



NRESi Bi-WEEKLY NEWS

February 29 - March 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

Hello folks

Well, the winter semester continues to roll on by. Spring will soon be here although based on some of the weather lately, it seems like it's here already. This Friday's colloquium speaker (March 4th) is Craig DeLong from Ecora Resource Group and formerly with the BC Ministry of Forests, Lands and Natural Resource Operations (FLNRO). Craig is going to talk about forest ecology research—what was done right, what could have been done better and the future of the forest industry in British Columbia. The following Friday, Jewel Yurkewich, forest pathologist with FLNRO, is going to talk about her research on red stain of sweet chestnut in Spain and comment on her career path, so far. And for those of you in the Fort St John area, on Friday, March 4, Dr. Mark Shrimpton is going to be presenting the second in our series of three Fish and Wildlife Compensation Program (FWCP)-funded colloquium presentations at the LIDO theatre. Mark is going to be talking about how the response of three different species of fish (Arctic grayling, kokanee, and spiny sculpin) provides us with some insight into the role of the Williston reservoir as potential habitat.

Al Wienszczyk, RPF

Research Manager, NRESi

FROM THE RESEARCH MANAGER

UPCOMING EVENTS

NRESi COLLOQUIUM

The winter colloquium session continues with a presentation by Craig DeLong on the 4th of March followed on March 11th with a presentation by Jewel Yurkewich. 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 |
|------------------------|---|
| Mar 4, 2016 | Craig DeLong, Senior Ecologist, Ecora Resource Group Ltd. The good, the bad, and the future. |
| Mar 11, 2016 | Jewel Yurkewich, Forest Pathologist, BC Ministry of Forests, Lands and Natural Resource Operations. Pathways to professionalism: Revealing the suspect and engaging the heart. |
| Mar 18, 2016 | Dr. Anne Salomon, Associate Professor and Hakai Professor, School of Resource and Environment Management, Simon Fraser University. Tipping Points, Adaptation and Transformation in Coupled Human-Ocean Systems. |
| Thursday, Mar 24, 2016 | Dr. Andrew Watson, Post-doctoral fellow, Department of History, University of Saskatchewan. Sustainable Farms Systems in Historical Perspective: The Energy Returned on Investment in Western Agriculture during the 19th and 20th Centuries. |

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PLEASE EMAIL ALL INFORMATION AND MATERIAL TO: al.wienszczyk@unbc.ca

TENTATIVE WINTER COLLOQUIUM SCHEDULE (con't)

| Presentation Date | Tentative Presenter and/or Topic |
|-------------------|--|
| Apr 1, 2016 | Dr. Francesco Berna, Geoarchaeologist, Simon Fraser University. Archaeological research at Wonderwerk Cave, South Africa. |

UPCOMING EVENTS

NRESi COLLOQUIUM

Craig DeLong

**Senior Ecologist,
Ecora Resource Group Ltd.**



[The good, the bad, and the future](#)

In my 30 years as a forest ecologist working for the Forest Service I helped develop the Biogeoclimatic Ecosystem Classification system for northern B.C., and worked on research projects relating to vegetation competition, natural disturbance dynamics, deadwood dynamics, mixedwood ecology and silviculture systems, and drought modelling with reference to climate change. Throughout my history I gained a good understanding of the forest industry and always tried to do research that helped us to work with nature rather than against it. I will discuss my views on what was done right, what could have been done better and the future of the forest industry in British Columbia.

Friday, Mar 4th, 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

Jewel Yurkewich

Forest Pathologist - BC Ministry of Forests, Lands and Natural Resource Operations



[Pathways to professionalism: Revealing the suspect and engaging the heart](#)

