

2018 CIRC Forum:

Cumulative impacts policy and practice in northern BC

UNBC Campus, Prince George, January 18-19, 2018

Keynote Address

Megan Leslie, President & Chief Executive Officer, World Wildlife Fund Canada

Megan began as head of World Wildlife Fund Canada in 2017 after nearly two years at the organization, first as a consultant on oceans governance, then as head of ocean conservation. Before joining WWF, Megan was a Member of Parliament, representing Halifax for eight years, during which she was deputy leader of the official Opposition, environment critic and vice-chair of the government committee on environment and sustainable development. In Ottawa, Megan introduced a motion and guided its unanimous passage to add plastic microbeads to the list of toxic substances under the Environmental Protection Act. She also worked across party lines to successfully expedite the passage of a bill to create Sable Island National Park Reserve.

Art Fredeen (PhD), UNBC

Art is a forest ecophysiologicalist at the University of Northern British Columbia. His primary research interests include the measurement of forest carbon stocks and storage as well as CO₂ fluxes into and out of forests in central British Columbia using stable isotope, eddy covariance and leaf-level gas-exchange approaches. Other research interests include ecophysiology of sub-boreal conifer forests, lichen diversity and physiology, and carnivorous and mixotrophic plant function. Art is a Steering Committee member for the Cumulative Impacts Research Consortium (CIRC).

Session 1: Cumulative effects frameworks for assessment, monitoring, and management

Matthew LeRoy, BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Matthew is a professional forester with a degree in resource management from UBC and a Masters in Natural Resource Management from the University of Idaho. He is currently the manager of the Land and Resource Use section of the Resource Management Objectives Branch (RMOB) with FLNRORD in Victoria. The Land and Resource Use section of RMOB is principally focused on Cumulative Effects, Common Objectives and Land Use Planning. Prior to working for the FLNRORD in various capacities including as provincial coordinator for the Forests For Tomorrow program, Matthew had the great opportunity to work for both the UNBC Aleza Lake Research Forest and the UBC Alex Fraser Research Forest.

Hannah Askew, West Coast Environmental Law

Hannah is a part of West Coast Environmental Law's Aboriginal and Natural Resources law team. She is passionate about working at the intersection of Indigenous law and environmental protection. Prior to joining West Coast, Hannah produced legal syntheses on Coast Salish and Anishinabek law for the Indigenous Law Research Unit and the Accessing Justice and Reconciliation Project on "Revitalizing Indigenous Laws." Hannah graduated from Osgoode Hall Law School and articulated with Crown Law Office – Criminal where she participated in the Implementation Committee to address the recommendations of the Honourable Frank Iacobucci in his report on First Nations Representation on Ontario Juries.

Don Morgan (RPBio, MSc), BC Ministry of Environment and Climate Change Strategy

Don is a systems ecologist with the BC Ministry of Environment, Ecosystem Protection and Sustainability Branch, Conservation Sciences. His areas of interest include describing and analyzing socio-ecological systems using scenario planning methods, resource management decision-making, and grizzly bear and salmon habitat conservation assessment. In the past, he has conducted forest and range climate change vulnerability assessments, and led the Province's Northwest Cumulative Effects Pilot project. Currently, he is the Provincial lead for Grizzly Bear cumulative effects assessment and investigating approaches to assessing the state of biodiversity in the Province.

Alistair MacDonald (MA), The Firelight Group

Alistair is a Director and Environmental Assessment Lead at The Firelight Group, a BC and Alberta-based company that works with Canadian indigenous communities affected by the resource extraction sectors. He is in his 14th year running and participating in EA processes, having worked for assessment bodies, industry, and primarily with indigenous communities. Alistair is representing on behalf of Fort Nelson First Nation, which has been working on a variety of cumulative effects assessment initiatives over the past half decade.

Mike Gillingham (PhD), UNBC

Mike is a Professor in the Ecosystem Science and Management Program and he was the founding Director of the Natural Resources and Environmental Studies Institute at the University of Northern British Columbia. His research interests are in population and wildlife ecology, behavioral ecology, and how human use and alteration of landscapes affects wildlife populations. Much of his work focuses on the application of quantitative analyses and modeling to aspects of behavioral ecology and wildlife management.

