

The Stakeholder Workshop Series- Water/Climate Change/Salmon



Workshop 2- Monday September 26, 2011 Quesnel BC

Meeting Convened by: Dr. Phil Owens, FRBC Research Chair in Landscape Ecology, UNBC

In collaboration with: Williams Lake Indian Band, Carrier Chilcotin Tribal Council, Fraser Basin Council, Cariboo Regional District, The Land Conservancy, Forum for Extension and Research in Natural Resources, Likely/Xat'sull Community Forest, Likely Chamber of Commerce, Council of Canadians, Williams Lake Field Naturalists, Horsefly River Roundtable, West Fraser Mills, Mount Polley Mining Corporation, Department of Fisheries and Oceans, Scout Island Nature Centre, Northern Shuswap Tribal Council, Alex Fraser Research Forest, Ducks Unlimited Canada, Gibraltar Mine Ltd., Cariboo Chilcotin Conservation Society, Ministry of Environment, Williams Lake Transition Town Group, Baker Creek Enhancement Society, Ducks Unlimited, Ministry of Forests Lands and Natural Resources

Objectives of Workshop 2- Climate Change:

- create a safe space to exchange knowledge about local land and water management, local policy development, and local research needs;
- address pertinent natural resource management issues with regards to climate change and explore *how* different stakeholders understand the same information in different ways;
- identify barriers to collaborating and knowledge exchange, and think of innovative ways to overcome these barriers.

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Biographies of Participants

Rick Brundrige, MCIP, Registered Planner Manager of Planning Services, Cariboo Regional District

The Cariboo Regional District is a regional government that functions independently of the provincial government. The Cariboo Regional District serves an estimated population of 63,000 residents and provides approximately 100 local government services for taxpayers including fire protection, emergency planning, environmental services and planning as well as library and recreation facilities.

Contact- rbrundrige@cariboord.bc.ca

Presentation title- *Climate change adaptation strategy for the Cariboo Regional District.*

Katrina Caley, MSc Candidate, UNBC

Katrina Caley is a Master's of Science candidate under the direction of Dr. Phil Owens in the Natural Resources and Environmental Studies department at the University of Northern British Columbia. Her research has focused on evaluating the long-term variability of the sediment retention function of two wetland buffers in the central Interior of British Columbia. Prior to entering graduate studies, Katrina completed an undergraduate degree in Environmental Science at the University of Ottawa. Outside of the university, she has taken a strong interest in several outdoors activities, and has found herself on rock faces, rivers and hiking trails throughout the BC landscape.

Contact- katrina.caley@gmail.com

Richard Case MSc RPBio

Richard is a professional ecologist best known for his CCBAC Conservation Strategy and his restoration projects in the Williams Lake River Valley and Horsefly. While having a passion for protecting and restoring essential components of ecosystems, he is also working to raise awareness concerning the need for alternative energies, a more localized economy, and conservation as we transition at the end of the Age of Oil.

Richard holds a BSc degree in Civil Engineering (66) from California State University and a Dual Masters Degree in Ecology (95) from Oregon State University. He owns and manages woodlot and has lived rurally in the Cariboo for 40 years. He is a Director on the Potato House Project and a member of the Williams Lake Transition Town Group.

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Ray Coupe, Forest and Range Ecologist

Mr Ray Coupé is a forest and range ecologist who has worked as a research ecologist with the British Columbia Forest Service for over 35 years. Over much of this time Ray has had played the lead role in the development, extension and application of the Biogeoclimatic Ecosystem Classification in the Cariboo-Chilcotin region. He was also a lead in the recent development of a predicted ecosystem mapping project for the Cariboo-Chilcotin region of south central British Columbia (8 million ha). Mr. Coupé has guest lectured university courses and has given numerous lectures and field training sessions in forest and range ecology.

