



UNIVERSITY OF NORTHERN BRITISH COLUMBIA

MEMORANDUM

To: Dr. Geoff Payne, Vice President Research
Dr. Dan Ryan, Chair, Senate Committee on Academic Affairs

From: Dr. Darwyn Coxson

Date: June 11, 2019

Re: NRESi's 2018-2019 Annual Report

Dear Drs. Payne and Ryan,

As per UNBC's Policy and Procedures for Centres and Research Institutes, please find attached the 2018-2019 Annual Report for the Natural Resources and Environmental Studies Institute (NRESi) covering the 2018-2019 fiscal year and NRESi's workplan of activities for 2019-2020. Both have been reviewed and discussed by its members at their 2019 Annual General Meeting.

On behalf of NRESi, I would like to thank you for your ongoing support. NRESi was focused on continuing the activities and initiatives that its members and the community have come to expect, as well as exploring and expanding possible research and project opportunities for NRESi and its members. Work has been focused on providing value to members, to UNBC, and the broader community, in a number of different ways. This will be explained in detail in the accompanying 2018-2019 Annual Report. NRESi continues to work towards the goals and objectives described in its five-year Strategic Plan, while also being flexible to new opportunities and ideas as they arise, as described in the 2019-2020 workplan of activities.

NRESi had another productive year, resulting in a positive financial report and is exploring opportunities for long-term financial planning and sustainability, the continuance of ongoing activities, as well as the addition of new projects and initiatives to further support the work of NRESi's members, UNBC, and its community partners.

Enclosures: NRESi Annual Report 2018-2019

cc: NRESi Steering Committee Members



Natural Resources & Environmental Studies Institute

2018-2019 Annual Report

Overview of NRESi

The Natural Resources & Environmental Studies Institute (NRESi) works to promote and implement integrative research to address natural resource systems and human uses of the environment, with a particular focus on northern regions and creating solutions-based approaches.

NRESi is an association of researchers from the UNBC faculty and external community that work and have interest in themes related to natural resources and the environment. This association of members have committed to learning from each other and seeing the value in collaborative initiatives that take an interdisciplinary approach. It is recognized that many, if not most themes related to this broad research area cannot be viewed or understood in isolation. Every research theme takes place in a complex world that surrounds and interacts with it, factoring into planning, management, monitoring, and policy. NRESi provides a venue and network to link together otherwise distinct research themes and topics for a broader understanding.

NRESi works towards its objectives of knowledge sharing and identification of collaborative research opportunities in a number of different ways. The most recognizable and well-known is through lectures, both in terms of its weekly colloquium series, as well as other special lectures and events that NRESi hosts. These events also provide networking opportunities between participating NRESi members and the community. In addition, through the guidance of NRESi's Steering Committee and the activities of its staff, NRESi works to support its members by identifying and pursuing possible project opportunities on behalf of its members. NRESi also has an important communications role to a range of audiences, including: within its membership, UNBC, the broader the natural resource and environment community, and the general public.

Our Mission

The focus of NRESi is to bring together members of the university and research community to promote and facilitate integrative research on natural resource and environment issues. From here, it is recognized that issues arise in northern BC and beyond that NRESi members, together with the community and partners, have the ability through expertise and experience to address and look for solutions. NRESi has an important role in helping to coordinate and be a venue for important dialogues and research projects that address natural and anthropogenic changes. NRESi can also assist in sharing research results that can be integrated into policy and management approaches and decisions.

NRESi has important role in creating linkages between researchers. This includes communication and the opportunity for interaction among UNBC and other university faculty, graduate students, and other associated researchers and research centers. It also recognizes the importance of making knowledge sharing and project participation open to the public, creating dialogues, and building linkages across a wide range of perspectives and expertise.

As a result of this integration across expertise, information can be developed in local communities to address local issues. Research findings can also be disseminated through NRESi's channels to allow for information to be shared to other areas facing similar issues or management and planning concerns. This has taken the form of presentations and extension, through NRESi's publication series and/or sharing current events and activities through the newsletter that others may find useful in their own work. NRESi continues to engage its members in discussions about how they would like NRESi to support their work, as well as the research needs of the broader community for mutual benefit that NRESi could help address.

Governance

The NRESi is overseen by a Director, selected for a 3-year term. Dr. Darwyn Coxson is the current director, serving in the 4th year of his appointment. His term was extended for a year to allow for a replacement to be found. In addition to a Director, NRESi is supported by a Research Manager who moves forward the day-to-day activities and needs of NRESi and its members, NRESi's initiatives, project development and communications. Alan Wiensczyk continued his role as NRESi Research Manager on a part-time basis for the 2018-2019 fiscal year.

The Director and Research Manager work closely with an internal Steering Committee. This group includes: four individuals elected to 2-year terms by the membership of the Institute, one member representing the Pacific Institute for Climate Solutions, and another representing the NRES Graduate Program. See Table 1. The intent of this group is to reflect the perspectives of NRESi's members, provide guidance to support the work and activities of NRESi, and ensure that the Institute functions in accordance with its vision statement and purpose.

Table 1. Steering Committee membership during 2018-2019 fiscal year.

