



# NRESi WEEKLY NEWS

## March 3-7, 2014

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

### NRESi NOTES

### FROM THE DIRECTOR & RESEARCH MANAGER

Hello everyone,

As I write my first message for the NRESi newsletter, it's hard to believe I joined your group just a little over three weeks ago! I have learned so much in a short time, including: NRESi is made up of a great group of people, committed to what they do, and willing to support each other; a lot of really interesting work has and continues to take place among the membership, as well as some exciting ongoing NRESi initiatives; and, that there is a huge amount of potential and opportunities for the Institute, its members, and the broader community to explore. I am excited to work with you all as we look to the future together!

Each week, Bill and I will be drawing your attention to some key items of note and/or introducing a topic of interest for the group to consider and discuss. I will get us started this week, with some NRESi activity highlights:

- We are inviting **NRESi members to nominate your member peers for the Distinguished Scholar and Lifetime Achievement Awards**. The deadline to send nominations is **Friday, March 21st**. The criteria were circulated to NRESi members on Monday, March 3rd. Successful nominees will be honoured at NRESi's Annual Lecture.
- The **Peace Fish & Wildlife Compensation Program Special Lecture** will be held on Friday, March 28th during the Colloquium at 3:30pm in 8-166. This year, we will be learning about how the freshwater environment affects seawater performance of salmon from Steve McCormick, based out of the USGS Conte Anadromous Fish Research Center. See below for more information.
- **NRESi's Annual Lecture** is quickly approaching on Thursday, April 3rd at 7pm in the Canfor Theatre. This year, we are welcoming Al Gorley, President of Triangle Resources and Former Chair of the B.C. Forest Practices Board. He will be discussing possible options for area-based tenure and forest management in the province. Al will also be presenting at NRESi's Colloquium the following day, looking at the value in having natural resource sector 'watchdogs' similar to that of the forest sector. More information is included below. We hope you will mark your calendars to join us!
- I am working with the Steering Committee to develop a submission to **UNBC's 25th Anniversary Call for Proposals**, to honour and celebrate NRESi's past and look to its future. Stay tuned for updates!

See you at the Colloquium!

Leanne Elliott  
NRESi Research Manager

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**PLEASE EMAIL ALL INFORMATION AND MATERIAL TO: [leanne.elliott@unbc.ca](mailto:leanne.elliott@unbc.ca)**

**We're on the web at : [www.unbc.ca/nres-institute/newsletter](http://www.unbc.ca/nres-institute/newsletter)**



## COMING EVENTS

## NRESI RESEARCH COLLOQUIUM SERIES

### Dr. Nikolaus Gantner

Ecosystem Science and Management , University of Northern British Columbia

#### Using Stable Isotopes in Ecotoxicology: Lessons learned from Canadian Arctic lakes and considerations for Northern BC's aquatic ecosystems



Ecotoxicology is a highly interdisciplinary science that integrates knowledge basis of toxicology, ecology, and chemistry et al. to address complex environmental challenges related to contaminants and their effects on organisms, including humans. I will touch on principles fundamental to the discipline and give global, national, and regional examples of our every-day 'exposure' to ecotoxicology. During the Colloquium, I will convey selected advanced concepts such as 'bioaccumulation' and 'biomagnification' through examples from collaborative research on spatial and temporal trends of mercury in Arctic Char (*Salvelinus alpinus*) in Nunavut and ongoing research on the mercury transfer in aquatic food webs near the coastal community of Tuktoyaktuk, Northwest Territories. Finally, I will present a synthesis of how these approaches of addressing environmental challenges could be applied in Northern BC, using examples such as the Tohoku-Earthquake and Tsunami in Japan in March 2011, as well as proposed resource extraction projects, from the perspective of an ecotoxicologist.

**Friday, MARCH 7, 2014**

**3:30 pm - 4:30 pm**

**Room: 8-166**

## COMING EVENTS

## NRESI RESEARCH COLLOQUIUM SERIES

### Dr. Ignacio Barbeito

Mixedwood Ecology Chair Candidate

We will be welcoming Ignacio Barbeito, candidate for the UNBC Mixedwood Ecology Chair, to present during NRESI's weekly Colloquium. His talk is titled, 'From pattern to process to management: understanding species interactions in the face of global change'. Please watch for more details next week.

