

**FEATURED ARTICLES**

BULKLEY VALLEY RESEARCH CENTRE HOSTS EUROPEAN AND AMERICAN RESEARCHERS FOR LIDAR STUDY ..... 1

SKEENA SALMON HABITAT CONFERENCE ..... 3

THE SMITHERS CARBON NEUTRAL CAR NETWORK ..... 4

NICOLE GLOVER RECEIVES 2009 IRVING FOX MEMORIAL SCHOLARSHIP ..... 5

BULKLEY VALLEY RESEARCH CENTRE MEMBERSHIP SURVEY RESULTS ..... 6

**HOLIDAY OPEN HOUSE**

Please join us for our annual Open House  
**Friday, December 11th**  
**4:00 pm**



**BULKLEY VALLEY RESEARCH CENTRE HOSTS EUROPEAN AND AMERICAN RESEARCHERS FOR LIDAR STUDY**

For the past two summers the Bulkley Valley Research Centre has hosted some far flung researchers, from Technische Universität München (Dr. Hans Pretzsch and Dr. Stefan Seifert) and the University of New Hampshire (Dr. Mark Duecy), as well as our own UBC. Assisted by the Centre’s Beth Henderson, they collaborated on an innovative study to test interesting hypotheses regarding forest crown dynamics in complex stands, and also to contribute to the methodological knowledge of applying terrestrial LIDAR (*Light Detection and Ranging*) in forest research and measurement.



RACHEL KNAPP WITH THE LEICA COMPUTER SET-UP



RIEGL SCANNER AND STEPHAN HARD AT WORK

LIDAR, also referred to as “3D laser scanning”, employs a laser and rotating mirror(s) to rapidly scan and image volumes and surficial areas of three dimensional objects. Ground-based or terrestrial LIDAR refers to tripod-based measurements, as opposed to airborne LIDAR measurements made from airplanes or helicopters. The output from ground-based LIDAR is a point cloud consisting of millions of laser distance measurements representing the three-dimensional scanned scene. The point clouds are then processed to obtain the desired information. LIDAR systems can be used to obtain highly accurate data very efficiently and have many applications. In forest ecology, the laser scanner data are valuable for estimation of various tree parameters such as height, crown size, diameter, basal area, and volume.

Pretzsch, Seifert, and Duecy were attracted to the Bulkley Valley Research Centre by our data and by our geography.



## WATCH OUT FOR SECOND COMPLEXITY WORKSHOP - JANUARY 2010

As a follow-up to the successful Complexity Science and Global Change Workshop held at the Smithers Old Church in February 2009 in conjunction with UNBC's Natural Resources and Environmental Studies Institute, the Centre will be hosting a second informal, low-cost workshop in January 2010. Members who would like to help design or host an interactive workshop that will give participants hands-on experience in using concepts and tools from complexity science should email [Sybille Haeussler](mailto:Sybille.Haeussler@unbc.ca) or [Don Morgan](mailto:Don.Morgan@unbc.ca).



A draft version of the first [Complexity Science and Global Change Workshop Summary](#) has been posted on the Centre website. The document is currently undergoing external peer review.

The man behind the data is Dave Coates, Research Silviculturist with Ministry of Forests, and his team of researchers who, over 15 years, have established stem-mapped plots in the sub-boreal spruce (SBS) forest. These data are treasure in the eyes of an ecologist, and have been used for a wealth of individual research projects, as well as development of the SORTIE-ND model, an innovative forest simulation model for complex stands. Pretzch et al. are now using these established research plots for their LIDAR project. As for our geography, it speaks for itself – they loved it here.

The LIDAR study investigates three dimensional crown structures in complex-structured stands and how crown structure and crown efficiency are affected by a gradient of competition and below-ground resources. The study will quantify crown structures with terrestrial LIDAR technology and create a spatial 3D model of all individual trees in each scanned plot. The 3D crown information in combination with measures of resource availability will allow tests of hypotheses related to competition and crown efficiency and the development of predictive equations of crown development and tree growth. This study may also contribute to further development of SORTIE-ND through the addition of new behaviours or aiding in model testing and validation.