Name	Role	Term
Darwyn Coxson	Director	1 July 2014 – 30 June 2018 (extended 1 year to 30 June 2019)
Che Elkin	Elected Member	1 May 2016 – 30 April 2020
Steve Helle	Elected Member	1 July 2016 – 30 June 2020
Scott Green	Elected Member	1 July 2018 – 30 June 2020
Lisa Wood	Elected Member	1 July 2018 – 30 June 2020
Hugues Massicotte	NRES Grad Program Rep	Began Sept 1, 2018 (filling in for Dr. Stephen Dery (sabbatical)) with No Fixed Term
Michelle Connolly	PICS Representative	No Fixed Term
Alan Wiensczyk	Research Manager	1 November, 2015 - 31 March 2020

During the 2013-2014 fiscal year, a framework was developed to consolidate the previous Management Committee and Advisory Committee into one group, the NRESi Advisory Panel. This new committee was presented and discussed at the 2014 Annual General Meeting and approved by the membership as an appropriate way to gather external insight and advice to NRESi's Steering Committee and membership. During the 2016/17 fiscal year the four of the five representatives plus an alternate attended the inaugural meeting of the committee held in June 2016. In 2018/19 one Advisory Committee member retired and two others changed employers. The membership of this group will be revisited in 2019/20. Members of the Advisory Panel will include the following individuals and representatives:

- Ex Officio members – Vice-President (Research) as Advisory Panel Chair, NRESi Director, Vice-President (External Relations), NRESi Research Manager
- Appointed members – One Steering Committee representative, five members external to the university community

Table 2. Appointed Advisory Committee members

Name	Affiliation
Melanie Karjala	BC Oil and Gas Commission
Vacant	College of New Caledonia
Trevor McConkey	Takla Nation Environmental Operations Manager
John Rex	BC Ministry of Forests, Lands, Natural Resource Operations, and Rural Development
Luke Gleeson	Tsay Keh Dene Nation
Mike Tillson (alternate)	Tsay Keh Dene Nation (Chu Cho Environmental)

- Advice, support, and/or involvement from other UNBC representatives – Dean of CSAM, Dean of CASHS, Dean of Graduate Programs, Chair of NRES Graduate Committee, Directors of other Research Institutes

Membership

NRESi has three types of memberships. They are: (a) Full Members for UNBC tenured faculty, (b) Associate Members for other types of UNBC faculty and researchers external to the UNBC community, and, (c) Lifetime Members who have received recognition through NRESi's Lifetime Achievement or Community Advancement awards for lifetime membership spanning beyond their active research careers. It was decided at NRESi's 2014 Annual General Meeting to adjust the existing membership process. Any new applications for Associate Members, which have 3-year terms, will have their renewal extended from their membership anniversary to the date of the NRESi's next Annual General Meeting plus three years. Existing Associate Members will have renewals reviewed prior to NRESi's Annual General Meeting and those that have expired

during the previous 12-month period will be notified and given the opportunity to renew for another 3-year term.

The below (Table 2) provides an overview of NRESi’s current membership, the membership category that each belongs to, and the most recent date of renewal (if applicable). This table shows that there are currently 73 NRESi members (Table 2). Membership activity during the reporting period included the renewal of 2 Associate members and the addition of 3 full members and 3 new Associate members and the removal of 3 full members who have retired and moved out of the country, or who have rescinded their membership. Information about NRESi’s members can be found on its website, such as their: research interests (<http://www.unbc.ca/nres-institute/institute-members>) and contact details (<http://www.unbc.ca/nres-institute/members>).

Table 3: Summary of NRESi’s current membership, membership type, and the most recent membership expiry dates for Associate Members

Ali, Faran	Full	Li, Jianbing (Jason)	Full
Beckett, Douglas	Associate Member: March 2021	Lindgren, Staffan	Lifetime Member
Burton, Philip	Full	Maher, Patrick	Associate Member – April 2021
Child, Kenneth	Associate Member: March 2021	Martins, Eduardo	Full
Connell, David	Full	Massicotte, Hugues	Full
Connolly, Michelle	Associate Member: November 2018	McGill, Bill	Full
Costello, Allan	Associate Member: March 2020	Meletis, Zoe	Full
Coxson, Darwyn	Full	Menounos, Brian	Full
Crowley, Shannon	Associate Member: May 2021	Mullins, Philip	Full
Curry, John	Full	Murray, Brent	Full
Dawson, Russ	Full	Nolin, Catherine	Full
Déry, Stephen	Full	Opio, Chris	Full
Egger, Keith	Full	Otter, Ken	Full
Elkin, Che	Full	Owens, Philip	Full
Erasmus, Daniel	Full	Parker, Katherine	Full
Fondahl, Gail	Full	Petticrew, Ellen	Full
Fredeen, Art	Full	Poirier, Lisa	Full
French, Todd	Associate Member: June 2021	Procter, Dennis	Full
Gantner, Nikolaus	Associate Member: April 2021	Rea, Roy	Full
Gerwing, Travis	Associate Member: June 2020	Robert, Jeanne	Associate Member: April 2022
Gillingham, Mike	Lifetime Member	Rutherford, Mike	Full
Green, Scott	Full	Ryan, Dan	Full
Haeussler, Sybille	Associate Member: April 2022	Sanborn, Paul	Full
Halseth, Greg	Full	Shrimpton, Mark	Full
Hanlon, Neil	Full	Shultis, John	Full
Hartley, Ian	Full	Sui, Jueyi	Full
Hawley, Alex	Lifetime Member	Summerville, Tracy	Full
Heard, Doug	Associate Member: April 2019	Tang, Youmin	Full
Helle, Steve	Full	Thielman, Aynsley	Associate Member: Oct 2019
Hodder, Dexter	Associate Member: June 2021	Thring, Ron	Full
Huber, Dezene	Full	Ul Islam, Siraj	Associate Member: April 2021
Jackson, Peter	Full	Venter, Oscar	Full
Johnson, Chris	Full	Wheate, Roger	Full
Lautensach, Alex	Full	Whitcombe, Todd	Full
Lavallee, Loraine	Full	Wood, Lisa	Full
Lewis, Kathy	Full	Wright, Pam	Full
		Young, Jane	Full (retired)