Session 2: Indigenous land use planning and cumulative impacts management

Agnes Pawlowska-Mainville (PhD), UNBC

Agnes has worked with the Asatiwisiipe Anishinaabeg for the past decade, where she examined cultural and natural resource stewardship as a form of community self-determination on the First Nation-led UNESCO World Heritage Site nomination called Pimachiowin Aki, "the land that gives life" in Anishinaabemowin (Ojibway language). Agnes has been engaged with activism mainly through her work against non-renewable resource development projects in northern Manitoba. She continues this work in BC mainly through her position as an Executive Director of the Northern BC Public Interest Research Group (NBC-PIRG). Agnes is also engaged with numerous other communities ranging from Anishinaabe practices in Couchiching (ON), to working on hydro issues with the Makeso Sakahican Inninuwak (MB), to language and cultural revitalization with the Nak'azdli Dakelh and the Carrier Linguistic Society (BC).

Clayton Davis, Treaty 8 Cumulative Effects Framework Working Group

Clayton works with the Saluteau First Nation and the Treaty 8 Cumulative Effects Framework (CEF) Working Group. The CEF Working Group is an independent First Nations working group established by several Treaty 8 First Nations in part due to concerns around the impacts of multiple resource industries in the Murray River watershed, and the limited scope and focus of current Cumulative Effects Assessment (CEA) in regards to Indigenous values and Treaty rights. The CEF Working Group is developing a framework for CEA that meaningfully includes Treaty rights and community-based Valued Components into Treaty Rights Assessment Requirements.

Karyn Sharp, Carrier Sekani Tribal Council

Karyn Sharp is Denesuline from northern Saskatchewan. She holds a BA from Radford University in southern Virginia, an MA from the University of Utah in Anthropology and is a PhD candidate from Simon Fraser University in Archaeology. Karyn has been working with First Nations and American Indian communities for over 17 years in both the USA and Canada. Karyn has also taught First Nations Studies at UNBC from 2005-2012. Most of Karyn's work is with the Dene of central BC and northern Saskatchewan. As a researcher, she specializes in traditional knowledge research, First Nations land use planning, anthropology, ethno-archaeology, and research methodology. Currently, Karyn is the Natural Resources Manager for the Carrier Sekani Tribal Council.

Rheanna Robinson (PhD), UNBC

Rheanna is a Professor in the department of First Nations Studies at the University of Northern British Columbia and a proud member of the Métis Nation of BC. She is also a proud mom to two young sons, Sean and James, who are also of Nisga'a ancestry. While her Métis heritage comes from Manitoba's Red River Valley, she was raised in the community of Smithers, BC and moved to Prince George in 1995 shortly after UNBC opened. Rheanna has been teaching at UNBC since 2006 and deeply values the role of Indigenous Knowledge within institutions of higher learning.

Session 3: Watershed governance and cumulative impacts**Jennifer Vigano (BSF, RPF, MEM), BC Ministry of Environment and Climate Change Strategy**

Jennifer is a water policy advisor with the Ministry of Environment and Climate Change Strategy, Water Protection and Sustainability Branch. She was involved in the development of the Water Sustainability Act. Currently, her main area of work focuses on the development and province-wide implementation of the Act and its regulations and policies, in particular on some of the more sustainability-focused tools such as watershed governance, water objectives and planning. Prior to her work in provincial water policy, Jennifer spent time working provincially, nationally and internationally in a variety of disciplines including forestry, international development, water quality and municipal wastewater effluent policy and intergovernmental relations.

Reg Whiten (PAg, RPP, MCIP), InterraPlan Inc.

Reg is an agrologist, planner and educator based at Moberly Lake, where he has lived for the past 25 years with strong personal ties to the Treaty 8 First Nations people. His consulting practice, InterraPlan Inc., specializes in northern rural and indigenous community sustainability and watershed stewardship. Reg served as Senior Planner to the Peel Watershed Planning Commission in the Yukon, and as Watershed Steward in developing the City of Dawson Creek's distinguished watershed research and management program. He was the founding principle of the Peace River Watershed Council and the Boreal Centre for Sustainability, which he continues to support. Reg has been active in various northern advocacy initiatives, and hosts a radio-podcast called Take Me To The Water.

Rosie Simms (MA), The POLIS Project on Ecological Governance

Rosie is a water law and policy researcher and project manager with the University of Victoria's POLIS Water Sustainability Project. Her thesis research in the University of British Columbia Program on Water Governance explored water governance in BC and intersections with Indigenous rights and governance.

