

**2011-2012 Annual Report of the Natural Resources and Environmental  
Studies Institute  
31 March 2012**

**Overview of NRES Institute**

*OUR PURPOSE*

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 interrelationships to ensure the sustainability of resources. Therefore, the primary goal of NRESi is to integrate across perspectives to better understand the functions, viability, and values of natural resource and environmental systems. Helping communities affect their futures and challenging researchers to contribute to innovation through research are the consequences of this goal. NRESi fosters communication and interaction among faculty, graduate students, and associated researchers (e.g., those working at the UNBC research forests, the Quesnel River Research Centre, and the Canadian Forest Service at UNBC); it also promotes connections among local communities, management agencies, and research professionals from industry and government.

*WHAT WE DO*

By enabling communication among researchers and potential external partners, the NRESi provides a conduit for basic and applied research opportunities from outside of the University, as well as a means to synthesize research findings for dissemination beyond academia. In addition, we create an important bridge to the NRES Graduate Programs by providing graduate students with opportunities to interact with researchers and to showcase their own research activities. Synthesis and extension is encouraged through the peer-reviewed NRESi Extension Note and NRESi Occasional Paper Series.

*LONG-TERM VISION*

We envision the NRESi continuing to develop as a recognized leader in environmentally focused research and as an identifiable unit to which communities, industry, and government can turn for help with research questions and assessments of research needs.

**GOVERNANCE**

The NRESi is overseen by a Director. The Director works closely with an internal Steering Committee (all elected to 2-year terms by the membership of the Institute), who reflect the perspectives of the members of the Institute and ensure that it functions in accordance with its vision statement and purpose. Members of the Steering Committee that served partial or full terms during FY 2011-2012 are listed in Table 1.

**Table 1.** Steering Committee membership during FY 2011-2012. † indicates a current member of the Steering Committee.

<b>Name</b>	<b>Role</b>	<b>Term</b>
Michael Gillingham†	Director	1 July 2008 – 30 June 2011; renewed 1 July 2011 – 30 June 2013
Peter Jackson†	Elected Member	1 July 2011 – 30 June 2013
Art Fredeen†	Elected Member	1 January 2012 – 31 January 2013
Phil Mullins†	Elected Member	1 July 2010 – 30 June 2012
Ken Otter†	NRES Grad Program Chair	No Fixed Term
Kyle Aben†	PICS Representative	No Fixed Term
Kathy Lewis	Elected Member	1 July 2009 – 30 June 2011
Dennis Procter	Elected Member	1 Jan 2010 – 31 Dec 2011

The NRESi Management Committee, which includes the Vice-President Research (Dr. Gail Fondahl), an NRES Graduate Student (current elected student is Alex Koiter), the Dean of the College of Science and Management (Dr. Dan Ryan), and all members of the NRESi Steering Committee (chaired by the NRESi Director), meets at least once annually to seek input on the performance of the Institute.

## MEMBERSHIP

There are currently 72 members of NRESi (Table 2). A description of each member’s research interests, and links to additional information on each member, can be found on the NRESi web site at [http://www.unbc.ca/nres/institute\\_members.html](http://www.unbc.ca/nres/institute_members.html).

**Table 2.** NRESi members during FY2010-2011. The one new member is marked and <sub>R</sub> indicates a renewal during the year; Associate members are indicated by the start date for their current three-year term.

<b>Name</b>	<b>Membership</b>	<b>Name</b>	<b>Membership</b>
Aben, Kyle	November 20, 2009	Costello, Allan	Full
Alstrom-Rapaport, C.	August 1, 2009	Coxson, Darwyn	Full
Arocena, Lito	Full	Curry, John	Full
Aukema, Brian	August 1, 2010	Dawson, Russ	Full
Booth, Annie	Full	Déry, Stephen	Full
Burton, Philip	Full	Egger, Keith	Full
Connell, David	Full	Erasmus, Daniel	Full

<b>Name</b>	<b>Membership</b>
Fondahl, Gail	Full
Fredeen, Art	Full
Garcia, Oscar	Full
Gillingham, Mike	Full
Green, Scott	Full
Haeussler, Sybille	July 20, 2009
Halseth, Greg	Full
Hanlon, Neil	Full
Hardy, Anne <sup>R</sup>	February 17, 2012
Hartley, Ian	Full
Hawkins, Chris	Full
Hawley, Alex	Lifetime Member
Heard, Doug	March 7, 2010
Helle, Steve	Full
Huber, Dezene	Full
Hume, Harold	March 21, 2010
Jackson, Peter	Full
Johnson, Chris	Full
Karjala, Melanie	November 9, 2009
Kennedy, Nabla	November 20, 2009
Lavallee, Loraine	Full
Lewis, Kathy	Full
Li, Jianbing (Jason)	Full
Lindgren, Staffan	Full
Maher, Pat	Full
Massicotte, Hugues	Full
McGill, Bill	Full
Menounos, Brian	Full
Mullins, Phil	Full
Murray, Brent	Full