Report on Activities for 2018-2019

Background: In 2011-2012, NRESi's Steering Committee undertook a Strategic Planning process in order to identify the longer-term requirements and a sustainable model for the resourcing of NRESi. At the same time, increased overhead contributions from the NRESi project on Biodiversity Monitoring and Assessment Program (BMAP), under the leadership of Dr. Mike Gillingham, has provided for a period of financial stability. This has allowed NRESi to hire a part-time (21 hours per week) dedicated Research Manager and work towards growth in activities and operations.

The below is a summary of NRESi's 2018-2019 initiatives, projects, and activities:

General Activities

- The Institute hosted 26 colloquia as part of the weekly NRESi Colloquium Series and which were organized by NRESi Research manager Al Wiensczyk. Most of the colloquium presentations have been posted to the NRESi UNBC Video archive (<https://video.unbc.ca/channel/NRESI/>). A listing of past presentations and their abstracts can be found on NRESi's website (<http://www.unbc.ca/nres-institute/colloquium-series>).

Table 4. List of Colloquium Presentations including special presentations

Date	Name	Co-sponsor(s)
Sept 14, 2018	Dr. Curtis Bjork	
Sept 21, 2018	Dr. Roy Rea (UNBC)	
Sept 28, 2018	Drs. Ivar Holand and Olaf Stjernstrom (Nord University)	Geography Department
Oct 5, 2018	Dr. Sinead Earley (Independent Researcher)	
Oct 12, 2018	Dr. Phil Burton (UNBC – Terrace Campus)	
Oct 19, 2018	Dr. John Rex (BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development)	
Oct 26, 2018	Dr. Erik Krogh (Vancouver Island University)	
Oct 29, 2018	Dr. Leandro Castello (Virginia Polytechnic Institute and State University)	
Nov 2, 2018	Dr. Michael Wulder (Canadian Forest Service)	Doug Little Memorial Lecture
Nov 9, 2018	Dr. Roberta Hamme (University of Victoria)	Canadian Meteorological and Oceanographic Society (CMOS)
Nov 16, 2018	Melanie Goodchild, Michelle Brass, Angela Sterritt	Inspiring Women Among Us
Nov 23, 2018	Dr. Fiona MacPhail (UNBC)	
Nov 27, 2018 Mackenzie, BC	Dr. Mark Shrimpton (UNBC)	Fish and Wildlife Compensation Program – Peace Region
Nov 30, 2018	Dr. Gail Fondahl (UNBC)	
Jan 11, 2019	Frank Doyle (Wildlife Dynamics)	
Jan 15, 2019	Dr. Tyler McCreary (Florida State University)	Geography/Urban Aboriginal Knowledge Network
Jan 18, 2019	Dr. Andree Blais-Stevens (Geological Survey of Canada)	

Jan 25, 2019	Dr. John Post (University of Calgary)	
Feb 1, 2019	Allison Patterson (McGill University)	
Feb 9, 2019	Dr. Darwyn Coxson (UNBC) and NRESi Annual Awards Presentation	
Feb 15, 2019	Ian Curtis (UNBC)	
Feb 21, 2019 Fort St. John	Dr. Roy Rea (UNBC)	Fish and Wildlife Compensation Program – Peace Region
Mar 1, 2019	Dr. Thomas Tannert (UNBC)	
Mar 9, 2019	Alex Boston (Renewable Cities)	Pacific Institute for Climate Solutions
Mar 15, 2019	Bruce Rogers (BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development)	
Mar 18, 2019	Dr. Brett van Poorten (BC Ministry of Environment and Climate Change Strategy)	
Mar 22, 2019	Dr. Tom Ozden-Schilling (Johns Hopkins University)	BC Northern Archives
Mar 28, 2019	Drs. Hugues Massicotte, Mike Rutherford, and Paul Sanborn (UNBC)	Dr. Joselito Arocena honorary room naming.
Mar 28, 2019	Dr. Bob Clark (University of Saskatchewan)	UNBC Student Chapter of the Wildlife Society
Mar 29, 2019	Dr. David Hik (Simon Fraser University)	Polar Days
Apr 5, 2019	Kristen Hirsch-Pearson, Sara-Lynn Harding, Jessica Chaves-Cordoso, Luizmar de Assis-Barros (UNBC)	Canadian Institute of Forestry Master’s Night
Apr 11, 2019 Prince George	Dr. Steve McAdam (BC Ministry of Environment and Climate Change)	Fish and Wildlife Compensation Program – Peace Region

