

2012-2013 Annual Report of the Natural Resources and Environmental
Studies Institute
24 June 2013

Overview of NRES Institute

The Natural Resources and Environmental Studies Institute (NRESi) is a formal association of UNBC faculty and affiliates that promotes integrative research to address natural resource systems and human uses of the environment, including issues pertinent to northern regions. Founded on and governed by the strengths of its members, the NRES Institute creates collaborative opportunities for researchers to work on complex problems and disseminate results. The NRES Institute serves to extend assistance among researchers, resource managers, representatives of governments and industry, communities, and First Nations. These alliances are necessary to integrate research into management, and to keep research relevant and applicable to problems that require innovative solutions.

Our Mission

The purpose of the NRESi is to facilitate innovative and interdisciplinary research on issues relating to natural resources and the environment. Given that natural resources are the foundations of the economy of many communities in northern BC and other northern regions, and that the environment is increasingly subject to anthropogenic changes, it is important to direct efforts towards understanding these complex relationships to ensure environmental, social and economic sustainability. Therefore, the primary goal of NRESi is to integrate across perspectives to better understand the functions, viability, and uses of natural resource and

excelled at delivering core services 1 through 3, the 4th core service (expanding research opportunities) where NRESi has enormous potential to enhance research activities at UNBC.

Activities to Support the NRESi Core Services

Several activities that could better support the Institute's core services were outlined in the 2012 5-year Strategic Plan for the Institute:

1. Work with the Office of Research and with Graduate Programs to coordinate the logistics for post-graduate internship positions as part of bridging students from the University into their area of practice.
2. Advance forward-looking research initiatives at UNBC by hosting visionary conferences on emerging topics (e.g., cumulative effects). These events would be held jointly with other UNBC Institutes to showcase extant expertise.
3. Support the research agenda of UNBC Institutes by providing logistical support for major collaborative research grant proposals (both proactive and reactive).
4. Write policy briefs from completed Institute research.
5. Be an advocate for UNBC's research findings helping to shape the future. This would be facilitated by maintaining links to the provincial and federal governments (at the levels of elected members and staff).
6. Coordinate logistics for Institute Post-doctoral visiting fellow positions. This can include work on creating a funding allocation to support such positions.
7. Work with the Development Office to develop additional support for NRESi members and their graduate students.

As described below progress was made on several of these activities during the reporting period (i.e., items 2 [Peace Break workshop and tri-in

Table 1. Steering Committee membership during FY 2012-2016. † indicates a Steering Committee member whose term was renewed by acclamation during the reporting period.

Name	Role	Term
Michael Gillingham	Director	1 July 2008 – 30 June 2011; renewed 1 July 2011 – 30 June 2013
Peter Jackson†	Elected Member	1 July 2013 – 30 June 2015
Art Fredeen†	Elected Member	1 January 2013 – 31 December 2014
Phil Mullins	Elected Member	1 July 2012 – 30 June 2014

Name	Membership	Name	Membership
Heard, Doug ^R	March 7, 2010	Owens, Philip	Full
Helle, Steve	Full	Parker, Katherine	Full
Henry, Philippe ^N	October 31, 2012	Petticrew, Ellen	Full
Huber, Dezene	Full	Procter, Dennis	Full
Hume, Harold	March 21, 2010	Psyllakis, Jennifer	March 1, 2011
Jackson, Peter	Full	Rea, Roy	Full
Johnson, Chris	Full	Rutherford, Mike	Full
Karjala, Melanie ^R	April 22, 2013	Ryan, Dan	Full
Lautensach, Alex ^N	Full	Sambaraju, Kishan	November 19, 2011
Lavallee, Loraine	Full	Sanborn, Paul	Full
Lewis, Kathy	Full	Shrimpton, Mark	Full
Li, Jianbing (Jason)	Full	Shultis, John	Full
Lindgren, Staffan	Full	Stevenson, Susan ^R	April 12, 2012
Maher, Patrick	Full	Sui, Jueyi	Full
Massicotte, Hugues	Full	Summerville, Tracy	Full
McGill, Bill	Full	Tang, Youmin	Full
Meletis, Zoe	Full	Thring, Ron	Full
Menounos, Brian	Full	Wheate, Roger	Full
Mullins, Philip	Full	Whitcombe, Todd	Full
Murray, Brent	Full	Wilkening, Ken	Full
Nolin, Catherine	Full	Wilkerson, Orland	Full
Opio, Chris	Full	Wright, Pam	Full
Otter, Ken	Full	Young, Jane	Full

Report on Activities for 2011-2012

General Activities

There are currently 70 members of NRESi made up of 58 Full members (not counting one Life-Time member) and 12 Associate members. Membership activity in 2011-2012 consisted of a loss of 4 Associate Members and the addition of two new Full members. The memberships of 6 Associate members were renewed for new 3-year terms.