<b>Name</b>	<b>Membership</b>
Nolin, Catherine	Full
Opio, Chris	Full
Otter, Ken	Full
Owens, Philip	Full
Parker, Katherine	Full
Petticrew, Ellen	Full
Procter, Dennis	Full
Psyllakis, Jennifer	March 1, 2011
Rapaport, Eric	January 1, 2009
Rea, Roy	Full
Rutherford, Mike	Full
Ryan, Daniel	Full
Sambaraju, Kishan <sup>R</sup>	October 10, 2008
Sanborn, Paul	Full
Sherry, Erin	September 14, 2009
Shrimpton, Mark	Full
Shultis, John	Full
Steveson, Susan	April 5, 2009
Sui, Jueyi	Full
Summerville, Tracy	Full
Tang, Youmin	Full
Thring, Ron	Full
Wheate, Roger	Full
Whitcombe, Todd	Full
Wilkerson, Orland	Full
Wilkening, Ken	Full
Wright, Pam	Full
Young, Jane	Full

## Report on Activities for 2011-2012

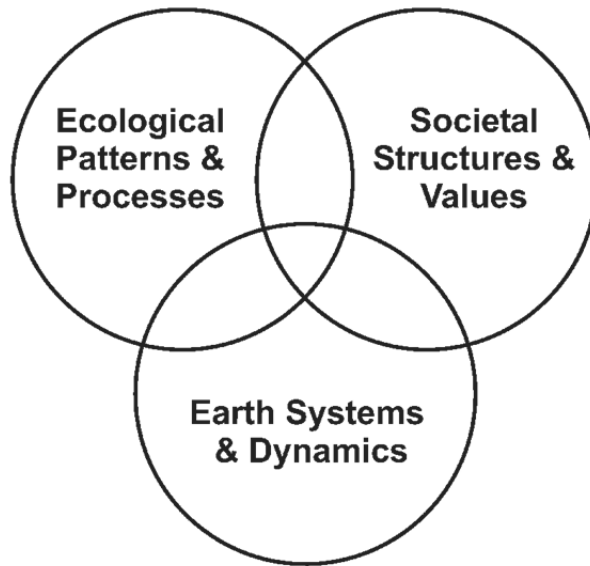
### *General Activities*

- There are currently 72 members of NRESi made up of 58 Full members (inclusive of one Life-Time member) and 14 Associate members. Membership activity in 2011-2012 consisted loss of one Full Member as well as 2 Associate members who were no longer associated with UNBC. The memberships of two Associate members were renewed.
- One of the major initiatives of NRESi during 2011-2012 was to undertake a Strategic Planning process in order to both identify the Institute's longer-term requirements and identify a sustainable model for the resourcing of NRESi. The Strategic Plan, developed by the Director with the support of the Steering Committee, was circulated to the Institute's membership in early March 2012, and was subsequently approved by the Steering Committee on March 26<sup>th</sup>.
- The Institute hosted 21 colloquia as part of the weekly NRESi Colloquium Series (past abstracts available at [www.unbc.ca/nres/seminar/index.html](http://www.unbc.ca/nres/seminar/index.html)). Travel costs for one of the Colloquia speakers was paid for by the Institute as was a special evening screening of Peace Out – a film about the energy industry. The series included the Fish and Wildlife Compensation Fund Annual Lecture.
- The 'virtual' audience attending the Elluminate broadcast versions of the Colloquia continued to grow. Weekly on-line attendance averaged about 10% of the in-room audience and totaled well over 200 viewers for the semester.
- The 7th Annual NRES Graduate Fall Research Social was held on October 28<sup>th</sup> to showcase the work of NRES Graduate Students and to welcome new graduate students to the program. We continued the model of pairing this event with a presentation by a speaker nominated by the NRES Graduate Students – Dr. Morgan Hocking from Simon Fraser University.
- NRESi did not host an Annual Lecture during winter 2012 (the April 2011 presentation was delayed from Winter 2011). A speaker for the 2012 Annual Lecture was identified and had agreed to a February date, but was then unable to come to UNBC because of additional commitments. We will be scheduling the same speaker in during the 2012-2013 year.
- NRESi cohosted a special evening event that showcased the issues and challenges facing the Muskwa-Keckika Management Area Board (co-hosted by the MKMA Board). This had over 100 attendees including 14 Institute members.
- There were no NRESi Occasional Papers published during FY 2011-12. Papers in the peer-reviewed Occasional Papers Series are available in PDF format from [www.unbc.ca/nres/occasional.html](http://www.unbc.ca/nres/occasional.html).
- There were no NRESi Research Extension Notes during FY 2011-12. Despite broad advertising of the prize available for NRES student-submitted Research Extension Notes, there were no submissions. Papers in the peer-reviewed Research Extension Notes Series are available in PDF format from [www.unbc.ca/nres/research\\_extension\\_notes.html](http://www.unbc.ca/nres/research_extension_notes.html).