- Of the 32 colloquium presentations that took place, many were special events and/or co-hosted with NRESi together with other groups on campus:
 - NRESi partnered with the “Inspiring Women Among Us” initiative to host three speakers in support of this year’s theme “Women, Leadership and Power”.
 - Each year, in partnership with the Peace Fish & Wildlife Compensation Program (PFWCP), NRESi organizes a special lecture during the colloquium that includes a presentation by a guest lecturer on a theme related to the PFWCP preceded by a reception/dinner to provide further networking opportunities. This year we had three events, one in Mackenzie, one in Fort St John, and one in Prince George (more details below).
 - Other groups partnering on NRESi colloquium presentations this past year included the Pacific Institute for Climate Solutions (PICS), the Doug Little Memorial Lecture, the UNBC Fish and Wildlife Student Chapter of The Wildlife Society, the Canadian Meteorological and Oceanographic Society (CMOS), Polar Days, the BC Northern Archives, the UNBC Geography Department, the Urban Aboriginal Knowledge Network, and the Canadian Institute of Forestry – Cariboo Section.
- Work is continuing with UNBC’s Communications Department to refine a new video archive webpage for past NRESi lectures that will provide a more user-friendly interface

that will be searchable by lecture topic, presenter, date, and keywords. The archive (<https://video.unbc.ca/channel/NRESI/>) has been launched and is populated with the most recent (2018/19) NRESi colloquium presentations and other special lectures. In addition, the videos of previous year's presentations have successfully been migrated over from the NRESi Youtube channel.

- In the past, those interested in NRESi presentations and not able attend in person were able to participate via Livestream (video and slides) and Blue Jeans (slides and audio). It was decided in January 2018 to discontinue the Blue Jeans broadcast of the colloquium presentations. LiveStream provides a higher quality feed accessible to most. The provision of using two methods of access will continue to be evaluated on an on-going basis and reinstated if required. Blue Jeans was used to broadcast the two remote Fish and Wildlife Compensation Program (Mackenzie and Fort St John) presentations.
- NRESi once again organized the annual Undergraduate Thesis Presentation Day for NRES and associated program students. Students completing a fourth-year thesis project are required to present their project and results. This year's event was held on April 2nd, in conjunction with the new initiative - UNBC Research Week.

Communications

NRESi continues to provide a means of internal communication between its members, as well as providing linkages where possible with external researchers and members of the community. This takes a number of different forms:

- NRESi event announcements and updates are distributed through a managed NRESi distribution list and to UNBC college mailing lists. NRESi also has a members-only list, where communications relevant specifically to the membership can be distributed. Event announcements are also posted to UNBC's public events listings, the NRESi website and the NRESi Facebook page.
- NRESi maintains a website, to provide information to the public about NRESi and its members, as well as an information platform for the public. The process to update NRESi's website began in the 2015-16 year, by revising text to reflect the work and focus of NRESi. This work continued in the 2018-2019 fiscal year, by adding website features, making revisions, and refining its structure to make it more user-friendly and visually appealing.
- In previous years, all NRESi lectures are recorded and posted to the NRESi Youtube channel (https://www.youtube.com/channel/UC6WIRhriAQ2Yf3_Yu-3fy6A). This year the University Communications department has created a UNBC video archive with an NRESi channel (<https://video.unbc.ca/channel/NRESI/>). All 2016-19 presentations have been uploaded to this new video archive and the work has been completed migrating the older presentations from the NRESi Youtube channel to the new archive.
- NRESi has created two social media accounts to share information and updates. They are: (a) Twitter (https://twitter.com/UNBC_NRESi) and (b) Facebook (<https://www.facebook.com/unbcnresi?ref=hl>).

- NRESi's weekly newsletter continued in 2018-2019, being posted to NRESi's broad network distribution list every second Friday. Each edition includes: 'NRESi Notes' which provides updates or special announcements for members and the community, event announcements and information, recent NRESi member publications, sharing of travel or conferences details attended by members, links to NRESi members in the media and other UNBC media releases of relevance to the NRESi audience, NRES graduate student defense details and events of interest, as well as other UNBC or community events and news items of interest to the network. NRESi members are invited to contribute information, announcements, and news, as well as stories and photos that might be of interest to others in the NRESi community.

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. Individual members of the Institute have strong disciplinary expertise in the natural, physical, environmental and social sciences; NRESi works to capitalize on this, by providing project and networking opportunities for knowledge sharing and finding new linkages. Work began, through scoping NRESi members and exploring opportunities, for building new NRESi projects that further connects multiple researchers and their interests. This will be expanded and a focus of activities for the 2019-2020 fiscal year, as well as identifying possible funders and project partners.