From small town Alberta, Jewel Yurkewich has found her passion in the ecology and management of forests in the northern hemisphere. With insights into the social value of forests she will present the research she completed to receive her MSc European Forestry degree. Her investigation into the notorious Red Stain of *Castanea sativa* (sweet chestnut), referred to by local foresters as *Roig*, will take you into the Montseny and Montnegre-Corredor Natural Parks located in northeastern Spain. Molecular techniques were used to detect and identify the wood inhabiting fungi and potential pathogens associated with the red stain. The results provide a deeper understanding of the fungal community inhabiting sweet chestnut. As the science unfolds so will her story of community involvement, personal investment and international collaboration. Encouraging her audience to reach out, challenge themselves and acknowledge the potential of each and every moment she hopes to inspire her colleagues and fellow students. *The recipe for success is unique for every person but there are some core ingredients that make all the difference on the pathway to professionalism.*

Friday, Mar 11th, 2016

3:30 pm - 4:30 pm

Room: 7-212

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UPCOMING EVENTS

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

| Date/Time | Title | Presenter(s) |
|--------------------------------|--|--|
| 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, FPInnovations |
| 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

The West in the 21st Century - Legacies and Trajectories: Western Division of Canadian Association of Geographers Conference—March 11-12, 2016—UNBC Prince George

We invite our NRESi colleagues to register and participate in our upcoming conference.

Conference Program and other details: <http://resweb.res.unbc.ca/wd-cag2016/index.htm>

Early bird registration deadline: Friday, February 19th

Great deal for undergrads & grad students (\$50) and exciting field tips also available: <http://resweb.res.unbc.ca/wd-cag2016/fieldtrips%20and%20workshop.htm>

UPCOMING EVENTS

NRESi/FWCP COLLOQUIUM

Fish and Wildlife Compensation Program Colloquium Series

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

| Presentation Date | Location | Tentative Speaker/Topic |
|----------------------|-------------------------------------|--|
| 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 | Room 7-212, UNBC, Prince George, BC | Local through global influences on mercury in fish. 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.

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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 4, 2016

7:30 pm - 9:00 pm

LIDO Theatre
Fort St John, BC



Dr. Karen Kidd

Biology Department & Canadian Rivers Institute
University of New Brunswick, Saint John, NB



Local through global influences on mercury in fish

Freshwater fishes are highly variable in their concentrations of mercury, even within a region. Some of the among-system differences can be explained by the biological traits of the fish (growth, diet, lifespan), and the chemical, geological, and physical characteristics of the systems. However, human activities such as reservoir creation, electricity generation, and gold mining also result in both locally contaminated areas and increases in the global cycling of mercury to remote locations. High dietary exposure to the organic form of mercury, methylmercury, is known to affect the nervous system and reproduction in fish-eating wildlife and humans, and the fish themselves. As the Minamata Convention to reduce the global trade, use and emissions of mercury comes into force, we should see declines in mercury in fish and reductions in risks to fish consumers but the rate of this decline is unclear. This presentation will describe the local through global processes that drive mercury in fish, how this contaminant may respond to climate change, and what we still do not understand about its fate in freshwaters. I will describe our comparisons of lake ecosystems from the Arctic and temperate regions of Canada and put this research into a global context.

Monday, Mar 21, 2016

7:30 pm - 9:00 pm

Room 7-212, UNBC
Prince George, BC

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UPCOMING EVENTS

CMOS*/NRESi COLLOQUIUM

Dr. Ronald Stewart

**Professor-Department of Environment and Geography
University of Manitoba**



Hazardous near 0°C precipitation

Winter precipitation affects all of us in Canada and it often leads to hazardous conditions. This certainly applies to the precipitation falling near 0°C (including freezing rain, ice pellets and wet snow) but there is still considerable uncertainty regarding its characteristics, formation, detection and simulation. This limits our monitoring efforts as well as our predictive capability at all time scales. Such issues will be reviewed in this presentation.

*CMOS is the Canadian Meteorological and Oceanographic Society; this presentation is part of a cross-Canada speaker's tour by Dr. Stewart.

Monday, Mar 21, 2016

12:30 pm - 1:30 pm

The Gathering Place

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

UPCOMING EVENTS

Thesis Defense

NRES M.Sc. thesis defence:

Wyatt Klopp - Pacific Institute for Climate Solutions Forest Carbon Management grant research

Carbon budget of forest products harvested from mountain pine beetle-attacked forests in the Prince George Region.

