in the industry I had to find a way into the board rooms. While certainly not 'a master of industry', I have seen more of the industry than I would have if I had stayed in the bush.

While still working in the bush we were charged by a bear and I had to shoot it. That was also a tough decision but happened so fast there wasn't much time to think about it. Some folks seem to go their entire career without seeing a bear in the bush, but for me every shift seemed to have at least one bear encounter – luckily only the one got to the point of shooting. From my office, the perspectives have changed a little. Once upon a time, a "bad day" included charging bears and falling off rock bluffs, but now you would think the world was ending if the internet goes down for an hour.

**What do you aspire to 10 years from now?**

I enjoy what I am doing now. Consulting is really a process of taking time to understand what my client's challenges are and helping them deal with those challenges effectively. Ten years from now I would like to be able to look at my clients and staff and see how far they have grown and take pride in knowing that I had a part in it.

I also have a little baby girl and another baby on the way… 10 years from now I have no idea, but I just can't wait until the diaper phase is done. Despite all the complexities and shifting priorities of life, without a doubt my biggest aspiration is to be a good dad to my little baby.

**Do you have any advice for students considering enrolling in forestry?**

With respect to considering enrolling in forestry - do it. Think of the 'toolbox' you will carry with you for the rest of your life –these are the basic skills and breadth of understanding you will draw upon when faced with different situations. You simply cannot lose when you do things that add to your toolbox. Think of all the different elements that forestry touches on and you will have a hard time finding anything comparable. I would not have changed anything.

Do not become jaded by the swings in the market – that is not forestry, that is simply the global economics of the 2x4 and it happens to all commodities. Sometimes you will be up and sometimes you will be down, but if you like science, engineering, business, politics then forestry may be the home for you. Take a long term view and realize that, as a profession, forestry is much bigger than feeding 2x4 mills.

**Is there anything else you'd like to share?**

Personal accomplishments are great but we should never lose sight that they are really simply a reflection of all the support and success of the people around us. Whatever direction you go always remember to acknowledge the people who help you.


## Kate Bottriell, BSc

Natural Resources Conservation '03

**Where did you grow up?**

Stittsville, Ontario

**Why did you choose UBC Forestry? And why the study of forestry?**

I like the sound of the multi-disciplinary program; the idea of studying biology, economics, sociology and policy all once really appealed to me as I thought it would be more useful and interesting than focusing on a single discipline. I was also keen to move to Vancouver.

**What was your first job after graduation?**

I worked in Dr John Richardson's stream and riparian ecology lab for the summer (my second year supporting one of his PhD students, Carin Bondar, with her research) and then in the Dean's Office as an Associate Recuitment Officer for about 9 months.

**What are you doing now and how did you end up there?**

After working in the Dean's office, I moved to the UK to do an MSc in Nature, Society and Environmental Policy. I was hired by an environmental consulting company in Oxford called ProForest and started work there two weeks after handing in my MSc thesis. For the first two years there I managed a project on the sustainable timber purchasing policy (used in construction, furniture, paper etc) for the UK Government, as well as getting involved in similar work with other European Governments and the private sector, and broader issues such as illegal logging. A big part of this work involved forest certification schemes and I was fortunate to be involved in some field work for one of our private sector clients, a Brazilian plantation forestry company.

Over the past three years, my focus has shifted to agriculture and I am now coordinating the company's agriculture projects and am the lead person on biofuels (soy, palm, sugarcane, canola etc), which is a really interesting, if sometimes controversial, topic these days. It links back to forestry as people start looking more at biomass and lignocellulosic fuels, and forests continue to be an important part of what I do: there are clear links between agricultural expansion and deforestation. My work on sustainable agriculture has taken me all over, including SE Asia, Africa, India and South America, as well as working with a range of companies in the commodity supply chain, NGOs and Governments. I think it's safe to say that I would not have gotten the job without my UBC forestry degree.

**Do you have any fond memories of your time at UBC?**

Too many to list - but generally, being inloved in the FUS ie Christmas tree sales, social coordinator (Coconut), yearbook. CONS 451 field school was fantastic, and working in the Richardson lab was good times as well. I love the building, I've been back a few times and am still awed by it. But it would have been nothing without the people - my friends and my professors who inspired me.

