



NRESi Bi-WEEKLY NEWS

February 1 - February 12, 2016

**A newsletter for faculty, staff, students and the community
who participate in the
Natural Resources & Environmental Studies Institute
and NRES Graduate Programs**

NRESi NOTES

FROM THE RESEARCH MANAGER

Hello folks

Hard to believe that the first half of the winter semester is done and we are at reading week already. How time flies. This Friday, our colloquium features Dr. Christin Wiedemann who will be talking about how to attract more women into science and how we can work together—regardless of gender—to shape the future of science. This is a carry-over presentation from the Inspiring Women Among Us (IWAWU) series last semester. After the reading week break, Dr. Nancy Turner from the University of Victoria will be here to talk about her ethnobotany career.

Hope everyone has a good reading week break. A nice chance to catch up on lectures, marking, research, and rest before the final push to the end of the winter semester.

Al Wiensczyk, RPF
Research Manager, NRESi

UPCOMING EVENTS

NRESi COLLOQUIUM

The winter colloquium session continues with a presentation by Dr. Christin Wiedemann on the 5th of February followed, after the reading week break, on February 19th with a presentation by Dr. Nancy Turner. Watch for announcements closer to the lectures confirming the presenter and topic. Lectures for the winter semester will be held in room 7-212.

TENTATIVE WINTER COLLOQUIUM SCHEDULE

| Presentation Date | Tentative Presenter and/or Topic |
|-------------------|--|
| Feb 5, 2016 | Dr. Christin Wiedemann, Director, Communications—Society for Canadian Women in Science and Technology. Shaping the future of science. |
| Feb 19, 2016 | Dr. Nancy Turner, Distinguished Professor and Hakai professor in Ethnoecology, School of Environmental Studies, University of Victoria. A Mutual Love of Plants. Collaborative Community-based Research in Ethnobotany in British Columbia. |
| Feb 26, 2016 | Dr. David Connell—Associate Professor—Ecosystems Science and Management—UNBC. Protecting farmland in Northern BC through land use planning: A critical assessment. |
| Mar 4, 2016 | Craig DeLong, Senior Ecologist, Ecora Resource Group Ltd. |
| Mar 11, 2016 | Dr. Graham Fairhurst, Post-doctoral fellow, Environment Canada/University of Saskatchewan. |

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We're on the web at : www.unbc.ca/nres-institute/newsletter

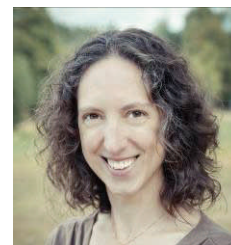
TENTATIVE WINTER COLLOQUIUM SCHEDULE (con't)

| Presentation Date | Tentative Presenter and/or Topic |
|-------------------|---|
| Mar 4, 2016 | Craig DeLong, Senior Ecologist, Ecora Resource Group Ltd. |
| Mar 11, 2016 | Dr. Graham Fairhurst, Post-doctoral fellow, Environment Canada/University of Saskatchewan. |
| Mar 18, 2016 | Dr. Anne Salomon, Associate Professor and Hakai Professor, School of Resource and Environment Management, Simon Fraser University |
| Mar 22, 2016 | Dr. Andrew Watson, Post-doctoral fellow, Department of History, University of Saskatchewan |
| Apr 1, 2016 | Dr. Francesco Berna, Geoarchaeologist, Simon Fraser University. Archaeological research at Wonderwerk Cave, South Africa. |

UPCOMING EVENTS

NRESi COLLOQUIUM

Dr. Christin Wiedemann
Co-CEO and Chief Scientist
Professional Quality Assurance (PQA) Ltd.



Shaping the future of science

Science relies on innovation, and innovation is driven by diversity. Yet the scientific community is still to a large extent male dominated, and women are underrepresented in most areas. How do we attract more women to science, and how can we make sure we don't lose the ones that are already there? How can we work together – regardless of gender – to shape the future of science?