To the researchers' knowledge, there has been no published comparison of results obtained with terrestrial LIDAR using different scanners at identical points within a stand, despite the fact that commercially available instruments such as the Riegl and the Leica differ in terms of light wavelength, beam width, and intensity. This project aims to breach this methodological gap by conducting scans over identical benchmarks with both a Riegl and a Leica LIDAR platform. These benchmark scans will allow the researchers to: (a) compare scanner performance, (b) compare algorithms for extracting tree location, stem taper, and crown shape, and (c) compare the performance of the two scanners to existing traditional tree allometry measurements.

So how did the Riegl and Leica platforms perform? The Leica was nicknamed "Princess" because it was so temperamental in its first field season. It performed much better this past exceptionally sunny and warm season. And "Lady Riegl" produced such a quantity of data in its first season that the researchers are still processing it.



RESEARCHER JASON GUESS  
ADJUSTING LEICA SCANNER,  
THE "PRINCESS"



## NEW STAFF

**Sheldon Haftner** is our new part-time research and operations assistant. Sheldon was born in Smithers and raised in Houston. He received his degree from UNBC where he majored in biochemistry with a minor in chemistry. So far, Sheldon has provided much appreciated assistance with the salmon conference and Wetzin'kwa outreach and he is available to help on other Bulkley Valley Research Centre research projects. Sheldon's position was funded through a work placement program at Nadina Community Futures.



## SKEENA SALMON HABITAT CONFERENCE

In September, the Bulkley Valley Research Centre hosted a two-day Skeena Salmon Habitat Conference in Smithers. It had four immediate objectives:

- examine the wild salmon habitat recommendations of the Pacific Salmon Forum,
- learn about existing collaborative salmon habitat initiatives on the Skeena and coast,
- learn about the impact of salmon diversity, ecosystem services and climate change, and
- develop the Skeena as a prototype for collaborative, ecosystem-based management.



More than 100 people representing a broad range of governments and communities participated in the conference, which was sponsored by the SkeenaWild Conservation Trust, Babine River Foundation and Driftwood Foundation. Full Proceedings will be available on the [Bulkley Valley Research Centre](http://www.bvcentre.ca) website by the end of November.

The conference format was designed to encourage full participation from attendees with extended time for questions between presentations, a five-minute forum, and long breaks and lunches to allow participants time to pursue ideas and continue discussions on-site. The opportunity to network with people representing a diversity of perspectives, interests and expertise was cited by many as the aspect of the conference that they found most rewarding.

A longer-term objective of the conference was to foster the development of a collaborative ecosystem-based management process for the Skeena watershed. The next step will be a facilitated workshop which would bring together all perspectives in a structured discussion, with the goal of setting out how to move toward such a watershed-wide process. The Bulkley Valley Research Centre is presently involved in planning such a workshop. The Centre's role will be as an independent organization that promotes high quality natural and social science studies to inform all interests.

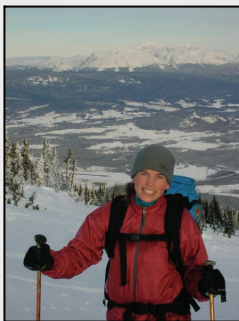


## NEW STAFF—cont'd

The Centre has gained some additional part-time help, in partnership with the Wetzin'kwa Community Forest. The Centre has hired **Ingrid Granlin** to work one day per week as Community Outreach Coordinator. Ingrid will be responsible for promoting community awareness and participation in the Community Forest. You want to know what forest or wildlife research is going on within the Community Forest?

Or what the flying squirrels are up to? Stay tuned! Ingrid will also be coordinating the Bulkley Valley Research Centre Seminar Series.

Born and raised in the Bulkley Valley, Ingrid is trained as a graphic design artist. Among other things she has worked for the Skeena Watershed Conservation Coalition.



At each conference or workshop that the Bulkley Valley Research Centre hosts, we solicit feedback from participants about the presentations, format and venue. Comments received are used by our conference organizers to improve future events. Relevant comments are also passed on to the steering committee which is usually comprised of a range of people external to the Centre. In addition, comments about rooms, sound and food are brought to the attention of the conference venue.