- Throughout 2011-12, the Institute's Steering Committee and UNBC Pacific Institute for Climate Solutions (PICS) representative, Kyle Aben, worked together to maximize the linkages between PICS and the NRESi. Through Kyle, PICS contributed resources to help NRESi host the 2011 Annual Lecture and the Graduate Student Ice-breaker event in October 2012.
- Throughout 2011-2012, the NRESi and the Community Development Institute (CDI) helped to support the on-campus activities of the Omineca Beetle Action Coalition (OBAC). Support to the form of participating in a number of organizational meetings throughout 2011, hosting a Colloquium in Fall 2011 that introduced some of the initiatives of OBAC to the UNBC community, and sponsoring a brown-bag lunch at which OBAC rolled out a call for targeted research proposals.
- The Directors of the NRESi and CDI have worked together with the VP Research to examine possible joint efficiencies that could be undertaken by the Research Office to help foster the Growth of UNBC Institutes. Although these initiatives were initially undertaken under the auspices of a New North Centre (NNC) model, many of the suggestions can work with or without a formal NNC. Many of these ideas were incorporated into the NRESi Strategic Plan and some of these, such as raising the profile of Institutes by including the Directors in the Deans' and Directors' group, and establishing regular round-table discussions among UNBC Institute Directors and the VP Research, were implemented in 2011-2012.
- During 2011-2012, the NRESi Director was increasingly involved on the Institute's behalf in aspects of the Bioenergy use at UNBC and by March 2012, the Director had been asked to rejoin the UNBC Bioenergy Task Force. The Institute's involvement has always been with an eye to potential research opportunities (mostly related to the sustainability of biomass supply as described in the Research Section of this document). NRESi involvement in the Phase III of UNBC's bioenergy development took the form of input into some of the funding proposals and the creation of a short web-based presentation on issues surrounding the sustainability of biofuel supply.
- In order to expedite the inclusion of NRESi Occasional Papers and Extension Notes in the UNBC Electronic Archives, the Director agreed to serve on the UNBC Electronic Archive Advisory Committee. Once all of the UNBC's graduate theses have been loaded into this system, the NRESi publications will be offered as a first test of non-thesis material for the electronic archive.
- During 2011-2012, NRESi became a partner in Healthy Forests – Healthy Communities Initiative (<http://bcforestconversation.com/>). Healthy Forests-Healthy Communities is a non-partisan, volunteer-supported initiative intended to capture the concerns and recommendations of experts and community members (including practicing forestry and biology professionals, Aboriginals and non-Aboriginals) to enable informed decision-making for forest lands management in British Columbia.
- During this reporting period, the NRESi continued to support and promote undergraduate thesis (NRES 430) presentations within the College of Science and Management. NRESi supports this event to better engage and highlight undergraduate involvement in research at UNBC.

## *RESEARCH*

The NRESi links a community of researchers with varied backgrounds and research interests empowering them to pursue their disciplinary research in an interdisciplinary context. Consequently, many of the research initiatives undertaken by Institute members are collaborative efforts with other Institute members. Research endeavors can be broadly grouped into one or more of the following categories: *Ecological Patterns and Processes*, *Societal Structures and Values*, and *Earth Systems and Dynamics*.



Individual members of the Institute have strong disciplinary expertise in the natural, physical, environmental and social sciences. The NRESi provides a forum to promote integrative research to address natural resource systems and human uses of the environment, including issues pertinent to northern regions.

Please see [www.unbc.ca/nres/research.html](http://www.unbc.ca/nres/research.html) for a complete list of current research projects. Many of the projects currently being undertaken by Institute members can be viewed in a Google Earth format from the NRES website (<http://www.unbc.ca/assets/nres/projects.kmz>).

