

# f<sup>oot</sup>notes

the newsletter of the foothills research institute

## Leading the Way ...in science, communication and collaboration

Foothills Research Institute continues to lead the way in development of research partnerships aimed at generating the science required for sound natural resource management.

In fact, Leading the Way will be the theme of this year's annual general meeting and open house, set for Edmonton June 1 and 2.

"Leading the way for us is all about communicating, to our partners, the science that solves their day-to-day practical challenges," says Tom Archibald, general manager of the Institute. "We want to know what specific information our partners need to be successful, to lead in the industry. The minute we stop helping them we become ineffective."

Keith McClain, Director of Science Policy and Strategy for Alberta Sustainable Resource Development and an Institute Board member, concurs with Archibald.

"What differentiates us is the communication and collaboration with our partners; getting back to them is really crucial – we find it essential," says McClain. "The Institute is a very effective agent of change, providing sound science for informed decision-making . . . and for re-evaluating decisions that have been made."

Recent Institute activity showcases numerous examples of communication and collaboration related to leading-edge science. The website will soon allow an interactive conversation around resource and research issues, coupled with a blog, RSS feed and Twitter function, as well as webinars. The Foothills Land Management Forum has drawn in three new partners. Institute staffer Julie Duval became certified as one of only 43 Geographic Information Systems Professionals in Alberta.

Please read on for more articles about the Institute's success in Leading the Way.



Research supports sound land and resource management.

Brian Carnell

## Open House and AGM set for June 1 and 2

A speaker with an intimate and personal knowledge of diverse landscape values headlines this year's Foothills Research Institute Open House in Edmonton June 1.

Gordy Klassen worked in oil and gas for more than 25 years, is involved with the Alberta Trappers Association and has farmed in the west-central region. The Institute says Mr. Klassen will bring interesting perspectives from his experience on "both sides of the fence."

The Open House, and the Institute's annual general meeting on June 2, will both be held in Lister Centre's Maple Leaf Room at the University of Alberta, and both centre on the theme "Leading The Way." The AGM will begin with a keynote address by Robin Campbell, MLA for West Yellowhead and Caucus Whip, speaking on the resource management challenges that Alberta faces and the science-based knowledge needed to create innovative solutions. The balance of the agenda will focus on business updates and detailed overviews of six programs.

For more information on these public events, visit [www.foothillsresearchinstitute.ca](http://www.foothillsresearchinstitute.ca).

# Multi-disciplinary team finds new ways to monitor bear habitat

Grizzly bear habitat, and the way bears use it, change frequently during the year as seasons, human activity and natural disturbances such as fire and pest come and go.

A multi-disciplinary team is now in the third year of a five-year program designed to help the Grizzly Bear Program “see” these changes at a very fine scale and on a regular and timely basis using remote sensing and other images.

Team members Dr. Mike Wulder and Joanne White with the Canadian Forest Service in Victoria, Dr. Nicholas Coops, Christopher Bater, Rachel Gaulton and Thomas Hilker with the University of British Columbia, Ben Stewart with the University of Victoria, and Gord Stenhouse with the Foothills Research Institute used a combination of high spatial resolution aerial imagery

and satellite datasets to detect and map MPB red-attack across key areas of the grizzly bear range.

Team members from the University of Calgary, University of Saskatchewan, Trent University and Foothills Research Institute Grizzly Bear Program were recipients of an award for Best Scientific Paper in Remote Sensing in April. The award was presented by the American Society for Photogrammetry and Remote Sensing. Julia Linke, a PhD candidate in the Department of Geography, University of Calgary, led a study investigating the use of remote sensing and other geographic technologies for monitoring grizzly bear habitat in west-central Alberta. The research helps establish reliable methods of landscape monitoring using satellite remote sensing, and is expected to contribute towards environmental monitoring and conservation initiatives underway all over the world.

University of British Columbia

GIS specialists at Foothills Research Institute continue to develop a comprehensive set of open-source data and maps that will greatly enhance the way land-use decisions are made.

## GIS project puts it all together

It’s all happening under the umbrella of GeoConnections, a national initiative to put together location-based (geospatial) information to assist anyone from emergency services to public health researchers to environmental managers in their work.

Geographic Information Systems Program lead Debbie Mucha says some federal funding for the Institute’s GeoConnections project was announced in the summer of 2008. A workshop was held to help the region’s land managers identify what information they were lacking in their daily decision-making.

“We heard a need for stronger information about disturbance patterns on the landscape, access and roads, the need for comprehensive and up-to-date base maps,” Mucha says.