In 2015-16, several NRESi members partnered on a project proposal submission to the Fish and Wildlife Compensation Program – Peace Region to study and assess the nutrient dynamics and complex web of interactions between Kokanee, stream-living macro-invertebrates (Aquatic insects), and the surrounding riparian zone (lichen communities) as a result of the introduction of Kokanee into the Williston Reservoir. The third and final year of this project was funded and successfully delivered in 2018-19. This project blended social and natural sciences and involved working with three First Nations partners (Tsay Keh Dene First Nation, Kwadacha First Nation, and McLeod Lake Indian Band). The project funding additionally helped with cost recovery of core salary expenditures by NRESi.

In 2019, an NRESi member submitted a proposal to the Fish and Wildlife Compensation Program – Peace Region to investigate the spatial ecology of juvenile and adult Arctic grayling and their interactions with bull trout in the Parsnip River and its tributaries. The second year of this project was funded and will be delivered in 2019-20. The project funding additionally will help with cost recovery of core salary expenditures by NRESi.

Cumulative Impacts Research Consortium

The NRESi continued to participate in the tri-institute partnership-created Cumulative Impacts Research Consortium (CIRC) which was established in 2015 as a platform for research and community dialogue on the cumulative impacts of resource development. The CIRC is a formal

expression of collaboration between UNBC's three research institutes: The Community Development Institute (CDI), the Health Research Institute (HRI) and the Natural Resources and Environmental Studies Institute. The CIRC is a research and community outreach initiative based at UNBC dedicated to enhancing an understanding of the positive and negative cumulative impacts of resource development across northern BC. Our research aims to integrate environment, community, and health values and perspectives, and account for diverse forms of knowledge and information. Informed by our community outreach and engagement, the CIRC seeks to enhance on the ground capacity to respond to issues related to cumulative impacts.

Over the last year, CIRC has continued to reach out to communities in northern British Columbia to expand our understanding of the cumulative impacts of resource development across northern BC, respond to knowledge and capacity gaps with original research, and build our capacity to act as a regional hub of cumulative impacts information and resources. As we move forward, we will also continue to seek feedback and take leadership from the communities we work with to better understand the ways in which our research and outreach activities can best support local capacity to address the cumulative impacts of resource development. We wish to thank everyone who contributed to this initiative over the past year and look forward to continuing to build a solutions-oriented research and community dialogue for the benefit of northern British Columbia and beyond.

Key highlights from the past year include:

1. A change in CIRC staff. In September 2018, Dr. Chris Buse (Project Lead) and Madeline Wilson (Communications Lead) stepped away from their positions to pursue other opportunities. In response Dr. Marieka Sax transitioned from her position as Operations Lead to Research Lead where she continued to work with the CIRC Steering and Advisory Committees to lead the CIRC research and engagement activities.
2. On September 26 2018, the CIRC gave a presentation and workshop called "What's a 'Cumulative Impact', anyway?" as part of the Bulkley Valley Research Centre's Seminar Series. The presentation unpacked challenges with resource development governance, differentiated between cumulative effects and impacts, and introduced CIRC's program of Research. The accompanying workshop explored the environmental, community, and health impacts of resource development activities across northern BC through CIRC's process of data-driven story telling.
3. Collaborating on two projects. In October 2018, CIRC started collaborating with the Fraser Basin Council to take on the role of Secretariat for the Nechako Watershed Roundtable (NWR). The Roundtable was formed in 2015 to protect and improve the health of the Nechako watershed for future generations. It includes representation from BC First Nations, the Province of BC, local governments, and other agencies and organizations having responsibilities and interests in the Nechako watershed. Throughout 2018, the CIRC convened UNBC faculty, students, staff, and researchers to discuss collaborative climate change research, communication, and networking within the university and beyond. The CIRC hosted two university-wide discussions,

conducted an online survey, established a UNBC Climate Change listserv, and worked with the Pacific Institute for Climate Solutions (PICS) and the UNBC Office of Research to compile a publicly available list of climate change researchers.

4. Continuing to advance a suite of research projects that have emerged in response to concerns and issues voiced by communities in northern BC. More information about these projects, including relevant updates and project descriptions, can be found on the CIRC website (<http://www.unbc.ca/cumulative-impacts/research>).
5. Completed Projects
 - a. Cumulative Impacts Living Library
 - b. Developing best practices in socio-economic and health indicator development
 - c. Examining the 'state of the art of cumulative effects policy through an interjurisdictional comparative case study
 - d. The Health Impacts of Resource Extraction and Development (HIRED)
 - e. Understanding health equity and resource development (UnHEARD).

Peace Fish and Wildlife Compensation Program Lectures

For the past number of years, NRESi has partnered with the Peace Fish and Wildlife Compensation Program to put on a lecture that has themes related to the natural resources around the Peace region and Williston Reservoir. Three presentations were delivered this year, one in Prince George, and one each in two other communities in the Northeastern region of the Province. Dr. Mark Shrimpton (UNBC) presented information on his Fish and Wildlife Compensation Program-funded project on Ecosystem impact-nutrient enrichment by Kokanee in Williston to an audience of 20 at the Mackenzie Recreation Centre on November 27, 2018. On February 21, 2019, Dr. Roy Rea (UNBC) spoke about Moose and Forest Management to approximately 50 attendees at the LIDO theatre in Fort St John. The final speaker of the FWCP-sponsored series was Dr. Steve McAdam (Ministry of Environment and Climate Change Strategy). He spoke on April 11, 2019 to over 60 people at the University of British Columbia on white sturgeon conservation efforts.