Friday, Feb 5th, 2016

3:30 pm - 4:30 pm

Room: 7-212

To participate remotely: <http://www.unbc.ca/nres-institute/colloquium-webcasts>

UPCOMING EVENTS

NRESi COLLOQUIUM

Dr. Nancy Turner
Distinguished Professor and Hakai professor in Ethnobotany,
School of Environmental Studies,
University of Victoria



Photo credit: UVic photo services

A mutual love of plants. Collaborative community-based research in Ethnobotany in British Columbia

I started working in the field of ethnobotany as an undergraduate student in the late 1960's. At that time there were few guidelines in place on how to work with Indigenous knowledge holders and communities in ways that were mutually supportive and collaborative. I provide a few examples and learning experiences from my own journey, now spanning over 45 years, and discuss some of the changes and some of the lessons I have learned. In particular, I will introduce some of my teachers who shared their knowledge with me, and reflect on the future of ethnobotany and ethnobotany as fields of study.

Friday, Feb 19th, 2016

3:30 pm - 4:30 pm

Room: 7-212

To participate remotely: <http://www.unbc.ca/nres-institute/colloquium-webcasts>

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UPCOMING EVENTS

NRESi COLLOQUIUM

Dr. David Connell

Associate Professor - Ecosystems Science and Management - UNBC



[Protecting farmland in Northern BC through Land Use Planning: A Critical Assessment.](#)

British Columbia has a progressive legislative framework that protects farmland and governs the Agricultural Land Reserve. On this basis, one might assume that farmland in BC would be protected strongly and equally among all local jurisdictions. This is not the case. The state of agricultural land use planning to protect farmland in northern BC is of moderate strength overall, with significant differences among and within the Regional Districts. The diversity of approaches makes for an interesting mix of policies that deal with the typical pressures of urban development and non-farm uses, as well as the pressures of natural resource developments, such as forestry and oil and gas. In this presentation I will discuss the state of farmland protection in northern BC by drawing upon four principles of land use planning: maximise stability, integrate public priorities across jurisdictions, minimise uncertainty, and accommodate flexibility. Project website: <http://blogs.unbc.ca/agplanning/>

Friday, Feb 26th, 2016

3:30 pm - 4:30 pm

Room: 7-212

To participate remotely: <http://www.unbc.ca/nres-institute/colloquium-webcasts>

UPCOMING EVENTS

**Canadian Institute of Forestry: Electronic Lecture Series:
*Current Issues and Emerging Technologies in Canada's forests***

| Date/Time | Title | Presenter(s) |
|-----------------------------------|---|--|
| February 10, 2016 10:30 am PST | Development and operational use of a LiDAR Enhanced Inventory | Murray Woods - Senior Forest Analyst, Forested Landscapes, OMNRF Peter Arbour - Operations Manager, PRF, CFS-CWFC |
| February 24, 2016 10:30 am PST | The effect of mountain pine beetle on mid-term timber supply in BC. | Atmo Prasad - Manager of Forest Analysis and Data Management, BC Government |
| March 2, 2016 10:30 am PST | Steep slope harvesting in Western Canada | Dzhamal Amishev - Researcher, Harvesting Operations, FPIInnovations |
| March 9, 2016 10:30 am PST | An Update on the Canadian Forest Service's work to accelerate renewable natural gas in Canada | Dominique Auger - Policy Analyst, CFS, NRCan |
| March 16, 2016 10:30 am PST | Getting a closer look at your operations with drones. | Denis Cormier - Research Manager, Silvicultural Operations and Remote Sensing, FPIInnovations |
| March 23, 2016 10:30 am PST | Pucks and sticks score more goals in oil sands reclamation | Richard Krygier - Research Project leader, CFS-CWFC |
| March 30, 2016 10:30 am PST | Cruising & surfing through the forest: Developing innovative technologies & virtual tours to promote forestry research | Brent Joss - GIS Analyst, FCS-CWFC |

All electronic lectures are free. Your consideration of CIF/IFC membership would be appreciated. To become a CIF/IFC member: www.cif-ifc.org/membership-content/become-a-member/
www.cif-ifc.org/e-lectures/

For additional information or to register, contact:

Svetlana Zeran (CIF/IFC) E-mail: lectures@cif-ifc.org Tel: 705-744-1715 ext. 530

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UPCOMING EVENTS

**** Presentation—Friday, February 5, 2016 - 7:00 pm - Room 7-212, UNBC.**

***Science and politics in British Columbia.*— Dr Andrew Weaver**, International Climate Scientist and MLA for Oak Bay-Gordon Head and leader of the Green Party of British Columbia.