Information to fill these gaps is drawn from the Institute’s ever-expanding landbase data as well as the latest satellite

images. The team also received funding last summer for a pilot project related to integrated land management.

Partners in the project include the Town of Hinton, West Fraser Mills-Hinton Wood Products, Jasper National Park and Alberta Sustainable Resource Development.

Some key data sharing agreements have been developed, and users are able to share and access information through a website hosted by a third-party contractor.

Mucha says some of the benefits include improved access to information, not requiring GIS software to use the system, and ongoing improvements to the system. The system is expected to be released this coming summer and will be undergoing ongoing improvements to keep the system up to date.



Foothills Research Institute

GIS Specialists  
Katie Yalte,  
Debbie  
Mucha and  
Julie Duval

# Multiple partners ponder path to healthy landscapes

An offshoot of the Natural Disturbance Program has become a major success on its own merits, attracting multiple partners and focusing on vast landscapes.

Program Lead Dave Andison says an exercise called Healthy Landscapes uses research into historic natural disturbance patterns as a foundation for decisions about today's human activities and implications on natural resource values.

**"It's a way of envisioning the landscape of the future based on our understanding of Mother Nature's historical landscape patterns," Andison says. "We know that if we emulate some of those patterns, we are on the right track to keep the ecosystem healthy."**

The Healthy Landscapes exercise attracted a "brainstorming team" from across Canada, which has spent a year discussing issues and developing models. Their focus most recently has been on a 10 million ha. landbase in the Upper Athabasca Watershed region of Alberta. "In the past, landbase stakeholders have often put their individual wants and needs into the pot and then looked for ways to have the landscape produce those



outputs," Andison says. "In this instance we wanted to turn it around and discuss how we can support a healthy landscape first, then let Mother Nature determine the outputs."

The result would be sustainable resource outputs and values, from timber to water to habitat to recreation – though not necessarily everything that everyone wants in unlimited amounts.

"This is something nobody's tried before," Andison says. "It is essentially a new idea, and it could potentially be adapted for land use plans across Alberta."

Partners involved with the exercise included 10 forest management area holders, two national parks and half a dozen provincial parks.

## Beetle infestations spur R&D drive

Alberta's land and forest managers need all the help they can get in the fight against the mountain pine beetle.

While tactical teams are busy monitoring and controlling beetles throughout the foothills and as far east as Slave Lake, the Mountain Pine Beetle Ecology Program at Foothills Research Institute is taking a deeper look at some of the impacts and management issues related to beetle infestations.

**Strong winds last summer blew in the province's biggest aerial attack to date in Alberta, and the beetle is now well established in the heartland of the province's lodgepole pine forest.**

Partners involved in the beetle ecology research program presented a workshop in Edmonton this spring to outline directions and findings. The Institute used webcasting and teleconferencing to broadcast the session simultaneously to audiences in Grande Prairie and Calgary, and presentations are now available at [www.foothillsresearchinstitute.ca](http://www.foothillsresearchinstitute.ca) along with a wealth of related information.

Researchers working with the program delivered detailed updates on work related to options for stand rehabilitation, projected impact on forest hydrology and vegetation, and also the beetle's impact on grizzly bear habitat.

Companies affected by beetle attacks are being provided with new tools to cope with the aftermath. By June, they will have access to a new web-based tool called the Mountain Pine Beetle Decision Support Tool. The Forestry Corp, a consulting company, has developed a prototype in collaboration with the Foothills Growth and Yield Association and the Mountain Pine Beetle Ecology Program.

Tiny beetle prompts a major research response



Japan interested in Foothills-area biodiversity research and management

## Japan taps biodiversity expertise

Foothills Research Institute, along with West Fraser Mills Ltd. and Jasper National Park, hosted Dr. Yoshihide Sawanobori, a representative from the Forest Policy Research Institute of Japan, recently.

Research on biodiversity hasn't been systematically conducted in Japan although some studies have been conducted on specific areas and species. The Forestry Agency of Japan has commissioned the Forest Policy Research Institute of Japan to research and study biodiversity conservation programs in forestry in several countries, including Canada.

The Hinton-Jasper area was one of the Canadian stops for Dr. Sawanobori. The tour included the Hardisty and Anderson Creek Demonstration sites, which illustrate work to improve stream crossings and enhance fish habitat. Aaron Jones from West Fraser Mills Ltd. also provided a detailed overview of the company's operations and its biodiversity planning, management and mitigation in forest operations.