Rosie's previous work experience and undergraduate studies at McGill University have taken her from Panama to Baffin Island, where she has led youth outdoor leadership programs, conducted research and media outreach on Canadian mining in Latin America, and organized a variety of workshops and forums related to Canadian freshwater issues.

Deborah Harford, Adaptation to Climate Change Team (ACT), Simon Fraser University

As Executive Director of ACT, Deborah is responsible for development of the initiative's vision and its partnerships with the public and private sectors, as well as overall coordination and management of the program. Through Deborah's efforts, ACT has created networks between local, national and international climate change research practitioners, NGOs, industry representatives, all levels of government, First Nations groups and local communities. Deborah's work with ACT has gained her national recognition as a resource for those seeking information on climate change adaptation and practical coping strategies.

Terry Robert (MEd), Fraser Basin Council

Terry is Regional Manager for the Upper Fraser Region, and has been with the Fraser Basin Council since 2005. Climate Change and Air Quality is a key focus for FBC, and Terry has managed programs on climate change mitigation, climate change adaptation, and air quality improvement. He helped lead several innovative initiatives through Green Fleets BC to help public and private sector fleets increase fuel efficiency and lower emissions, and helped in creation of FBC's E3 Fleet program. He currently oversees operations of the Prince George Air Quality Improvement Roundtable (PGAIR), hosted through the FBC Upper Fraser office, and other sustainability projects in the region.

Session 4: Session with youth delegation

Vanessa Sloan Morgan (PhD), UNBC

Vanessa is a Postdoctoral Fellow with the Environment, Community, Health Observatory (ECHO) Network at the University of Northern British Columbia. Her interests lie at the entanglements of humans with lands, and how decision-making impacts these relationships. Vanessa is delighted to be back at UNBC, where they had previously worked to explore community perspectives and experiences of health, community, and environment in northern BC watersheds.

Session 5: Assessment of cumulative impacts on health and wellbeing

Barb Oke (PAg), Northern Health

Barb is the Regional Manager for Northern Health's Office of Health and Resource Development, providing strategic leadership and guidance on topics where natural resource development projects like mining, liquid natural gas and oil intersect with health. Barb is a Professional Agrologist and has over 10 years of experience working in the natural resources management field, both in environmental consulting and now in the public health care sector. She graduated with a Bachelor's of Science in Environmental Science and Geography from the University of Northern British Columbia.

Chris Buse (PhD), UNBC

Chris holds a postdoctoral fellowship from the Michael Smith Foundation for Health Research, is the Project Lead for the Cumulative Impacts Research Consortium (CIRC), and is an Adjunct Professor in the School of Health Sciences at the University of Northern British Columbia. Chris is particularly interested in building integrative approaches to address the community and health impacts of environmental

change, including resource development and climate change. Chris has been actively leading the CIRC initiative at UNBC since 2015, and his research on the cumulative impacts has positioned him as a prominent voice for integrative and interdisciplinary scholarship.

Sandra Martin Harris (MA), Lihksilyu Clan, with the Gitksan Government Commission

Sandra has been a program developer and advisor for social development at the Gitksan Government Commission since 2007, with a focus on strengthening governance, housing needs assessments, youth job readiness programs and exploring holistic wellness frameworks for community health, safety and wellbeing. Sandra also spent 10 years working with the Office of the Wet'suwet'en/Nation, focusing on supporting the Treaty Team and planning for land use and territorial planning, and 7 years managing the human and social services strategy. Working with Kyah Wiget Education Society in Moricetown, she developed a locally based adult education program, administered the local elementary school and assisted with the provincial aboriginal language certification standards. Sandra is an Advisory Committee member for the Cumulative Impacts Research Consortium (CIRC).

Henry Harder (EdD, MA, BEd, RPsych), UNBC

Henry is an Indigenous Scholar, Professor and past Chair of the School of Health Sciences at the University of Northern British Columbia. He is currently the Dr. Donald B. Rix BC Leadership Chair in Aboriginal Environmental Health and a registered psychologist. Henry has been in the fields of mental health, rehabilitation and disability management for over 30 years. His research interests are in Indigenous health, disability issues, workplace mental health, and suicide prevention. Henry is a Canadian Institutes of Health Research funded scholar and a published author. He is a member of the College of Psychologists of British Columbia, Network Environments for Aboriginal Research in BC, Canadian Psychological Association, American Association of Marriage and Family Therapy, International Society of Physical and Rehabilitation Medicine.