Dr. Andrew Weaver was elected as MLA for Oak Bay-Gordon Head on May 14, 2013. Prior to his election, he held the Canada Research Chair in climate modeling and analysis in the School of Earth and Ocean Sciences at the University of Victoria. Dr. Weaver is a Fellow of the Royal Society of Canada, the Canadian Meteorological and Oceanographic Society (CMOS), the American Meteorological Society and the American Association for the Advancement of Science. In 2008, he was appointed to the order of British Columbia. Dr. Weaver has served on numerous national and international committees. He was a Lead Author in the United Nations Intergovernmental Panel on Climate Change 2nd, 3rd, 4th and 5th scientific assessments. Community service has long been a part of Dr. Weaver's life. He created the school-based Weather Station Network involving the installation of weather stations at schools throughout Vancouver Island. He enjoys coaching soccer and has served on community boards such as the CRD Roundtable on the Environment and the Victoria Confederation of Parent Advisory Councils.

Presentation— Monday, February 15, 2016 - 2:30-3:30 pm - Library Building Room 5-174, UNBC

***Light Detection and Ranging (LiDAR) at UNBC.*— Rob Vogt, UNBC**

Light Detection and Ranging (LiDAR) measures the time-of-flight for reflection of visible or near-visible wavelength laser pulses to create high-resolution 3D models of Earth surfaces. This talk aims to discuss the underlying principles of LiDAR and showcase the spectrum of products it provides to research teams at UNBC. A LiDAR scanner consists of a laser emitter and a detector. Each laser pulse yields one or more discrete points in 3D space. From the resulting point cloud, a variety of models can be generated including: surface, bare earth, and canopy height. Repeat scans at a later date allow for detection of change in terrain (eg. glacier change or landslides). LiDAR has many research applications from archaeology to forestry to glaciology. While our research group's main focus is monitoring glacier change, we have collaborated with a number of research groups to fly a variety of study areas.

Northern Silviculture Committee (NSC) Winter Workshop—February 16-17, 2016—Prince George Civic Centre.

Join us for the Northern Silviculture Committee's annual winter workshop to be held in Prince George this February. This year, the NSC has gathered a group of experts to tackle a critical theme: **"Improving Silviculture Planning and Practice from our Current Stands to our Future Forests."** Speakers from industry, government and academia will address four key subthemes:

- 1) Landscape-level reforestation and evolving stocking standards.
- 2) Opportunities and challenges for meeting future timber supply and wildlife habitat.
- 3) Considering cumulative impacts in professional site planning and silviculture prescriptions.
- 4) Are current forest-level plans and planning mechanisms—Adequate? If not, how can we fix them?

Register online at <http://www.booking.ca/bkunbccontinuingstudiespub/courses/index.asp?c=1&sc=8&crs=950>

Canadian Institute of Forestry (CIF) Master's Night—February 18th, 2016. Bentley Centre, UNBC

The CIF is hosting their annual Master's Night at UNBC in conjunction with the 11th Annual UNBC Graduate Conference. Wine and Cheese Social: 6:00 pm followed by presentations at 7:00 pm.

Annual growth and climate response of interior Douglas-fir experiencing different levels of competition following partial harvest in the Williams Lake-Dog Creek area – Neil Thompson, PhD candidate.

Factors affecting Plant Growth and Survival along a Reclaimed Gas Pipeline Right-of-Way in Northeastern British Columbia – Toby Turner, MSc Student

Spatial and temporal evolutionary dynamics of Mountain Pine Beetle Populations – Kirsten M Thompson, PhD candidate.