NRESi Awards

In past years, NRESi has recognized members who have made valuable research contributions over their career with the Distinguished Fellow award.

1. Distinguished Scholar - a NRESi member who has achieved any or a combination of the described criteria over the past 12 months (it is possible to receive this award more than once over a career).
2. Lifetime Achievement – a NRESi member who has achieved a combination criteria over the course of their career (both as NRESi members and, if appropriate, in previous positions/activities) and recipients are given a lifetime membership to NRESi.

3. Community Advancement Award – an individual or organization from the broader community who has demonstrated achievement of any or a combination of the described criteria through their research and/or service and recipients or an identified representative from the recipient organization is given a lifetime membership to NRESi

Further information, nomination guidelines, and criteria can be found on NRESi's website (<http://www.unbc.ca/nres-institute/special-events-activities>).

This year, NRESi presented two awards in the Distinguished Scholar category and one in the Lifetime Achievement Award category. The Community Advancement Award was not presented this year.

Dr. Roger Wheate was awarded the Lifetime Achievement Award for his teaching in the fields of cartography, remote sensing, and geographic information systems and his efforts at keeping the teaching and research facilities and equipment in his field at UNBC up-to-date and leading edge, for his efforts as Chair of the Graduate Programs Committee for NRES for the past two years and for his commitment to environmental groups and topics in the community and region.

Drs. Pamela Wright and Oscar Venter were awarded the Distinguished Scholar Award.

Dr. Wright for her work organizing and delivering the BC Protected Areas Research Forum, her leadership in the development of the new BSc in Conservation Science and Practice, and her interdisciplinary research with graduate students on a range of topics including climate change and systematic conservation planning, wilderness character mapping, spatial conservation decision platform development, and social conditions of wilderness in the Muskwa Kechika Management Area.

Dr. Venter received the award for his role as a co-author on a paper in *Nature* (November 2018, Volume 563, issue 7729, pages 27-30), entitled "Protect the last of the Wild". Oscar and the other authors produced the first comprehensive fine-scale map of the world's remaining marine and terrestrial wild places. By defining and providing a succinct synopsis of what is at stake in the area of conservation, this interdisciplinary contribution has and will continue to have a major and lasting impact with respect to our awareness on human-related wilderness decline. This co-authored article by Dr. Oscar Venter and his team was widely received by both the scientific community and the general public, in part through its strong global wilderness appraisal and advocacy.

Scholarship Funds

NRESi members continue to support two scholarship funds, respectively in memory of the contributions by the late Susan Stevenson and Dr. Joselito (Lito) Arocena. The 2018-19 recipient for the Susan Stevenson scholarship was Ms. Victoria Kress, who is conducting research on landslide ecology in Northern British Columbia. The recipient of the Dr. Joselito Arocena

Memorial Undergraduate Thesis Prize for 2017-18 was Joey Chisholm and for 2018-19 was Ivy Evergreen Strother, and the recipient of the Dr. Joselito (Lito) Arocena Memorial Graduate Prize for 2017-18 was Christopher Turner. Recipients for 2018-19 for these awards are still to be determined.

Publication Series

Dr. Art Fredeen has been the Editor for the NRESi publications series since their inception. In the past, NRESi had two publication series that NRESi members and NRES graduate students could contribute to:

1. **NRESi Occasional Papers** are peer-reviewed publications of papers and symposia sponsored or produced by members of the Institute. They provide an outlet for position, idea, concept, and opinion oriented papers.
2. **NRESi Research Extension Notes** are peer-reviewed publications of the research findings of NRESi members and of graduate students in the NRES Graduate Program. This series is intended to provide an outlet through which Institute members can make their research findings available to a non-technical audience.

In 2014-2015, it was identified that there are times where reports are not broadly available, but have useful information and results. To provide a venue for to make this data accessible, NRESi created the Technical Report Series:

3. **NRESi Technical Reports** are comprehensive, but not peer-reviewed final reports of research projects. They contain results relevant to the region and the broader research community. This publication series creates an opportunity for NRESi members to make their research project results that would otherwise not be published or available either in part or in whole.

More information about the awards and the guidelines are found on NRESi's website (<http://www.unbc.ca/nres-institute/publication-series>). In addition, NRESi worked with UNBC's library to make the articles available to a wider network, by posting all publications to UNBC's online databases. Past and future reports will now available and more readily searchable.

One publication was submitted and published in 2018-19.

- 1) Mann, J. and P. Wright. 2018. The Human Footprint in the Peace River Break, British Columbia. Natural Resources and Environmental Studies Institute. Technical Report No. 2, University of Northern British Columbia, Prince George, B.C., Canada.

Each year, NRESi also presents an award for a Research Extension Note written by a NRES graduate student. No Research Extension Notes were submitted in 2018-19.

Budget Report

Revenues for the 2018-2019 fiscal year were derived from redirection of overhead from NRESi members, and from cost recovery of research manager salary from project grants, including Peace Fish and Wildlife Compensation Fund projects.