**If you weren't working where you are now, what profession would you most like to try?**

Hmm...possibly writing or photography. `I occasionally think I'd like to move to LA and be an actor, but then I remember I can't act.

**What is the toughest business or professional decision you've had to make?**

Deciding to take the job in Oxford. I had not planned on staying in the UK, and I thought I wanted to work on EU policy or maybe on development issues in Africa. I wasn't even that sure about what ProForest actually did at the time. However, I have no regrets about the decision I took, particularly as it turns out I now regularly get to work on EU policy and sustainability/development issues in Africa anyway!

**What do you aspire to 10 years from now?**

I'd like to have figured out what I'd like to do with my life, and where I'd like to like to live.

**Do you have any advice for students considering enrolling in forestry?**

It's a great Faculty, a nice size (not too overwhelming), and the people that study forestry are generally fun and genuinely interested in what they are learning. My advice would be to get involved in as much as possible, both in terms of the FUS social stuff as well as going to the public lectures and working for professors.

**Is there anything else you'd like to share?**

Hello to all my old classmates reading BranchLines!

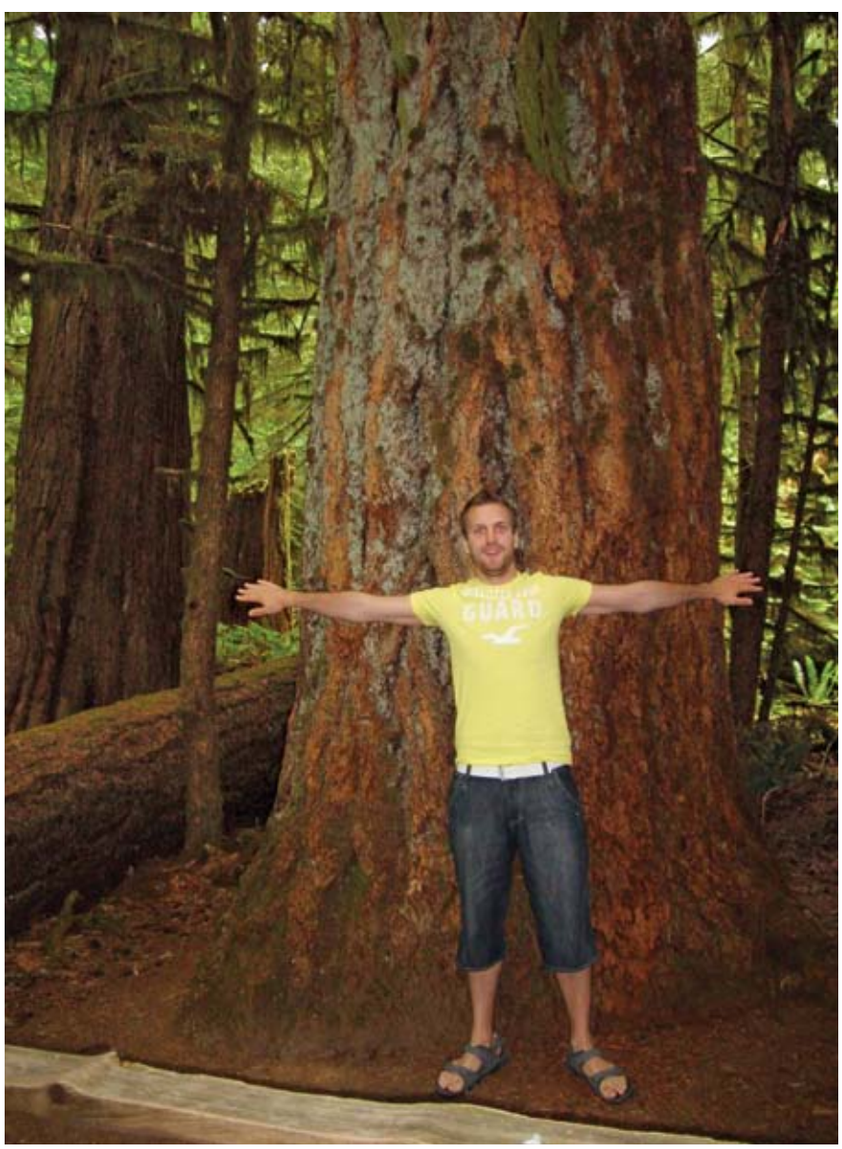
**Interested in sharing your story? Send submissions with a photo to Jenna McCann at jenna.mccann@ubc.ca.**

# Award profile

**Martin Beaudoin Nadeau** is a 3rd year student in UBC's department of Forest Sciences. He is studying for a BSc degree in Forest Science with a specialty in international forestry. Born and raised on a dairy farm in a small town south of Quebec City, Martin's interests in forestry began with helping his father manage a woodlot adjacent to the family farm. After high school he completed a three year program in forest technology management and operations in Quebec.