Evaluation of different flow resistance models in gravel-bed rivers and hydraulic flumes – Mohammad Reza Namaee, PhD candidate.

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UPCOMING EVENTS

Presentation—Thursday, February 18, 2016—7:00-9:00 pm—Canfor Theatre, UNBC

Sharing, Spreading, Shifting: Indigenous Peoples' Plant Names and Classification Systems in Northwest North America.
Dr Nancy Turner, Distinguished professor and Hakai professor in Ethnoecology, School of Environmental Studies, University of Victoria and a UNBC 2014 Honorary Degree recipient.

Western Division of Canadian Association of Geographers Conference—March 11-12, 2016—UNBC Prince George

The Geography Program at UNBC is pleased to announce that the 58th Annual Meeting of the Western Division of the Canadian Association of Geographers (WD-CAG) will be held **March 11-12, 2016** at UNBC's Prince George Campus. In the coming weeks, organizers will send out a call for abstracts, and provide information on conference registration, accommodations, field trips and the banquet . This is a warm, welcoming and affordable conference for NRES graduate students! <http://www.unbc.ca/geography/unbcgeography-hosting-wdcag-2016>

UPCOMING EVENTS

NRESi/FWCP COLLOQUIUM

Fish and Wildlife Compensation Program Colloquium Series

Below is the tentative schedule for the Fish and Wildlife Compensation Program-sponsored Colloquium series.

| Presentation Date | Location | Tentative Speaker/Topic |
|------------------------|--|--|
| Thursday, Feb 25, 2016 | Mackenzie Recreation Centre, Mackenzie, BC | Using meso-carnivores as a measure of change in forest ecosystems: A case study from the John Prince Research Forest (JPFR). Dexter Hodder, John Prince Research Forest |
| Friday, Mar 4, 2016 | LIDO Theatre, Fort St John, BC | A Tale of 3 fish: a migrant, an invader, and a resident. Dr. Mark Shrimpton, University of Northern British Columbia |
| Monday, Mar 21, 2016 | UNBC, Prince George, BC | Dr. Karen Kidd , University of New Brunswick |



This project is funded by the **Fish and Wildlife Compensation Program** on behalf of its program partners **BC Hydro**, the **Province of BC**, **First Nations** and the **public**, who work together to conserve and enhance fish and wildlife impacted by existing BC Hydro dams.

UPCOMING EVENTS

NRESi/FWCP COLLOQUIUM

Dexter Hodder

John Prince Research Forest

Using meso-carnivores as a measure of change in forest ecosystems: A case study from the John Prince Research Forest (JPRF)



To understand the impacts of human activities on forest ecosystems, we need to identify species that are likely to respond to potential changes (indicator species). When designing long-term monitoring programs, we must ensure that these indicator species can be measured with adequate precision given the sampling intensity (spatial and temporal) necessary for the study design. For the monitoring program to be successful, these species must have a high probability of detection using common and cost effective techniques and reflect a range of ecological processes. In addition, the design must have adequate control or reference areas available to provide benchmark metrics and be representative of a wide geographic area. Meso-carnivores, as a group, have exhibited severe declines as human disturbances have increased in North America. While these animals can be widespread, common, and utilize relatively small spatial scales, they respond to ecosystem changes at both stand and landscape levels. In the JPRF, we have been focusing

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on four meso-carnivore species as part of our monitoring program; Northern River Otter, American Mink, American Marten, and Canada Lynx. Preliminary results suggest that these animals have different niche habitat associations and their distributions may be affected by their interactions with each other.

Thursday, Feb 25th, 2016

7:30 pm - 9:00 pm

**Mackenzie Rec Centre
Mackenzie, BC**

UPCOMING EVENTS

NRESi/FWCP COLLOQUIUM

Dr. Mark Shrimpton

Professor, University of Northern British Columbia



A Tale of three fish: A migrant, an invader, and a resident.