NRESi provided financial contributions to a number of events and activities throughout the year that it organized or help to organize:

- Annual Lecture, NRESi member and special invitation dinner and poster session, travel for a special lecturer, reception, and compensation for webcasting
- Undergraduate thesis presentation day and refreshment costs
- Graduate Icebreaker presentation, poster session, and travel for a special lecturer
- Special guest lecture presentations
- Colloquium series – assistance for travel for a presenter who participated in NRESi’s colloquium series, advertising costs, compensation for allowing Livestreaming and Blackboard Collaborate

Table 5. NRESi operating budget: Summary for FY 2018-2019 and Projected Expenses for FY 2019/2020.

	Actual 2018-2019	Projected 2019-2020
Opening Balance	\$235,949	\$101,104*
Revenue		
Research Grant Overhead	\$ 5,783	\$6,000
Salary Recovery (FWCP)	\$ 14,500	\$5,500
Transfers in	\$ 234	
Total Revenue	\$20,517	\$11,500
Expenditures		
Transfer to Endowment	\$100,000	
Transfer to Susan Stevenson Memorial Fund	\$1,000	
Salaries	\$ 50,610	\$51,000
Event Expenses	\$ 2,592	\$3,200
Supplies-Office	\$261	\$300
Computer	\$900	
Total Expenditures	\$155,363	\$54,500
Closing Balance	\$101,604	\$58,104

*correction of accounting error made with respect to FWCP salary recovery.

Our 2018/2019 year-end operating fund closing balance was \$101,604, although upon review an accounting mistake of \$500 was found related to the salary recovery from the Fish and Wildlife Compensation Program. The net result was that the operating fund closing balance should be \$101,104. Operating fund expenditures in 2018-19 exceeded revenues by \$33,846, excluding the one-time transfer of funds to the NRESi endowment fund (\$100,000) and to the Susan Stevenson Memorial Scholarship fund (\$1,000) (Table 5). Proposed expenditures for 2019/2020 will be similar, drawing down the operating fund reserve by ca. \$43,000, mainly for salary expenditures.

Revenue for the institute derives mainly from the reallocation of research overhead by members, which totaled \$ 5,783 in 2018/2019.

NRESi has three endowment funds: (a) NRESi Endowment, (b) Northwood Endowment, and, (c) Linnea Fund. The largest endowment fund is the NRESi endowment. An additional contribution to the NRESi Endowment fund of \$100,000 was made in fiscal year 2018/2019. This will facilitate future use of the NRESi endowment fund as a source of future support for NRESi. Given the current funds held in the NRESi operating account in 2018/2019, no contribution was taken from the NRESi endowment fund in the past year, allowing this fund to grow. This year, the NRESi endowment fund earned \$22,818 in interest (Table 6).

Our second largest endowment fund is the Northwood endowment, which is used to fund the NRESi Annual Lecture series and other special events consistent with the original intent of the endowment. In years when the return on the endowment has been low (or even negative), NRESi's operating budget has been used to fund such activities in order to maintain an adequate balance in the endowment. This year, the Northwood endowment earned \$11,147 in interest (Table 7).

The Linnea fund is presently inactive. It should be noted that the Linnaea Fund permits the spending of the principle to fund activities, while the Northwood and NRESi Endowments funds are traditional endowments, in which only a portion of the earnings can be used.

Table 6. NRESi Endowment Fund: Summary for FY 2018-2019 and Projected Change for FY 2019/2020.

	Actual 2018-2019	Projected 2019-2020
Opening Balance	\$ 232,178	\$ 352,404
Revenue		
Donations	\$ 643	\$600
Transfer from Operating	\$ 100,000	
Interest	\$ 22,818	\$ 21,434
Expenses (Overhead)	\$ 3,235	\$ 3,406
Closing Balance	\$ 352,404	\$ 371,032

Table 7. Northwood Endowment Fund: Summary for FY 2018-2019 and Projected Change for FY 2019/2020.

	Actual 2018-2019	Projected 2019-2020
Opening Balance	\$ 129,276	\$ 139,090
Revenue		
Interest	\$ 11,147	\$ 7,756
Expenses		
Events	\$ 1,333	\$ 3,000
Closing Balance	\$ 139,090	\$ 143,845

Table 8. Linnaea Fund (34164): year-end budget statement for FY 2018-2019.

Opening Balance (April 2017)	\$ 350
Revenue: Interest	\$ 3
Total Revenues (FY 17-18)	\$ 3
Expenditure (overhead)	\$ 3
Total Expenditures	\$ 3
Year End Balance (March 2018)	\$ 350

Table 9. Summary of NRESi Fund totals and change during FY 2017-2018.

NRESi Funds	2018-2019 FY End	Change during FY
Operating	\$ 101,104	-\$ 134,845
Northwood	\$ 139,090	\$ 9,814
NRESi Fund	\$ 352,404	\$ 120,226
Linnaea Fund	\$ 350	\$ 0
Total:	\$ 592,948	-\$ 4,805



Natural Resources & Environmental Studies Institute

2019-2020 Workplan

This workplan describes how NRESi's 2019-2020 activities will build on the momentum of the previous fiscal year and further the objectives of NRESi through engagement, identification of new project opportunities, funders and partners, as well as providing networking across members and the community. Further to this, it will also describe how NRESi will work with other research institutes and organizations at UNBC and its partners on some key initiatives.