**Friday, MARCH 14, 2014**

**3:30 pm - 4:30 pm**

**Room: 8-166**

## COMING EVENTS

## NRESI ANNUAL PWFCP LECTURE

Peace Fish and Wildlife  
Compensation Program Presents:



**Dr. Stephen McCormick**  
USGS, Conte Anadromous Fish Research Center  
Turners Falls, MA

#### Taking it With You When You Go: How the Freshwater Environment Affects Seawater Performance of Salmon



Juvenile undergo morphological, physiological and behavioral changes that are preparatory and adaptive for seawater entry and are collectively known as the parr-smolt transformation. Smolt development is regulated by environmental factors such as photoperiod and temperature and mediated by the neuroendocrine system. A variety of anthropogenic factors can influence smolt development and affect marine survival. Hatchery rearing can affect the size of smolts and the extent and timing of smolt development. Smolt development is reversible, and the period of peak physiological preparedness in salmon smolts is limited by time and temperature. By influencing temperature and the duration of the migratory period, climate change and dams will have negative effects on smolt survival beyond direct lethal impacts. Contaminants acting on developmental physiology or underlying endocrine control mechanisms can also reduce marine survival. Exposure to estrogenic compounds prior to or during smolt development can reduce seawater tolerance and preference. Acid and aluminum exposure can reverse the development of seawater tolerance and reduce adult return rates. These studies indicate that environmental conditions in freshwater can affect physiological development, estuarine and ocean behavior, early seawater survival, and long-term seawater growth and homing, thus having influences on adult returns and long-term population sustainability of salmon.

**Friday, MARCH 28, 2014**

**3:30 pm - 4:30 pm**

**Room 8-166**

**RECEPTION TO FOLLOW**

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## COMING EVENTS

## NRESI ANNUAL LECTURE



**Al Gorley**  
President, Triangle Resources Inc.  
& Former Chair, B.C. Forest  
Practices Board



### Area Based Tenure: If Not TFLs, Then What?

After 100 years of debate, distraction, and disagreement, it's time for a new look at management in BC's forests

In 2013, the British Columbia government introduced legislation to allow conversion of forest licences to tree farm licences. The proposal sparked a negative reaction in the public and the legislation was subsequently withdrawn. This is just the latest episode in a long-standing disagreement about the extent to which public forests should be managed by private companies.

The presentation explores why the province seems to be at an impasse on: forest tenure policy; the potential consequences of inaction; and, the options for change. The presenter proposes development of a new form of forest stewardship agreement that would allow the province to assign rights and delegate responsibilities in a manner that better meets the public's long term sustainability objectives.

**THURSDAY, APRIL 3, 2014**

**7:00 pm - 8:00 pm** Canfor Theatre

**RECEPTION TO FOLLOW**

## COMING EVENTS

## NRESI RESEARCH COLLOQUIUM SERIES



**Al Gorley**  
President, Triangle Resources Inc. &  
Former Chair, B.C. Forest  
Practices Board



### Why Have a One-Eyed Watchdog?

How independent oversight can improve industries' social licence

Social licence is a term used to describe the general approval society gives to industries operating on public lands. The extent to which it exists depends upon the public's confidence that industries will follow rules, act responsibly, and generate more public benefit than harm.

British Columbia's Forest Practices Board has been reporting publically on companies' compliance with forest practices laws and on government enforcement for nearly two decades. The board's work has helped to maintain public acceptance and marketplace assurance for the forest industry. However, there is no similar independent watchdog for other industries operating on public land. The presenter suggests it may be time for this type of oversight to be applied to all resource sectors.

**Friday, APRIL 4, 2014**

**3:30 pm - 4:30 pm**

**Room: 8-166**

## OTHER EVENTS ON CAMPUS

**GLOBAL FRIDAYS**  
ROOM 5-183  
12:00 - 1:30 pm

### "Keynes Resurrected? Saving Civilization Again and Again"

**Dr. Geoff Mann, Simon Fraser University**  
**March 14, 2014**

All Global Friday presentations will be available to remote participants on Elluminate at:  
<http://bit.ly/unbc-globalfriday>

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## TRAVEL / CONFERENCES / RESEARCH

In January 2014, **Allan Costello** attended the 67th Canadian Conference for Fisheries Research in Yellowknife, NWT where he presented on research he is conducting in Kitimat, BC. The title of his talk was "Kitimat: The town that industry built and is still building... but is there room for trout?"

**Ken Otter, Isobel Hartley (Research Associate) and Marc d'Entremont (NRES PhD Candidate)** travelled to Vancouver 26 Feb 2014 to present a workshop for 18 industry and government biologists on avian-tracking radar systems and data processing. This was the terminal workshop on methodology associated with wind farm and avian research conducted in Ken Otter's lab, supported under NSERC SPG and CRD Grants.