The Williston Reservoir was created in 1968 following the construction of the WAC Bennett Dam and impounding the Peace River. The suitability of Williston Reservoir for fish habitat is unclear – but the response of three different species of fish provides us with some insight into the role of the reservoir as potential habitat. Arctic grayling (*Thymallus arcticus*) are a highly migratory fluvial species that use different habitat throughout their life history. We used elemental signatures in otoliths to track movements of grayling and our work revealed that grayling are restricted to rivers flowing into the reservoir. Modeling locations where grayling are found indicated that large rivers are needed for juvenile Arctic grayling – habitat similar to that lost when the reservoir was flooded. In an attempt to increase productivity of the reservoir, over 3,000,000 Kokanee (*Oncorhynchus nerka*) were stocked in the 1990s. The present distribution and abundance of Kokanee in tributaries to the Williston Reservoir poorly reflects the stocking patterns, but the large numbers of Kokanee have the potential to dramatically affect the flow of nutrients in rivers where they spawn due to their semelparous life history. The slimy sculpin (*Cottus cognatus*) is a putative resident species, however, otolith signatures for this species also reveal considerable movement within river systems. Our work has demonstrated that fish exhibit habitat shifts during development and also migrate seasonally among habitats. Understanding habitat requirements for fish in natural systems is important for effective management, particularly in areas affected by anthropogenic disturbance.

Friday, Mar 4th, 2016

7:30 pm - 9:00 pm

**LIDO Theatre
Fort St John, BC**



IN THE NEWS

Throwing rocks on ice can be fun! The Forestry Program "Quality Old Growth Team" was well represented at the 1st Mini-Bonspiel Curling Tournament organized by the Forestry Club (Anna Tobiasz and team) Saturday the 23rd at the PG Curling Club. It was an unusual event with many participants throwing "rocks" for the first time, including a fire-breathing dragon opposite to Smokey the Bear (wide awake given the warm temperature in the den obviously). Great fun was had by all and it is hoped that this will become an annual rite of winter.



Stay up-to-date with the latest NRESi and member news by following us on Twitter: [@UNBC_NRESi](https://twitter.com/UNBC_NRESi)

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PUBLICATIONS

Banerjee S., N. Kennedy, A.E. Richardson, **K.N. Egger**, and Siciliano, S.D. 2016. Archaeal ammonia oxidizers respond to soil factors at smaller spatial scales than overall archaea in a high Arctic polar oasis. *Canadian Journal of Microbiology*, Published on the web 1 February 2016, 10.1139/cjm-2015-0669.

Burton, P.J. 2016. Using natural disturbance regimes to guide the management of northwestern coastal forests. Pages 17 to 21 in G.R. Larocque, editor. *Ecological Forest Management Handbook*. CRC Press, Boca Raton, Florida.

Kang, D. H., Gao, H., Shi, X., ul Islam, S. and **Déry, S. J.**, 2016. Impacts of a rapidly declining mountain snowpack on stream-flow timing in Canada's Fraser River Basin, *Scientific Reports*, **6**, 19299.

Pickles B.J., M.A. Gorzelak, D.S. Green, **K.N. Egger**, and **Massicotte, H.B.** 2015. Host and habitat filtering in seedling root-associated fungal communities: taxonomic and functional diversity are altered in 'novel' soils. *Mycorrhiza* 25:517-531.

IN THE NEWS

(Government press releases)

Factsheet: Wildfire prevention is everyone's responsibility.

Feb 2, 2016—Victoria. The B.C. government introduced the Strategic Wildfire Prevention Initiative in 2004 to help local governments and First Nations reduce the risk of interface wildfires, where urban developments border on forests and grasslands. [For more details...](#)

Factsheet: Mining and mineral exploration in BC.

Jan 29, 2016—Victoria. The value of mineral and coal production in B.C. increased by almost 150% from \$2.9 billion in 2001 to \$7 billion in 2014. Today we have five operating coal mines and eight operating metal mines. [For more details...](#)

Input sought on 100 Mile House old growth management.