Survey responses from the Skeena Salmon Habitat Conference suggest that the expectations of all participants were either fully or somewhat met. Most people in the former group cited the diversity and high quality of the presentations/information/insights/attendees as well as the opportunity to network as the reasons for their satisfaction. Attendees whose expectations were only partially met tended to either want to hear more study results and less about process or the complete reverse. The need for a follow-up session to develop a Skeena management plan was noted by a number of respondents. Participants in the salmon conference were also asked what topics they would like to see covered in the future. The responses ranged from annual updates on the subjects covered in this conference to topics unrelated to salmon. We will consider all of the ideas put forth and thank everyone for their responses.



JOHN FRASER ASKING A QUESTION FROM THE FLOOR

## THE SMITHERS CARBON NEUTRAL CAR NETWORK

The Bulkley Valley Research Centre is collaborating with One Sky on the formation of a car share organization, the Smithers Carbon Neutral Car Cooperative. One Sky is a Smithers-based not-for-profit organization that promotes sustainable living globally. The project's objective is to significantly reduce carbon emissions in the Bulkley Valley and to contribute to the sustainable transportation options for residents. By providing a fleet of multi-purpose vehicles, the car share model will promote alternatives to privately-owned vehicles, allowing members to benefit from significant financial savings while reducing their transportation-related environmental impacts.



## SEMINAR SERIES

**Wednesday, December 16, 2009**  
12:00 - 1:00 pm

Room 110,  
Main Campus Building,  
Northwest Community College,  
Smithers, BC

**Bill Price**, Research Scientist,  
Mine Closure and Rehabilitation  
Section of Mining and Mineral  
Sciences Lab, Natural Resources  
Canada, Smithers, BC will be  
speaking on

***Results of the 2005 Financial  
Security Review at the Equity  
Silver Mine (South of  
Houston)***



There are still dates available for seminars in the New Year. If you would like to present one, or know of someone who would be interested, please contact [Ingrid Granlin](#), Seminar Series Coordinator.

Our seminar series is an important component of our outreach program, to inform the public as well as fellow researchers what research is happening in the Valley.

Car share co-ops, which allow members to co-own and use a small fleet of multi-purpose vehicles, have been launched successfully in a number of BC communities including Vancouver, Victoria, Nelson, Revelstoke, Kimberley and Golden. The Smithers-based car share will seek to include low-emission vehicles and offset the carbon emitted during each trip via carbon finance projects underway in the Lower Mainland, making it the first carbon neutral car share in the province.



The project consists of an initial research and development phase to assess market demand, identify and address barriers to participation, form partnerships, address legal issues and design an appropriate co-op membership and financial structure. This phase is now underway. The second phase will see the launch of the car share co-op with a fleet of one to two vehicles, and on-going promotion and community outreach. At the end of the second year, a detailed assessment of the project will be undertaken in order to a) provide a blueprint for other rural communities and b) expand the project into a financially sustainable, long-term community car share co-op. To join the cooperative as a member and/or a board member, or for more information, please contact [Kim Struthers](#) at One Sky, (250) 877-6030.

## NICOLE GLOVER RECEIVES 2009 IRVING FOX MEMORIAL SCHOLARSHIP

This year's successful applicant for the Centre's 2009 Irving Fox Memorial Scholarship for Natural Resources Research and Management is Nicole Glover from Terrace. A student in the Environmental Technology Program at Camosun College in Victoria, Nicole has an outstanding academic record and is highly recommended by her referees.

Nicole is a highly motivated and organized individual. For example, in her co-op program at the college, because there were few opportunities this year due to the economic downturn, she created her own co-op placement, contacting the Swan Lake Christmas Hill Nature Sanctuary (Victoria) and developing her own project on assessing small mammal and amphibian populations; she did all this as a volunteer. She has now completed her internship



## BULKLEY VALLEY RESEARCH CENTRE AWARDS

Do you know of a researcher, writer, activist, or organization that has made an outstanding contribution to ecological sustainability in northwest BC?

Please consider nominating individuals or groups for **The Irving Fox Award** or **The Jim Pojar Award**, which are presented to winning candidates at the Annual General Meeting.

Go to the [Award](#) section of our website to see a link to the award criteria for each award and how to submit. The deadline for nominations is **January 25**.