In 2011-2012 the Institute's Steering Committee undertook a Strategic Planning process in order to identify the Institute's long-term requirements and identify a sustainable model for the resourcing of NRESi. The 5-year plan was approved by the Steering Committee on March 26, 2012 and early in 2012-2013 the Director began meeting with members of UNBC Administration to work towards obtaining the bridge funding needed by NRESi. President Iwama generously offered to meet those short-term needs (i.e., teaching relief for the director and administrative support) for five years. With a significant increase in overhead funds for NRESi, the Director has indicated that the promised funds from Dr. Iwama for at least 2013-2014 will not be needed.

The Institute hosted 23 colloquia as part of the weekly NRESi Colloquium Series (past abstracts available <http://unbc.ca/nres-institute/colloquium-series>). Travel costs for one of the Colloquia speakers were shared by the Institute. Talks in the series also included the Annual NRES Grad Icebreaker lecture by the 2012 Doug Little Speaker (Dr. Fred Bunnell), the Peace Williston Compensation Fund lecture, as well as a

Colloquium that also served as the start of a 1 ½-day workshop on connectivity and cumulative effects co-hosted with the Yukon to Yukon Conservation Initiative.

The 'virtual' audience attending the Ellumtaa broadcast versions of the Colloquia continued to grow. Weekly on-line attendance averaged about 10% of the in-room audience.

The 8th Annual NRES Graduate Fall Reception Social was held in October 2012 to showcase the work of NRES Graduate Students and to welcome new graduate students to the program. We continued the model of offering this event with a presentation by a speaker nominated by the NRES Graduate Students – Dr. David Schindler from University of Alberta was the speaker in 2012.

With the significant changes to the BC Hydro Peace Wildlife and Fish Compensation Program, program staff were no longer able to organize the annual Peace Williston lecture. Instead the NRESi Director worked with BC Hydro to arrange a gift from BC Hydro to fund this event in 2012-2013. Dick Cunjak was the speaker. NRESi will continue to work with BC Hydro to ensure that this event can continue in future years.

With the financial support of Spectra Energy, NRESi and the Community Development Institute cohosted a panel discussion about sustainability of communities, culture and the environment. The panel featured Wade Davis (National Geographic Society), Paul Michel (Director UNBC First Nations Centre), and Gerry Thiessen (Mayor of Vanderhoof). Rather than trying to examine cumulative effects per se, we focused on a conversation about the relationship between people/communities and the natural landscape by asking "what do we wish from the relationship between our communities and the natural landscape both now and in the future?".

NRESi did not host an Annual Lecture during winter 2013. The speaker for the 2012 Annual Lecture (who cancelled at the last minute in 2012) took several months before informing NRESi that he would not be able to come in 2013. The Steering Committee then began discussions with another speaker who also cancelled at the last minute before the lecture scheduled for April 2013.

There was one NRESi Research Extension Note (REN) published during FY 2012-13. This REN entitled "Foliar nutrient concentrations and potential limitations of white spruce *Picea glauca* (Moench) Voss) in Yukon, Canada" by Alyson Watt, Art Fredeen, and Paul Sanborn was awarded the prize for NRES student-submitted Research Extension Note. Papers in the peer-reviewed Research Extension Notes Series are available in PDF format from <http://unbc.ca/nres-institute/research-extension-note-series>

There were no NRESi Occasional Papers published during FY 2012-13. Papers in the peer-reviewed Occasional Papers Series are available in PDF format from <http://unbc.ca/nres-institute/occasional-paper-series>

During this reporting period, the NRESi continued to support and promote undergraduate thesis (NRES 430) presentations within the College of Science and Management. This year, with the partial financial support of the College of Science and Management, the Ecosystem Science and Management Program, and the Chemistry Environmental Science and Engineering Program, NRESi organized and hosted a College-wide presentation of

all undergraduate theses and projects. The long event featured 26 presentations and was a great success.