Each year, the Institute is approached about several potential research questions and opportunities.

- In 2011-2012, one such inquiry was relative to potentially helping the BC Trappers Association to examine cumulative effects of land management on the abundance of fur bearers. Research funding has now been acquired by a couple of NRESi members to undertake and examination of these questions.
- Another example was a request from Apache LNG and Pacific Trails Pipeline Corporation for NRESi members to be involved in research associated with biodiversity monitoring centred on a soon-to-be-built pipeline. A workshop around potential research involvement is scheduled for mid-April 2012.

- In February, the Director submitted a proposal on behalf of several NRESi members to the BC Real Estate Foundation to examine the sustainability of increased biomass removal from forest stands in Northern BC. The proposal outlined an approach to examine the post-harvest green-house-gas balance of different biomass sources, the mineral nutrient losses that result from various intensities of biomass harvesting, and their implications for regeneration and soil ecology. Although the initial proposal was viewed as being too tightly tied to UNBC Bioenergy development, discussions are continuing with the BC Real Estate Foundation about the opportunities for funding a more general study on the sustainability of biofuel supply.

## BUDGET REPORT

Total revenues for FY 2011-2012 came from the single source of overhead redirection. Overhead redirection from the Vice-Provost for Research and matching overhead redirection from the Ecosystem Science and Management Program (A. Booth, S. Green, C. Johnson, K. Lewis, S. Lindgren, K. Otter, K. Parker, and R. Rea), and from Environmental Science (P. Jackson) totaled \$7,905.56. A significant development with respect to overhead redirection during FY 2011-2012 was the addition of a checkbox for overhead redirection on the Grant/Contract Approval Cover Page – this should make the process of requesting overhead redirection even simply for NRESi members.

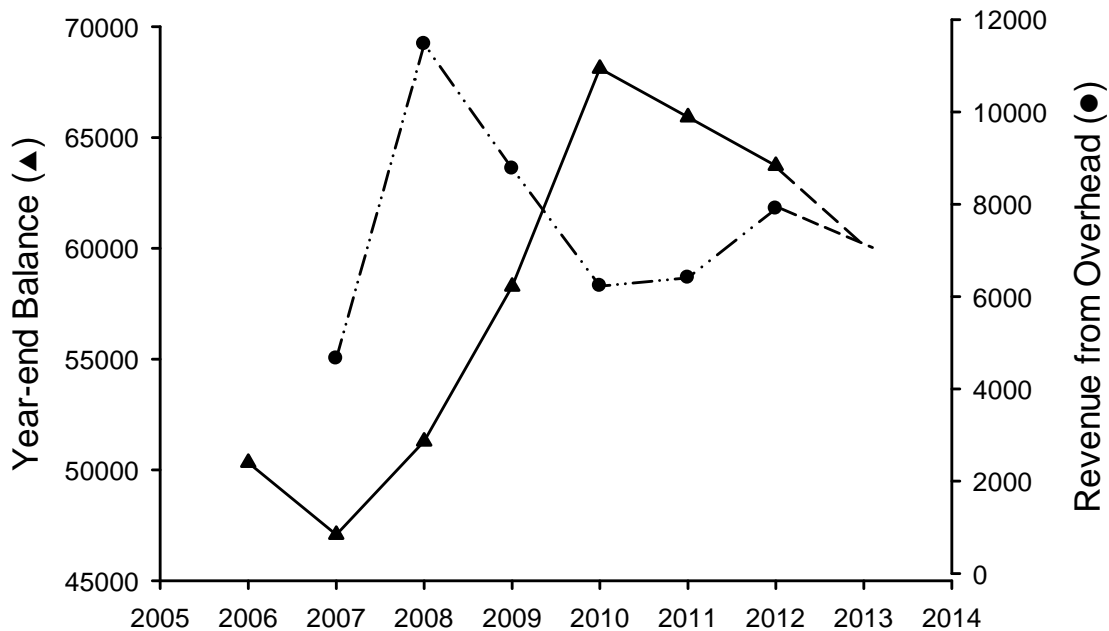
Total expenditures (\$10,807.22) included the stipend to the Director, sponsorship of the NRESi Colloquium series, advertising, support for the Fall Grad Ice Breaker, support for the NRES 430 Undergraduate Thesis presentations, office costs, and the partial support of the other special events. Our year-end closing balance was \$63,729.34, a net decrease in our year-end balance of approximately \$2,901.66 from FY 2010-2011 (Table 3; Figure 1).