## MEMBERS IN THE NEWS

**Philippe Henry's** research and upcoming BBC documentary was recently covered in a Prince George Citizen article ([http://web.unbc.ca/~henryp/Outreach\\_and\\_media.html](http://web.unbc.ca/~henryp/Outreach_and_media.html)) and also watch for an article in an upcoming issue of British Columbia Magazine (<http://bcmag.ca/>).

## ANNOUNCEMENTS

**Catherine Nolin** is now a full research member of the Centre for Indigenous Conservation and Development Alternatives (CICADA) at McGill University.

## PUBLICATIONS

Batho, A. and **García, O.** "A site index model for lodgepole pine in British Columbia". *Forest Science* (in print, published online December 2013).

Berg, B., B. Erhagen, M.-B. Johansson, L. Vesterdal, M. Faituri, **P. Sanborn**, and M. Nilsson. 2013. Manganese dynamics in decomposing needle and leaf litter — a synthesis. *Canadian Journal of Forest Research*, 43(12): 1127-1136.

Cherry, J. E., **Déry, S. J.**, Cheng, Y., Stieglitz, M., Jacobs, A. S., and Pan, F.-F., 2014: Chapter 2: Climate and hydrometeorology of the Toolik Lake Region and the Kuparuk River Basin: Past, Present and Future, in Hobbie, J. E. and Kling, G. W. (ed.), *Alaska's Changing Arctic: Ecological Consequences for Tundra, Streams, and Lakes*, Oxford University Press, 21-60.

Ehlers, LW, **CJ Johnson**, DR Seip. 2014. Movement ecology of wolves across an industrial landscape supporting threatened populations of woodland caribou. *Landscape Ecology* 29:451-465

**García, O.** "Forest Stands as Dynamical Systems: An Introduction". *Modern Applied Science* 7(5), 32-38. 2013. doi: 10.5539/mas.v7n5p32.

**Henry, P.** and Russello, M. A. (2013), Adaptive divergence along environmental gradients in a climate-change-sensitive mammal. *Ecology and Evolution*. 3(11): 3906–3917 doi: 10.1002/ece3.776 (<http://onlinelibrary.wiley.com/doi/10.1002/ece3.776/full>)

Kang, D.-K., Barros, A., and **Déry, S. J.**, 2014: Evaluating passive microwave radiometry for the dynamical transition from dry to wet snowpacks, *IEEE Trans. Geosci. Remote Sens.*, 52(1), 3-15.

Koiter, A.J., Lobb, D.A., **Owens, P.N.**, Petticrew, E.L., Tiessen, K.H.D, Li, S. (2013). Investigating the role of connectivity and scale in assessing the sources of sediment in an agricultural watershed in the Canadian prairies using sediment source fingerprinting. *Journal of Soils and Sediments*, 13, 1676-1691.

Koiter, A.J., **Owens, P.N.**, Petticrew, E.L. and Lobb, D.A. (2013). The behavioural characteristics of sediment properties and their implications for sediment fingerprinting as an approach for identifying sediment sources in river basins. *Earth-Science Reviews*, 125, 24-42.

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## **PUBLICATIONS** (cont'd)

**LaPlante, JP\* and Catherine Nolin** (2014, Early Online) Consultas and socially responsible investing in Guatemala: A case study examining Maya perspectives on the Indigenous right to free, prior and informed consent. *Society & Natural Resources: An International Journal*. DOI: <http://dx.doi.org/10.1080/08941920.2013.861554>

\* JP Laplante is a graduate student in the NRES (Geography) program and is also the Mining, Oil and Gas Manager with the Tsilhqot'in National Government.

Lesemann, J.-E., T. A. Brennand, O. B. Lian, and **P. Sanborn**. 2013. A refined understanding of the paleoenvironmental history recorded at the Okanagan Centre section, an MIS 4 stratotype, south-central British Columbia, Canada. *Journal of Quaternary Science* 28 (8): 729–747.

**Owens, P.N.**, Giles, T.R., Petticrew, E.L., Leggat, M., Moore, R.D., and Eaton, B.C. (2013). Muted responses of streamflow and suspended sediment flux in a wildfire-affected watershed. *Geomorphology*, 202, 128-139.

Roed, M. A., R. W. Barendregt, J. A. Benowitz, C.A.S. Smith, **P.T. Sanborn**, J. D. Greenough, C. Huscroft, P. W. Layer, R. W. Mathewes, and D. Tessleri. 2014. Evidence for an Early Pleistocene glaciation in the Okanagan Valley, southern British Columbia. *Canadian Journal of Earth Sciences* 51(2): 125-141.

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