Margot Parkes (MBChB, MAS, PhD), UNBC

Margot is a Canada Research Chair in Health, Ecosystems and Society, at the University of Northern British Columbia. Her work seeks to integrate social and ecological determinants of health, with a particular attention to the cumulative health, environment and community impacts of land and water governance, and on watersheds and catchments as settings for intersectoral action to improve health. Margot's publications and international collaborations focus on research, education and capacity to link health, ecological and social concerns, with an emphasis on ecosystem approaches to health. She is the co-lead of a 5-year international project, the Environment, Community, Health Observatory Network (ECHO) Network, focused on working together across sectors to take notice of – and respond to – the influences of resource development on health and well-being, with specific emphasis on rural, remote and Indigenous communities and environments. Margot is also a founding Steering Committee member of the Cumulative Impacts Research Consortium (CIRC).

Sandra Allison (MD), Northern Health

Sandra joined Northern Health in June 2014 as Chief Medical Health Officer. She is a public health physician and is responsible for all public health programs in Northern Health. Sandra advises the NH Executive Team and the Board on issues of importance to the health of Northerners. She is a Fellow of the Royal College in Public Health and Preventive Medicine, and a Certificant of the College of Family Physicians of Canada. Her interests include health promotion, community development and emergency preparedness. In her work as a public health physician, Sandra has remained active in education of medical students and residents and is a Clinical Assistant Professor with UBC and an Adjunct Professor at UNBC.

Session 6: Wildfire preparedness and cumulative impacts

Dominick A. DellaSala (PhD), Geos Institute

Dominick is President and Chief Scientist of the Geos Institute in Ashland, Oregon and former President of the Society for Conservation Biology, North America Section. He is currently on Oregon's Global Warming Commission Subcommittee on Forest Carbon and is Editor of numerous scientific journals and publications. His book *Temperate and Boreal Rainforests of the World: Ecology and Conservation* received an academic excellence award from Choice magazine. His recent co-authored book– *The Ecological Importance of Mixed-Severity Fires: Nature's Phoenix*– presents groundbreaking science on the ecological importance of wildfires. Dominick co-founded the Geos Institute in July 2006 and he maintains a provocative conservation science blog and wildfire blog.

Madeline Maley (RPF, MSc), BC Wildfire Service

Madeline became the Executive Director, BC Wildfire Service with the Ministry of Forests, Lands, Natural Resource Operations & Rural Development (FLNRORD) in 2016. Prior to this, she was the Executive Director, Regional Operations South Area, with FLNRORD. Madeline joined the Forest Service in 1995 as an Inventory Forester in the Port Alberni Forest District and worked on the Coast until moving to Kamloops in 2003 as the Operations Manager for Kamloops Forest District. She moved to the Southern Interior Regional Office in Kamloops as the Regional Staff Manager, Stewardship and Compliance and Enforcement in 2007, and Acting Regional Executive Director from 2009 to 2010.

Raina Fumerton (MD), Northern Health

Raina is a Medical Doctor and a fellow of the Royal College of Physicians and Surgeons in the specialty area of public health and preventive medicine. She has been working as a Medical Health Officer (MHO) for Northern Health since 2015. In addition to her general role as an MHO for the geographic area of the northwest health service delivery area, Raina is also the MHO lead for the Environmental Health Portfolio for Northern Health. It is through this role that she has had the privilege of working on various interconnecting issues of environmental health, industrial development, and climate change and how these issues interact with human health at a community and population level.

Sonja Leverkus, (PhD, RPBio, PAg, FIT, EP, AFE certified wildland fire practitioner), Shifting Mosaics Consulting/Northern Fire WoRx

Sonja is the owner and CEO of Shifting Mosaics Consulting, an ecological consulting company, and Northern Fire WoRx, a company specializing in fire with Type 2 suppression crews on contract to the BC Wildfire Service and the only privately trained prescribed fire and patch burn grazing company in the country. Sonja is the youngest Ignitions Specialist on the Ignitions team with the BC Wildfire Service – and the only woman! Sonja believes in mobilizing traditional and historical knowledge with western science, and shifting the paradigm of fire to develop fire absorbent landscapes for multiple values and generations.

Al Wiensczyk (RPF), UNBC

Al is the Research Manager for the Natural Resources and Environmental Studies Institute (NRESI) at the University of Northern British Columbia. He is a registered professional forester (RPF) in British Columbia and Ontario with over 25 years of research and operational experience in natural resource management. Al is a Steering Committee member for the Cumulative Impacts Research Consortium (CIRC).