**Table 3.** Brief budget summary for the NRESi’s operating budget (30181) in FY 2011-2012.

<b>Opening Balance (April 2011)</b>	\$66,631.00
<b>Total Revenues (FY 11-12)</b>	\$7,905.56
<b>Total Expenditures</b>	(\$10,807.22)
<b>Year End Balance</b>	\$63,729.34

Because the current funding model for the NRESi is fundamentally dependent on overhead redirection, the Director will continue to work with each member of the Institute to ensure that they both maximize their research overhead return to UNBC, and that they consider fully participating in the overhead redirection program available to Institute members. We are confident that this approach will both maximize the return to the University and to the Institute.

**Figure 1.** NRESi year-end balances (▲) and revenues from overhead redirection (●) from 2006 projected through 2013. Dashed lines represent projections for overhead and year-end balance. The Institute was funded with initial, one-time financial support (\$50,000) from the Ecosystem Science and Management Program and the Dean of the College of Science and Management. Further one-time infusions from a residual NRES Faculty fund in 2009 (\$9562), and from a portion of the residual funds in the Northern Land-Use Institute (\$18,500 in 2010), have also supported the NRESi.



The Institute has three additional endowments. The main endowment (70105) is the Northwood/Canfor endowment (former to the NRES Faculty). This endowment lost approximately \$1400 in value during 2011-2012 with expenses for the 2011 NRESi Annual Lecture (held in April 2012) being \$1771.00. The NRESi Endowment (46055) has an FY 2011-2012 year-end balance of \$4,715.97 (a gain of approximately \$330 as a result of an additional donation by Art Fredeen). In addition, the Linnea Fund (34164), which is not administered by NRESi, remained with a balance of \$3,600.00. The Linnea fund permits the spending of the principle while the NRESi Endowment is a traditional endowment fund in which only interest can be used.

## PLANS FOR 2011-2012

The primary goal of NRESi's Strategic Plan is to allow the Institute to reach its true potential of undertaking both proactive (driven by external need and funding envelopes) and reactive (internally driven), interdisciplinary research. To date, NRESi has been most effective responding reactively to research opportunities. A fully functioning NRESi would better develop proactive and reactive research opportunities, and increase connectivity among its members and thus increase grant success rates by bringing together teams of researchers (currently affecting success with national granting agencies), all of which would bring in more



resources to UNBC and the Institute. As stated in the Strategic Plan, a first step to achieving this goal must be to make the directing and managing of the Institute a sustainable task by July 2013, at which time the Institute will recruit its next Director.

The Institute intends to continue to play a role in facilitating UNBC-based research as part of the Pacific Institute for Climate Solutions and to attempt to contribute to the development of a cumulative-impacts framework within British Columbia. To that end, the Institute intends to continue to explore possible linkages with Resources North (<http://www.resourcesnorth.org>) in contributing to such a framework. We will continue to sponsor the Colloquium Series, an NRES Graduate Student Icebreaker early in Fall 2012 (the guest lecturer has already been identified), as well as the Annual Research Forum and Annual Lecture Series during Winter 2013. Some of the changes/initiatives that the Institute intends to initiate in 2012-2013 include the following.

- The Institute will continue to work with the Office of External Relations and the Vice-President Research to build financial support for the Institute. As outlined in the NRESi Strategic Plan, our goal is to raise sufficient endowed funds over the next 5 years to be able to support much of the needed administrative structure of NRESi.
- The Steering Committee believes that the Institute can continue to play a lead role in interdisciplinary research around the concepts of cumulative impacts and sustainability – not only from an ecological and resource perspective, but also from the perspective of northern communities, and First Nations. The Steering Committee will continue to explore opportunities for pursuing a research initiative related to cumulative effects and to sustainability of resource use such as those issues related to biomass supply for bioenergy production.
- The Institute intends to continue to support the NRES Graduate Program, while promoting NRESi Extension Notes, by continuing to offer a cash prize for the best Extension Paper authored by an NRES Graduate Student (\$500 split equally between NRESi and Dean of Graduate Programs). This Annual competition will be held in September of each year and will be adjudicated by a sub-committee of the NRESi Steering Committee. Given the lack of response from students in recent years, the Steering Committee will work the NRES Graduate Committee to attempt to make students aware of this opportunity.
- To encourage the continued growth and accessibility of the NRESi publications, the Director will continue working with the UNBC Librarian (through the UNBC Electronic Archive Advisory Committee) to house the Research Extension Note and Occasional Paper series within UNBC Digital Repository, once the system is available for submissions.

For additional details on NRESi, please visit our website at [www.unbc.ca/nres](http://www.unbc.ca/nres)