Foothills Research Institute

## Start your engines!

Foothills Research Institute is helping information highway travellers recognize the roads signs and avoid the potholes with a range of easy-to-use website features.

Simply go to the website [www.foothillsresearchinstitute.ca](http://www.foothillsresearchinstitute.ca) to explore News, E-notes, FRICasts, YouTube, Twitter or "FB" (Facebook), and you will open the door to a whole new way of staying in touch with the Institute's activities and accomplishments.

The News heading offers an easy way to access these features, as well as a blog, or commentary, and an RSS (Really Simple Syndication) feed. The RSS feature pulls news from others sites into the Institute's news hopper and then directs them automatically into your e-mail system when you become a (free) subscriber.

Educational events and lectures can be found on the website, and coming soon will be FRICasts – podcasts that also can be downloaded automatically to subscribers. New files are stored on your computer, or portable device for off-line use at your convenience.

Global positioning systems (GPS), iPhones and the iPod Touch are all being eyed as ways to bring the Northern Rockies Ecotour to life for visitors traveling through west central Alberta.

These technologies would help create the ultimate interactive experience, building off the printed Ecotour due for release by Foothills Research Institute in the fall of 2010.

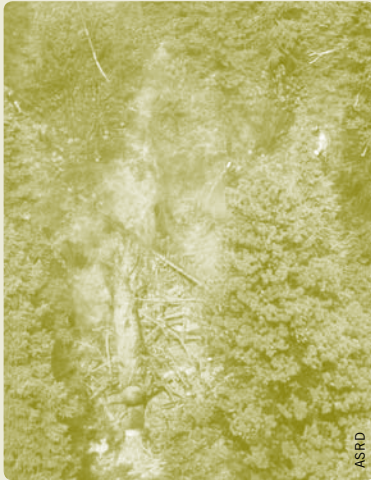
## Ecotour may enter wireless world

"The benefits of using GPS alone are tremendous," says Communications and Extension Program Lead Sean Kinney. "GPS is independent, it can be enhanced, it is international and it will provide a much more interactive experience for those who take the Ecotour. I'm really excited about this project. It gives us a chance to get people more engaged in the landscape."

Visitors who pick up the Ecotour booklet will be provided with information about what can be seen along Highway 16 through Hinton and into the mountains, and along Highway 40 from the Cardinal Divide in the south to Grande Cache in the north. They will learn about ecological and topographical features, historical and cultural sites, wildlife populations and the many ways humans interact with the environment.

Bob Urie II

# Updates



## Natural Disturbance Program

Fifty attendees took part in a Natural Disturbance Program information session in December '09, demonstrating the growing interest in using natural disturbance patterns to help guide forest and land management decision-making. Some of the presentations from the session were later offered through the Canadian Institute of Forestry's web-based lecture series and are available to view and download at [http://foothillsresearchinstitute.ca/pages/Education\\_Events/NDIS\\_2009.aspx](http://foothillsresearchinstitute.ca/pages/Education_Events/NDIS_2009.aspx).

## Forest Carbon Workshops

AFGO (the Alberta Forest Growth Organization) has presented two workshops on forest carbon management in 2010, and plans a final session in Edmonton October 19-21, 2010 building on material presented earlier. The organization, affiliated with Foothills Research Institute, has made some of the presentations available at [http://foothillsresearchinstitute.ca/pages/Education\\_Events/Workshops.aspx](http://foothillsresearchinstitute.ca/pages/Education_Events/Workshops.aspx).

While some market instruments known as carbon offsets and credits have been developed for Alberta's agriculture sector, work in the forest sector is less advanced. AFGO is working to address this gap by collaborating with Alberta Newsprint Company, Canfor and Manning Diversified Forest Products on development of a protocol for greenhouse gas emission offset quantification for Improved Forest Management. Work to date has focused on developing a strategy

aligned with Alberta's Emission Offset Registry and the nearly completed Afforestation Protocol.

Register for the October event at (780) 865-8330 or [fran.hanington@gov.ab.ca](mailto:fran.hanington@gov.ab.ca). Look for online registration coming soon.

## Brown Bag Lunches

Foothills Research Institute's FRI-day Brown Bag Lunch Speaker Series continues to bring in a diverse audience from local and provincial governments, industry, and the general public. Some of the topics covered and things we've learned to date include – how the Institute uses



geographic information systems to manage and analyze the growing collection of grizzly bear research datasets on population, health, habitat and movement. Did you know that to date, over 185,000 valid global positioning system

locations have been collected? We also heard from one of our key sponsors about a new approach to making land-use decisions for the reclaimed Luscar and Gregg River Mine areas 43 km south of Hinton along Highway 40. We are planning to take it outside for June, July and August so our guests can see and experience research in action.