The Director and members of the Steering Committee, assisted by a research associate hired to lead the effort, invested consider

Since then, UNBC has signed two agreements with PTPLP. The first was to develop peer-reviewed protocols to implement as part of BMAP. Those protocols were all finalized as of 15 June 2013. UNBC has since signed a second agreement with PTPLP to begin implementing research on the following NRESi projects:

Aquatic Communities Protocol – Evaluations of stream crossing from pipeline installation on aquatic communities and biodiversity

Tailed frogs: A Model for Understanding Connectivity within Aquatic, Riparian and Terrestrial Ecosystems Protocol

Soil Integrity and Revegetation Protocol

Anadromous Movement and Estuarine Habitat Use of Coastal Cutthroat Trout (*Oncorhynchus clarkii clarkii*) in the Bish Creek Near-Shore and Marine Environments

Restoration Protocol: Management to Increase Animal Movement Corridors and Decrease Invasive Vertebrate Species

Cumulative Effects

Beginning in February the NRESi and CDI assisted an internal UNBC process for identifying potential projects that could be supported with short-term monies from the BC Oil and Gas Commission (OGC). One of the outcomes of that process was that funds were allocated to support an initiative jointly involving the NRESi, CDI, and Remote Health Institute (RHI). That initiative is examining possible frameworks for cumulative effects that include not only environmental, but also community and health perspectives. This joint effort is attempting to assemble a series of book chapters that propose potential a potential framework for including the environment, communities, and health into a cumulative effects framework. Several Institute members are becoming involved in this work and it may well lead to additional funding to further explore some of the concepts that come out of the initial work.

Budget Report

Total revenues for FY 2011-2012 came from overhead (Institute projects) and overhead redirection (member projects), residual funds from the Northern Land Use Institute (\$34,3368), a gift from BC Hydro and the Peace Wildlife and Scientific Compensation fund to continue a lecture series (\$4500), and from the President's Initiative Fund (\$53,500). Overhead and overhead redirection from the Office of the Vice-President Research and major overhead redirection from the Ecosystem Science and Management program (A. Booth, A. Costello, D. Coxson, R. Dawson, A. Fredeen, M. Gillingham, S. Green, Johnson, B. Murray, C. Opio, K. Otter, K. Parker, and R. Rea), Geography Program (B. Meos), and from the Environmental Science Program (M. Rutherford) totaled \$19,390.86. Overhead contributions to NRESi were assisted by the Institute's ability to now split overhead revenues with the Office of Research on Institute projects, and by the additional checkbox for overhead redirection on the Grant/Contract Approval Cover Page.

Total expenditures (\$42,470.98) included the teaching relief to the Director, sponsorship of the NRESi Colloquium series, advertising, support for the Fall Grad Ice Baker, support for the NRES 430 Undergraduate Thesis presentations, co-hosting of Yukon-to-Yellowstone Peace Break Workshop, office costs, and the partial support of the other special events. Our year-end

closing balance was \$132,784.60 (Table 3; Figure 1).

Table 3. Brief budget summary for the NRES operating budget (30181) in FY 2011-2012.

Opening Balance (April 2012)	\$66,528.00
Total Revenues (FY 12-13)	\$111,727.58
Total Expenditures	\$42,470.98
Year End Balance	\$132,784.60

The Institute has three additional endowments. The main endowment (70105) is the Northwood/Canfor endowment. This endowment gained approximately \$9000 in value during 2012-2013. Because we were unable to schedule the 2013 NRESi Annual Lecture, the only expenditures were the purchase of the NRESi for the graduates of the NRES Graduate Program. The NRESi Endowment (46055) has a FY 2011-2012 year-end balance of \$5583 (a gain of approximately \$800 as a result of an additional donation by Art Fredeen). In addition, the Linnea Fund (34164), which is also administered by NRESi, remained with a balance of \$4,350. The Linnea Fund permits the spending of the principal while the NRESi Endowment is a traditional endowment fund in which only interest can be used.

Plans for 2013-2014

With the increased funding that NRESi will enjoy for at least the next couple of years, it now has the resources to move past 'maintenance' and begin to proactively explore opportunities for support for both additional research collaborations and also for the atsourceb .2096 45 0 E4a96 45op2096