The focus of activities for the new year are described under five broad headings, which includes a purpose, description, and desired outcomes for each. A proposed 2019-2020 budget is shown in Table 5 above.

Project Descriptions

A. Partnerships & Project Development

Purpose: To develop partnerships and project opportunities to support the research goals of NRESi members and address the issues of UNBC's community through solutions-based approaches and projects.

Description of Activities:

NRESi will continue working to identify project and funding opportunities on behalf of its members and NRESi more broadly, working together with the Development Office and the Office of Research. Planned area of investigation in 2019/2020 include working to explore further opportunities for research collaboration with the B.C. Hydro Fish and Wildlife Compensation Program.

Information and suggestions collected from NRESi members through the membership survey will assist in developing additional project themes. Opportunities to engage with the other UNBC research institutes, in addition to the cumulative impacts work currently underway, will be considered.

B. Service to NRESi Members and UNBC

Purpose: To maintain service delivery and networking between NRESi members and other UNBC departments for knowledge sharing, celebrating successes, building on each other's strengths, and reducing duplication of efforts where possible.

Description of Activities:

NRESi will continue to celebrate the achievements of its members and those in the natural resources research community. This will continue to be achieved in a number of ways. One example is providing NRESi's weekly newsletter as a venue for sharing new publications, awards NRESi members have received, conference presentations and other announcements.

NRESi also has its awards program that is presented each fall. The awards include: (a) Lifetime Achievement for career accomplishments, (b) Distinguished Scholar for project related accomplishments, and, (c) Community Advancement for individuals and organizations outside of NRESi's membership, but part of its network and making valuable contributions to natural resource research.

NRESi will continue to build opportunities for supporting its members' research and expertise. This includes investigating how to best make the expertise of NRESi members readily available to other members, potential partners and the broader community. It could also mean further accessibility of NRESi member data and information, such as continuing to explore tools for data sharing.

C. NRESi Special Projects & Events

Purpose: To engage NRESi members, UNBC, and the broader community in events and activities on relevant topics of interest, providing the opportunity for sharing knowledge and a forum for discussion.

Description of Activities:

One of the main roles and functions of NRESi is to create opportunities for sharing knowledge, as well as networking across its membership and the broader research and natural resource community. A number of NRESi venues exist for this, including the weekly colloquium lecture series, the NRES Graduate Student Icebreaker, Annual Lecture and poster session, as well as others events and activities that include NRESi members and NRES graduate students. It also actively works to identify opportunities for relevant topics of discussion and projects that NRESi members can engage in, to feed their expertise into dialogues where experience and knowledge are valuable contributions. NRESi will continue to identify areas where it can support knowledge sharing, organize events for dialogue and discussion, and provide promotion within its membership and broader network of activities to create an ongoing culture of learning from each other.

NRESi received conditional approval of its proposal to extend its ongoing relationship with the Peace Fish and Wildlife Compensation Program for a lecture series in 2019-2020. This year

NRESi will be organizing three lectures, one in Prince George during the usual spring timeslot, plus two additional presentations in the fall and winter in a northeastern BC community.

NRESi received approval for year two of a four-year proposal to the Peace Fish and Wildlife Compensation Program to investigate the spatial ecology of juvenile and adult Arctic grayling and their interactions with bull trout in the Parsnip River and its tributaries. The achieved goals for Year 1 were to: 1) initiate the deployment of acoustic receivers and temperature data loggers throughout the Parsnip watershed but focused in the Parsnip mainstem, Table and Anzac Rivers; 2) tag Arctic grayling and bull trout in the Anzac and Table Rivers; 3) collect samples for stable isotope analysis; and 4) determine the feasibility for expanding the study to the Hominka and Missinka Rivers and the Wichcika Creek in Year 2.

D. Communications

Purpose: To facilitate communication within the membership, to UNBC and external stakeholders, governments, communities, and other partners.

Description of Activities:

NRESi uses a number of different venues to share information across its network. This includes external communications efforts, such as through the bi-weekly newsletter, social media feeds, posters in UNBC hallways about upcoming events, as well as through email announcements. NRESi also works to provide information about opportunities to its membership list and engaging researchers where possible to do so.

NRESi is in the process of updating its website; the content itself has been revised, with further plans for this year to streamline its structure and make it more user-friendly. In cooperation with the UNBC Communications and IT departments, NRESi is also creating a new video archive website for its past colloquium presentations and special lectures. This new site will have a search function where videos can be queried based on topic, keywords (in the title, abstract), date and presenter. NRESi will be continuing to post information about upcoming events to UNBC's Events webpage, to create broader distribution of activities.

Desired Outcomes:

- NRESi's weekly newsletter and current social media sites, and other communications tools used to provide a venue to share information to wide audiences and allow for networking within the research, natural resource, and environmental studies community, as well as an opportunity to create a dialogue where possible on current issues, activities and opportunities that could be built upon
- Improvements to NRESi's web presence by making updates to allow information to be streamlined, found easier and in a more interactive fashion