Jan 28, 2016—100 Mile House. British Columbians are invited to comment on proposed amendments to the boundaries of about 375 existing old growth management areas within the 100 Mile House Natural Resource District. Old growth management areas help protect the biological diversity of old-growth forests by ensuring that stands of different ecosystem types are protected. [For more details...](#)

2014-15 Dam safety program annual report released.

Jan 27, 2016—Victoria. Improved information management, increased audits and enhanced dam owner and staff training underline the B.C. government's ongoing commitment to dam safety over the past year, according to the fifth annual B.C. Dam Safety Program report released today. [For more details...](#)

Factsheet: Forest Inventory.

Jan 22, 2016—Victoria. In February 2013, the ministry released a 10-year strategic forest inventory plan, funded with an average of \$8 million annually for the duration of the plan. The forest inventory plan is available online at www.for.gov.bc.ca/hts/vri/ [For more details...](#)

BC leads by example in carbon neutral government report.

Jan 22, 2016—Victoria. A new report showcasing the Province's first five years of carbon neutral government leadership is now available online. [For more details...](#)

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COURSE OFFERING

PhD summer course: Climate Change Adaptation and Transformations towards Sustainability.

When: August 1-5, 2016

Where: University of Oslo, Oslo, Norway.

This PhD course explores the relationship between adaptation and transformation, two concepts that are key to understanding societal responses to climate change. The objective of the course is to engage students with the latest theories, frameworks, approaches and methods for addressing two critical questions in solutions-oriented global change research: What does it mean to successfully adapt to climate change? How can deliberate transformations to sustainability be carried out rapidly, yet in ways that ethical and equitable?

Organizers: Oslo Summer School in Comparative Social Science Studies at the University of Oslo, in collaboration with the Future Earth Norway Secretariat.

Lecturer: Professor Karen O'Brien, Department of Sociology and Human Geography, University of Oslo, Norway

Rolling admission, applications are now being accepted

Course Credits: 10 pts (ECTS)

Max. 25 participants

[Read more about the course and apply here.](#)

If you have any questions please get in touch with Linda Sygna at the Future Earth Norway Secretariat:

linda.sygna@sosgeo.uio.no

SUSAN STEVENSON MEMORIAL AWARD

As its first project of this kind, the Natural Resources and Environmental Studies Institute (NRESi) has established the Susan Stevenson Scholarship Fund, in memory of wildlife ecologist and NRESi member Susan Stevenson. During a 35-year career built primarily in the BC central interior, Susan designed and implemented important research and inventory projects related to mountain caribou habitat, lichen biology, and silvicultural systems, collaborating with a diverse range of researchers, and gave generously of her expertise to the next generation of scientists. Susan exemplified the Institute's values of interdisciplinary curiosity and unselfish collaboration, and enriched the lives of all those who worked and studied with her.

Efforts have succeeded in reaching the goal of \$15,000 that will be matched by UNBC to allow for an annual award. The inaugural award is hoped to be presented in the 2016-2017 academic year. NRESi would like to thank everyone who contributed to the scholarship!

The following award criteria for the **Susan Stevenson Memorial Award** have been developed:

Value: \$1,000

Eligibility: Available to a full or part time female graduate student enrolled in either the Masters (NRES) or PhD (NRES) degree programs with a research emphasis in one or more of: wildlife ecology, plant biology, forest ecology, or innovative silvicultural systems and practices that emphasize wildlife management and biodiversity objectives.

Criteria: Satisfactory Academic Standing (3.0 GPA)

Conditions: Student is unable to receive this award more than once.

Recipient Selection: Senate Committee on Scholarships and Bursaries on recommendation of the NRESi Steering Committee. Applicants will provide a statement, not exceeding 500 words in length, explaining how their intended research fits within the areas specified for his award.

COLLOQUIUM ARCHIVE

Did you miss a colloquium or special lecture this semester? Visit NRESi's webcast archive to catch up! They can be found [here](#).

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