## CONSIDER STANDING FOR THE CENTRE'S 2010-2011 BOARD OF DIRECTORS

A new Board is elected each year by the membership at the annual general meeting. Board membership is an opportunity to have input into the running of the Centre and help shape its future direction. It is important to bring new blood on board (literally!), so please think of nominating yourself or someone else when the call goes out for nominations in the New Year.

there, which included doing scat and sight surveys, snake board transects, fish and small mammal trapping, polygon mapping and researching on plant and animal species. Her work also included habitat restoration and vegetation mapping.



Nicole is currently in a co-op work term working for Natural Resources Canada at the Pacific Forestry Centre in the Bark Beetle Lab, where she is running an experiment looking at the effects of different pine tree types and amount of resource on the brood survival of Mountain Pine Beetle. She hopes to return to Terrace once she has completed her diploma to work in the natural resources field, and to obtain a degree from Royal Roads University in environmental management through their distance education program.

Nicole's volunteer experience includes working for the Skeena Watershed Conservation Coalition. Her activities with the coalition, which she designed herself, included developing information and discussion sessions at her college, writing an article for the Terrace Standard, and writing a report on her activities.

In her spare time, Nicole enjoys reading about environmental issues, volunteering, spending time outdoors, hiking, camping, travelling and playing guitar.

All five scholarship applicants, who came from Houston and Smithers as well as Terrace, were very impressive, showing the high level of talent among young people in our region. Please consider nominating a deserving candidate for the Centre's 2010 scholarship. For information on eligibility and how to make an application visit the [Scholarship](#) page of the Centre's website, under the tab "Get Involved". Deadline for receipt of applications is May 31 each year.

## BULKLEY VALLEY RESEARCH CENTRE MEMBERSHIP SURVEY RESULTS

Prior to developing our next five-year strategic plan, earlier this year we asked members to fill out a short survey on their perceptions of the Bulkley Valley Research Centre. Our goal was to find out how we are doing in general and how we can improve. We thank everyone who took the time to complete the survey.





## **BOARD MEMBERS (2009-2010)**

Sybille Haeussler,  
President

Don Morgan,  
Vice-president

Brian Edmison,  
Treasurer

Anne Harfenist,  
Secretary

Phil Burton

Deborah Cichowski

Rosemary Fox

Brian Fuhr

Jim McCormack

Bob Mitchell

Irene Ronalds

Laurence Turney

Jim Pojar,  
Past President

For more on our board and staff  
visit *Our People*  
on the Centre's website  
[www.bvcentre.ca](http://www.bvcentre.ca)

Not surprisingly, most respondents were very or somewhat familiar with the Bulkley Valley Research Centre. Seventy-four percent (all percentages have been rounded to the nearest integer) considered the Centre very successful to date, with 19% indicating that we have been somewhat successful. The 7% who did not know match the 7% who were not very familiar with the Centre. No single program area was considered the most important: research project delivery, seminar series, and public outreach — including workshops and conferences — were each highlighted by 59% of respondents.

According to the survey results, the most critical issue for the Bulkley Valley Research Centre is the need for broader funding (86% listed this as top priority); more specifically, members want the Centre to focus on developing proposals to non-government sources over the next five years. A desire to see better extension of research results to local stakeholders and managers was expressed; resource managers and decision makers are considered the most important clients of the Centre.

We asked which services that the Centre provides or could provide to support researchers were important. Results were: collaborative environment 43%, peer review 39%, shared journal subscriptions 26%, technical office space 4%, all of the above 48%.

A specific focus of the survey was to find out whether the Bulkley Valley Research Centre communicates effectively with our membership. The results indicate that 96% find communications excellent or good. The vast majority want to receive information by e-mail whenever new information arises rather than on a set schedule. Almost half of respondents find the website an effective way to receive information.

Some members added suggestions that would, in their opinions, improve the Bulkley Valley Research Centre. These ranged from providing insurance for members and holding brainstorming sessions for exploring options for initiating interdisciplinary projects, to more general tasks (such as developing a barter system that offers local expertise in exchange for opportunities to receive instruction). The board and staff will consider each of the suggestions over the next year.

[Survey Results](#)