## New partners

The Foothills Landscape Management Forum, administered with support from Foothills Research Institute, celebrates the signing of three new industry partners:

- Paramount Resources, an oil and gas exploration company active in and beyond the Berland Smoky area;
- Tourmaline Oil Corp, also engaged in oil and gas exploration in the same area; and
- Weyerhaeuser Canada's Grande Prairie pulp mill, which looks to share mitigation strategies and best management practices with other land managers on issues such as grizzly bear and caribou.

Welcome to our new partners!

# News and Events

## President steps down

Jim LeLacheur resigned as President of the Board in April, due to other commitments in his work life. West Fraser Mills' chief forester in Alberta has led the Board since February 14, 2005, and has been a solid asset and champion for Foothills Research Institute every step of the way according to general manager Tom Archibald. "Jim has played an invaluable role in building the scientific and business credibility of the Institute over the years, and we are very happy that he will continue to serve as a Board member representing one of our major industrial partners."

## Program extended

The "Electrofying Fish Interpretive Program" extends to the shoulder season this year. The theatrical interpretive program developed by Foothills Research Institute will be delivered by a Jasper National Park interpreter every Sunday evening in July and August, at Whistler Campground amphitheatre. It will now also be delivered Fridays in June, September and October. For more information: Joan Simonton, ph. 780-865-8311 or [www.foothillsresearchinstitute.ca](http://www.foothillsresearchinstitute.ca).



## New reports available

1. FLMF Quicknote #7 Berland Smoky Regional Access Development (RAD) Plan, August 2009.

2. Estimating Arctic Grayling Population Size in Mid Sized Streams with Night Snorkeling, January 2010.
3. Foothills Growth and Yield Association, *Technical Note 2010-3: Effects of Climate on Mortality of Immature Planted and Naturally Regenerated Lodgepole Pine*, February, 2010.
4. Foothills Growth and Yield Association, *Technical Note 2010-4: Monitoring and Decision Support for Forest Management in an MPB Environment – Project Overview and Update*, March 2010.
5. Foothills Growth and Yield Association, *Regenerated Lodgepole Pine Trial, 2009 Crop Performance Report*, March 2010

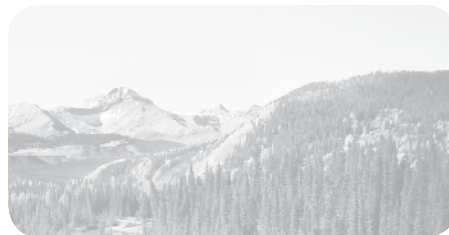
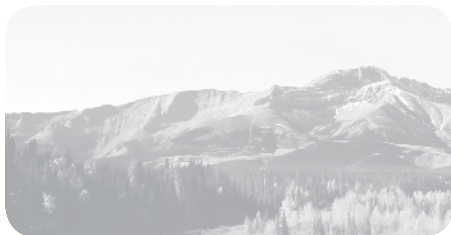
## GIS Professional Certification

Congratulations to Julie Duval, Geographic Information Systems Specialist, on her recent certification as a GIS Professional by the GIS Certification Institute. The designation means she has met professional standards for ethical conduct and professional practice as established by the certification institute. It also means she's one of only

43 certified GIS Professionals in Alberta, and 4,647 in the world. "This certification not only benefits Julie on a personal development level, but also provides benefits to the research institute, having such a great staff member with such exceptional credentials," says Debbie Mucha, Foothills GIS Program Lead.



Box 6330  
Hinton, Alberta  
Canada T7V 1X6  
T: 780.865.8330  
F: 780.865.8331  
[foothillsresearchinstitute.ca](http://foothillsresearchinstitute.ca)



The Foothills Research Institute core landbase is located in west-central Alberta, and is based in the resource community of Hinton, some three hours west of Edmonton. It covers roughly 2.75 million hectares (27,500 square kilometres), and embodies Jasper National Park of Canada, Willmore Wilderness Park, William A. Switzer Provincial Park and the Forest Management Area of Hinton Wood Products, A division of West Fraser Mills Ltd. It also includes some provincial "crown forest management units" and the Hinton Training Centre's Cache Percotte Training Forest. Within its boundaries are three forest areas – boreal, montane, and sub-alpine – and many forest uses including timber, petroleum, and coal extraction, tourism, and recreation.