



## NRES WEEKLY NEWS

February 1 - 5, 2010

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

### COMING EVENTS

### NRESI RESEARCH COLLOQUIUM SERIES

**This Friday**

**Dr. Darwyn Coxson, Ecosystem Science & Mgmt. Program, UNBC**  
**Impacts of Climate Change on Inland Temperate Rainforests in western North America: Snow Forests No More?**



Inland mountain ranges in western North America support a unique wet-temperate rainforest ecosystem on their windward slopes. On first impression these forests, which historically were dominated by old-growth western red-cedar and hemlock, seem closely related to coastal wet-temperate rainforests. Old stands support rich canopy lichen communities, including many taxa from wet maritime forests. In contrast, many of the plants growing on the forest floor are boreal species, consistent with the location of most stands north of 50° latitude, in sites more than 500 km from the ocean. This presents a paradox for the development of this ecosystem. By most measures, the climate of these sites is too dry and continental to support temperate rainforests. One approach for examining this paradox is to look at the distribution of old-growth forest stands against regional climate models and topographic indices. This analysis suggests that the development of inland temperate rainforest ecosystems is closely associated with topographic position. Ecosystem characteristics are best developed in wet “toe-slope” positions at the base of mountain slopes, where summer groundwater flow is sustained by melt from high-elevation snowpack. This forest ecosystem is now threatened at multiple scales. Changes in winter climate are bringing earlier snowmelt, potentially threatening hydrological linkages that sustain this ecosystem. These impacts may be compounded by historical forestry practices and the fragmentation of remaining old forest stands. This raises the spectre that current protected areas may represent ecosystems that can no longer perpetuate themselves, and one-by-one, will be lost, as supporting ecosystem processes are altered.

Jan. 29, 2010

3:30 - 4:30 pm

Lecture Theatre 7-152



**Dr. Mark Shrimpton, Ecosystem Science & Mgmt. Program, UNBC**

**Should I stray or should I go home?**

**Next Friday**

Selection of suitable sites for spawning is critical because the highest rates of mortality in salmonids generally occur during the incubation period and mortality is closely related to features of the spawning/incubation site. For Pacific salmon, the downstream migration to exploit the nutrient rich resources of the ocean favours the development of large body size, but necessitates a return migration and the ability to find suitable habitat for spawning. Our understanding has been that Pacific salmon “home” to the location where they were spawned. There is considerable support for this paradigm as reproductive isolation due to homing behaviour and spawning site fidelity creates genetic divergence and we can identify genetically distinct populations. Recent studies, however, have demonstrated that the proportion of fish that do not return to their natal streams is appreciable and fish may stray long distances to spawn in locations that differ from their parents. A number of factors may contribute to higher rates of long-distance dispersal; availability of new habitat, disturbance, and population size. The use of genetic markers and elemental signatures in bone has provided us with clear evidence that straying from natal streams occurs. Such low levels of gene flow may be particularly important for small populations as they can elevate effective population size and preserve genetic variability. So how do Pacific salmon know where to spawn if they do not go home?

Feb. 5, 2010

3:30 - 4:30 pm

Lecture Theatre 7-152

**Unable to make it in person? Watch the colloquium at your desk!**

For Elluminate information and link to the webcast: [http://www.unbc.ca/nres/nresi\\_webcast.html](http://www.unbc.ca/nres/nresi_webcast.html)

Log in as “Guest”

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**Global Fridays**

**Senate Chambers**

**12:00 - 1:30 pm**  
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**February 5, 2010**

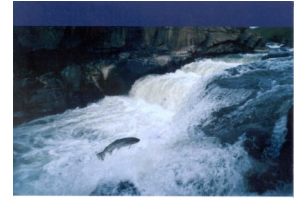
Dr. Benjamin Isset, Dept. of History, University of Victoria

**From Victoria to Vladivostok: Canada's Siberian Expedition, 1917 - 1919**  
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## **PUBLICATIONS**

Campbell, J., Bradfield, G.E., Prescott, C.E., and **A.L. Fredeen** (2010) "The influence of overstorey *Populus* on epiphytic lichens in subboreal spruce forests of British Columbia". *Canadian Journal of Forest Research* 40: 143-154

Pam Tobin and **Neil Hanlon** (2009) *Food Security in the Takla Lake First Nation: Informing Public Health* (Lambert Academic Publishing: Saarbrücken, Germany) 116 pp



Food Security in the Takla  
Lake First Nation  
Informing Public Health

 LAMBERT  
Academic Publishing

## **CALL FOR PAPERS**

**Ron Thring** is the Conference Chair (and **Lito Arocena** and **Jianbing Li** members of the Organizing committee) of the 2nd IASTED International Conference on Environmental Management and Engineering to be held in Banff, AB on July 15 - 17, 2010. Abstract submissions are due 15 February 2010. More information can be found at: <http://www.iasted.org/conferences/home-699.html>.

## **NEWS**

James Adamson (UNBC BSc Geography 2004), is a Chicago-based geologist/geomorphologist who has been working in Haiti doing water exploration work for the past several years. James was in Haiti during the earthquake disaster to drill water wells on La Gonave, and was out on a boat when the quake hit—about 30 miles NW of Port-au-Prince. James worked with Haiti Outreach (<http://www.haitioutreach.org>) to help with relief efforts until his return to Canada January 16th. He was working on drilling water wells for new communities being set-up outside of Port-au-Prince for displaced Haitians.

Danielle Smyth, recent MNRES graduate of UNBC (Nov. 2009), is UNBC's first *Research Project Manager - Green University*. Within days of her hire she was busy planning UNBC's third annual "Green Day" held on January 14th, and will be coordinating future Green University Planning Committee meetings and activities on campus. Her office is off of the Agora in a space which will soon become the new "green corner" on campus. Welcome Danielle!

## **TRAVEL / CONFERENCES**

On 1 February, **Brian Menounos** will be travelling to Golden, BC to talk about past, present, and future of glaciers in the Columbia Basin. The evening presentation to the public is hosted by the Columbia Basin Trust.

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

**REMINDER:** Share your information about recent publications, grants, and/or other honours you may have received with others interested in NRES issues.

**PLEASE EMAIL ALL INFORMATION AND MATERIAL TO MICHELLE KEEN: [keenm@unbc.ca](mailto:keenm@unbc.ca)**