



NRESi WEEKLY NEWS

March 24-28, 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,

NRESi has a busy few weeks ahead and we hope that you'll be able to join us for some or all of the upcoming events:

1. **Friday, March 28th**, is the Peace Fish & Wildlife Compensation Program (PFWCP) Special Lecture with Dr. Steve McComick. Please join us from 3:30pm-4:30pm in the Weldwood Theatre (7-238) to hear Steve's talk titled: Take it With You When You Go: How the Freshwater Environment Affects Seawater Performance of Salmon. A reception will follow the presentation in the Doug Little Lounge. We will also hear from Dan Bouillon about the PFWCP.
2. **Thursday, April 3rd** is NRESi's Annual Lecture. This year Al Gorley will be presenting on: Area Based Tenure: If Not TFLs, Then What? The presentation will be from 7pm-8pm in the Canfor Theatre, with a reception to follow. Please plan to attend what promises to be an interesting lecture.
3. **Friday, April 4th**, Al Gorley will also be presenting during NRESi's weekly colloquium series. His talk is titled: Why Have a One-Eyed Watchdog? This will be held at the regular time and location – 3:30pm-4:30pm in 8-166.
4. **Tuesday, April 8th** is the undergraduate thesis presentation day. This will be held in the Bentley Centre in the morning (time to be determined). Please mark your calendars to join us.

All of the lectures will be broadcasted live (http://www.unbc.ca/nres/nresi_webcast.html), as well as posted to NRESi's archive website in the coming weeks (<http://www.unbc.ca/nres-institute/colloquium-series/archived-colloquium-series>).

There are still opportunities to meet with Al Gorley the afternoon of Friday, April 4th. The sign-up sheet is on Brenda Janzen's desk.

NRESi's Steering Committee has been considering a *PICS-UNBC Tri-Institute Collaboration: UNBC Hub for Environmental, Community & Health Impacts*. The proposal describes an opportunity to: leverage momentum, experience, and geographic location; benefit from UNBC's research institutes; and, to create a coordinating hub. This will address (i) impacts on communities: balancing the benefits, impacts, and costs, (ii) natural gas royalty structure, and, (iii) cumulative environmental, social, and health impacts. There is a recognized need and urgency to raise the visibility, awareness, and profile of these issues, using a hub as the focal point, and engaging diverse stakeholders. The Steering Committee has agreed to move forward on the proposal and follow-up on next steps. Stay tuned!

See you at the PFWCP and Annual Lectures!

Leanne Elliott
NRESi Research Manager

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

PLEASE EMAIL ALL INFORMATION AND MATERIAL TO: leanne.elliott@unbc.ca

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



COMING EVENTS

NRESI ANNUAL PFWCP 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.

NOTE ROOM CHANGE: Weldwood Theatre (7-238)

Friday, MARCH 28, 2014

3:30 pm - 4:30 pm

RECEPTION TO FOLLOW

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

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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

COMING EVENTS

NRESI RESEARCH COLLOQUIUM SERIES

Dr. Michael Russello
Associate Professor,
The University of British Columbia, Okanagan campus



Designing Units of Conservation: Persistent Challenges and Emerging Opportunities

Conservation biology emerged as a crisis discipline, with the goal of applying best available science towards stemming the rate of biodiversity loss. As the resources available for protection do not match the scope of the threats, significant efforts have been directed towards developing a framework for identifying and prioritizing "units of conservation". In some cases, conservation units have been synonymized with various species concepts [e.g. phylogenetic species concept (PSC)]; in other cases, they have been based on recognizing intra-specific variation (e.g. evolutionarily significant units) or other considerations (e.g. designatable units). After over two decades, no consensus has emerged. Therein, the authors advocated an approach to conservation unit delimitation based upon the differential fitness species concept (DFSC) a broader version of the biological species concept that requires "substantial" pre-/post-zygotic reproduction isolation. They further concluded that the PSC is unsuitable in a conservation context due to various concerns related to "excessive splitting". Here, I contend that the criticisms of the PSC are based more on its misapplication than conceptual underpinnings. I further discuss how the approach they recommended lacks the operationalism required for effective biodiversity conservation. Moreover, I argue that the PSC, when soundly applied, provides the optimal balance of theoretical consistency and operationalism of all existing concepts. Lastly, I discuss efforts to integrate adaptive genetic variation into conservation prioritization, and the need for a new framework to inform effective management strategies.

Friday, APRIL 11, 2014

3:30 pm - 4:30 pm

Room: 8-166

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TRAVEL / CONFERENCES

Paul Sanborn is on the organizing committee for the annual BC Soil Science Workshop, to be held March 29th at UBC Vancouver. The workshop will be taking a retrospective look at some of the achievements of soil science in BC, such as the Agricultural Land Reserve (ALR). **David Connell** will be giving an invited presentation on the history and significance of the ALR.

Lisa Poirier will be attending the Thelma Finlayson Biodiversity Symposium at Simon Fraser University, March 25, 2014. Professor Emerita Finlayson, an eminent entomologist and taxonomist, will celebrate her 100th birthday this year. She has mentored hundreds of students over her career.

Mark Shrimpton will be attending and presenting at the 11th International Congress on the Biology of Fish in Edinburgh, Scotland, taking place August 3-7, 2014. The title of his presentation will be: Stability of Salmonid Incubation Environments During Winter in Snow-Dominated Interior Watersheds. Authors for this work are: J. Mark Shrimpton, Cory J. Williamson, Crystal J. McRae, Kyla D. Warren, and J. Ted Zimmerman. Cory, Crystal, and Kyla are three of Mark's former graduate students from UNBC. Mark will also assume the role of President of the American Fisheries Society Physiology Section at the meeting in Edinburgh.

PUBLICATIONS

Schiefer, E., **Petticrew, E.L.**, Immell, R., Hassan, M.A, and Sonderegger, D.L. (2014). Land use and climate change impacts on lake sedimentation rates in western Canada. Anthropocene doi.org/10.1016/j.ancene.2014.02.006

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