The choice to study at UBC Forestry was an easy one for Martin. "I knew I wanted to study forestry in a more research-based program and I also wanted to work internationally… only UBC had the program I was looking for and I knew that this choice would also help me to improve my English writing and speaking skills." He adds, "I also think that UBC has one of the best, if not the best, forestry programs in the world".

For Martin, putting in the required time and effort has been greatly helped by the awards he has won. To date he has received support from the Oscar Soderman Memorial Scholarship, the Dean of Forestry Scholarship and the Trek Excellence Scholarship for Continuing Students.



Most recently Martin was awarded the **John Worrall "Tree Enthusiast" Prize**. This endowed fund, set up in conjunction with John Worrall's retirement from UBC Forestry in 2003, has been supported over the years by well over 200 alumni and friends. The intent of this fund, and annual prize award, is to honor John Worrall's outstanding contributions to teaching, student well-being, and the field of forest botany.

With undergraduate tuition and books costing close to $7,000 per year, awards make a tremendous difference to our students. As Martin explains, "awards have helped me to focus more on studying because I am confident that I can pay my own way as I go through school".

Donors give to a student award for many reasons: they remember how tuition costs can add up; they want to support tomorrow's forestry leaders; or they have a keen appreciation for someone of influence in their lives, such as John Worrall.

As for the award's namesake, John Worrall continues to influence students today. He still teaches the 3rd year course "principles of forest science", and faithfully supports the students in their extracurricular activities such as Logger Sports, dendrology hikes, and of course, table tennis. The next time you are at the Forest Sciences Centre do drop by for a chat with John.

The last word goes to Martin who adds, "to the groups and individuals who have supported awards, I would say thank you so very much for your help. Awards are a wonderful way to encourage us to study hard and to enable us to focus on our learning."

We welcome contributions to existing awards, and the establishment of new ones, for undergraduate, graduate, and post-doc students alike. For more information please contact Christoph Clodius, director of development, at christoph.clodius@ubc.ca.

## Lost in the woods

We're on a mission and we need your help. The Faculty's Alumni Relations Office is trying to track down contact information – email or mailing addresses – for all our alumni. If you happen to be in touch with anyone on our Lost in the Woods list, please ask them to get in touch with Jenna McCann at 604-822-8787 or jenna.mccann@ubc.ca. Visit www.forestry.ubc.ca/alum and click on the 'Lost in the Woods' page to find the list.

Are you moving? Don't forget to let the Faculty know where you're going so we can continue to update you on news, events and other items of interest.

Do you have a story to share? Please send it to us!

## Forestry Alumni Association

We are seeking nominations for the new Forestry Alumni Association. The role of the Alumni Association is to promote the interests of the Faculty of Forestry and to encourage and facilitate the support of the Faculty from both the alumni and general communities. Becoming a member of the Association is a wonderful opportunity and ensures you as a graduate are able to continue your involvement with the Faculty long after your studies are complete.

Would you like to be considered for a position with the Association? Or would you like to submit a nomination for a fellow alumnus? Please contact Jenna McCann at 604-822-8787 or jenna.mccann@ubc.ca.

## Electronic versus paper?

Branchlines is currently mailed to over 4,000 forestry alumni, interested groups and individuals. We also post an electronic version of each issue on our Faculty website (go to www.forestry.ubc.ca and click on "Publications").

If you would prefer to stop receiving paper copies we can notify you by email when future electronic versions are available online. To change your subscription from paper to electronic please send your request by email to jamie.myers@ubc.ca.

## Our new look

We have redesigned Branchlines and hope you enjoy the new look. If you have any comments we would love to hear from you. Please contact the editor at sue.watts@ubc.ca.

## Newsletter Production

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Questions concerning **branch**lines or requests for mailing list updates, deletions or additions should be directed to sue.watts@ubc.ca

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