Thursday, April 7, 2016, 2:00 – 4:00 pm

Conference Centre, Room 6-205/211

Chair: Dr. Si Transken, UNBC

External Examiner: John Pousette, MSc, RPF. Ministry of Forests, Lands and Natural Resource Operations

Supervisor: Dr. Art Fredeen, UNBC

Committee Members: Drs. Phil Burton, Ian Hartley and Steve Helle, UNBC

Undergraduate Student Presentation Days—Tuesday, April 12 and Thursday, April 21, 2016—UNBC Prince George

Undergraduate students from NRESi/Ecosystem Science and Management (ESM) program, and Biochemistry and Molecular Biology (BCMB) will be presenting the results of their research projects on one of these two days. Stay tuned to future newsletters for event details.

PUBLICATIONS

Adams, R.V. , S.E. LaZerte, K.A. Otter, and T.M. Berg. 2016. Influence of landscape features on the microgeographic genetic structure of a resident songbird. *Heredity* , (24 February 2016) | doi:10.1038/hdy.2016.12

Halseth, G., S. Markey and L. Ryser 2015. Chapter 2.1 British Columbia. *State of Rural Canada 2015*. pp. 9-16. Canadian Rural Revitalization Foundation. Download available at: <http://sorc.crrf.ca/bc/>

IN THE NEWS

Hugues Massicotte gave a well-attended public presentation at the Prince George Public Library last Thursday (Feb 25) on “*Exploring and understanding fungi in northern landscapes: what we know, what we wish we knew!*”

Staffan Lindgren, recently retired and currently UNBC adjunct professor, was external examiner for a comprehensive exam of a PhD candidate at UBC Vancouver supervised by UNBC adjunct Allan Carroll. One of the committee members is UNBC alumnus and adjunct Kathy Bleiker.

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

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IN THE NEWS

(Government press releases)

Province moving forward on kokanee recovery plan

Mar 3, 2016—Nelson. The Province has put together a team of experts to fast track the creation of a five-year action plan to guide the recovery of Kootenay Lake kokanee stocks. [For more details...](#)

Government invests in innovative clean-energy programs

Mar 2, 2016—Victoria. Today at the 2016 Globe Conference on Sustainability and Innovation Premier Christy Clark announced funding of \$11.9 million from the Province's Innovative Clean Energy (ICE) Fund for three programs aimed at promoting clean-energy vehicles, clean air and clean water. [For more details...](#)

Main water licences issued for Site C.

Mar 1, 2016—Victoria. The main water licences were issued to BC Hydro's Site C project by the deputy comptroller of water rights today. [For more details...](#)

Legislation supports innovative forest management in Great Bear Rainforest

Mar 1, 2016—Victoria. The Great Bear Rainforest (Forest Management) Act, introduced today, supports a strict new ecosystem-based management regime created through unprecedented collaboration for the globally unique region along British Columbia's north and central coast. [For more details...](#)

Woodland licence signed with Lheidli T'enneh First Nation

Mar 1, 2016—Prince George. The Province has issued a First Nations woodland licence to Lheidli T'enneh First Nation, enhancing employment and economic opportunities in the region, Minister of Forests, Lands, and Natural Resource Operations Steve Thomson announced today. [For more details...](#)

New legislation to enable world-leading provincial spills regime.

Feb 29, 2016—Victoria. Amendments to the Environmental Management Act (EMA), introduced today will, if passed, provide the legal foundation to establish a new, world-leading spill preparedness and response regime to address environmental emergencies in B.C. [For more details...](#)

Amendments introduced to support clean LNG development.

Feb 29, 2016—Victoria. Today Environment Minister Mary Polak introduced amendments to the Greenhouse Gas Industrial Reporting and Control Act, giving new regulated operations flexible options for start-up, ensuring B.C.'s LNG is the cleanest in the world. [For more details...](#)

Prescribed burn scheduled in Monck Provincial Park.

Feb 26, 2016—Kamloops. BC Parks is planning to conduct an eight-hectare prescribed burn in Monck Provincial Park, northeast of Merritt, in an effort to restore the area's ecosystem and reduce wildfire risks. [For more details...](#)

B.C. increases investments in forest stewardship

Feb 26, 2016—Vancouver. The new Forest Enhancement Society of B.C., supported by \$85 million in government funding, will focus its efforts on wildfire risk reduction to complement the ministry's existing forest stewardship programs and world-class wildfire suppression capabilities. [For more details...](#)

Province's newest chief forester announced.

Feb 26, 2016—Vancouver. Diane Nicholls becomes the province's newest chief forester, Forests, Lands and Natural Resource Operations Minister Steve Thomson said today. [For more details...](#)

New penalties strengthen compliance and enforcement for mining.

Feb 25, 2016—Victoria. Minister of Energy and Mines Bill Bennett today introduced amendments to the Mines Act that will strengthen government's regulatory oversight of the mining industry and give the ministry additional compliance and enforcement tools. [For more details...](#)

Opinion-Editorial: Continuing to grow B.C.'s agricultural sector.

Feb 22, 2016—Victoria. Day in and day out over 55,000 farmers, ranchers, fishers, and food processors work around the many unique regions in our province to grow, catch, process, and deliver some of the best tasting, highest quality food to British Columbians. [For more details...](#)

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Pacific Institute for Climate Solutions (PICS) news

BC's future Climate Leadership Plan: What YOU can do

Get informed and give your feedback!

This January the B.C. government launched a 60-day consultation period - ending on **March 25th** - on its forthcoming Climate Leadership Plan and is inviting all British Columbians to give their [feedback](#) on the most important actions BC can take to lower our greenhouse gas emissions and take advantage of the low carbon economy of the future.

Join Matt Horne and Jonn Axsen (SFU) by videoconference on **Wednesday, March 16, 2016, 11:30 am—12:30 pm** in **Room 5-405** for an overview of the Climate Leadership team recommendations and their insights on what it is needed to make this plan effective. Matt Horne will highlight the Climate leadership team's 32 recommendations, and talk about the ongoing consultation process and the opportunity for BC residents to engage in the process. Jonn Axsen will talk on the possibility of a Zero Emission Vehicle (ZEV) mandate and how it could help make BC's climate plan stronger. Then will be your turn to ask questions and share your thoughts on the most relevant actions you think BC needs to take.

TRAVEL & CONFERENCES



A couple more great photos from **Dr Roy Rea**. These ones of a boreal owl seen in February, near Vanderhoof, BC.



Spring Field School Announcement



The Biology Field School (BIOL 333-3) will be offered on B.C.'s North Coast this spring, from April 25th to May 6th.

As a complement to recent versions of this course that focused on tropical rain forest ecology in trips to Panama, the 2016 course will address temperate rain forest ecology here in British Columbia.

We will be based in the village of Oona River on Porcher Island, reachable by boat from Prince Rupert. The course will provide an immersive experience in the ecology, dynamics, and management of North American coastal rain forests. Exercises will include sampling for forest composition, structure and history. Students will be introduced to interactions between plants and animals and between forested, aquatic and marine environments. Each student will undertake a small independent research project.

This course will be of interest to students in Forestry, Wildlife & Fisheries, Biology, Outdoor Recreation, Environmental Studies, and Geography. As a pre-requisite for enrollment, students must have taken a university-level course in ecology, such as UNBC's BIOL 104 or BIOL 110/111, though BIOL 201 is preferred. Interested students should contact the instructor, Dr. Phil Burton – phil.burton@unbc.ca, 250-615-3333 -- for a course outline, additional instructions and pre-reading assignments as soon as possible. Registration is limited to 18 students.



With assistance from UNBC's Undergraduate Experiential Learning Fund, the Terrace Community Forest, and McElhanney Consulting Services Ltd., and in partnership with the Oona River Resources Association, we can deliver this course with an additional course fee of only \$400 per student (to be confirmed). This fee includes accommodation and meals for all 11 days, as well as boat transportation and miscellaneous supplies.

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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.

Application deadline for the 2016/17 academic year: August 1, 2016

COLLOQUIUM ARCHIVE

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

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