Ray has also lead and participated in a wide range of ecological research topics such as non-timber forest products, silvicultural systems research to maintain critical wildlife habitat, vegetation management, forest regeneration techniques, grassland restoration, frost prediction modelling, pyric herbivory and First Nations traditional use plants. Mr. Coupé also has provided technical support to land use planning and strategies (CCLUP, Grassland Strategy, Protected Area Strategy) in the Cariboo-Chilcotin. He is well recognized for his knowledge of the vascular flora of the province and their ecology and has co-authored several plant identification guides for interior British Columbia.

Presentation title- *Changes in vegetation in the alpine and policy implications.*

Contact- ray.coupe@gov.bc.ca

Stephen Déry, Canada Research Chair in Northern Hydrometeorology

Born in Toronto, Canada, in 1968, I consider myself nonetheless a native of Northern Ontario where my family relocated 3 years after my birth. I grew up within a bilingual (French and English) environment in New Liskeard, Ontario, Canada, until I moved back to Toronto in 1987 to attend York University. At York, I completed both a Bachelor's (1991) and Master's (1993) degree in the field of Atmospheric Science. I then participated in a student work exchange programme by IAESTE that gave me pertinent experience in my field of studies at the Technical University of Budapest in Hungary (1994). Subsequently, I returned to York University as a project scientist studying blowing snow. I then applied in 1996 and was accepted at McGill University for the Ph.D. programme in the Department of Atmospheric and Oceanic Sciences.

During my years as a university student, I have been extensively involved with student associations and community groups. At York University, I was at a volunteer for the Learning Disabilities Programme (1987-89), vice-president and treasurer of C House Council of Founders Residence, president, treasurer and active member of the York Atmospheric Club (1988-1993), and a student representative for the Faculty of Graduate Studies (1992-93). Since joining the ranks of McGill University, I have maintained an active role in student organizations as the list below demonstrates.

Presentation title- *Climate change in northern BC and its impacts on water resource.*

Contact- sdery@unbc.ca

Steve Dodge, District Manager, Ministry of Forests Lands and Natural Resources

Steve is a Registered Forest Technologist, with over 30 years experience in the forest industry who has lived in Quesnel for more than 30 years. For the first 20 years of Steve's career he worked in the field of Engineering on projects in the Fort St James, Vanderhoof, Prince George and Quesnel Forest Districts. He also worked for McElhanney Engineering on projects ranging from the Kemano Completion Project to the Fraser River Skybridge. When not at work, you can find Steve enjoying his families cabin on McLeese Lake, at a gymnasium or skating rink or busy writing his weekly article for the Quesnel Observer chronicling the Quesnel Forestry Hockey League.

Contact- steve.dodge@gov.bc.ca

Warren Fortier, Natural Resources Coordinator, Williams Lake Indian Band

The T'exelcenc (Williams Lake Band people) are members of the Secwepemc Nation (Shuswap people). Secwepemc lands extend from Shuswap Lake in the south to Quesnel Lake in the north, and from Columbia-Kootenay Range in the east to Alexis Creek Area in the west. We know, and archaeology has shown, that Northern Secwepemc culture stretches back for 4000 years in the Cariboo Region. For thousands of years we lived in semi-permanent villages in the winter and moved around on the land in the summer to collect fish, game and plant resources. We enjoyed a rich environment and a rich ceremonial life. Our chiefs led a strong people. They do so today.

Contact- Warren.Fortier@williamslakeband.ca

Philip Haseldine, Environmental Coordinator, Gibraltar Mines Ltd.

I joined Gibraltar Mines Ltd. in the capacity of Environmental Coordinator in February of this year. I am continuing to becoming familiar with the many and varied aspects of the position.

In the recent past the majority of my work has been for the forestry sector, specifically conducting slope stability hazard assessments for roads and proposed cut blocks on steep terrain. I am a Geoscientist-in-Training (GIT) and am currently applying for professional status with APEGBC.

I am also a Professional Agrologist, P.Ag, registered in B.C., specializing in the areas of land capability for agriculture, mine reclamation planning, and detailed soils mapping.

Lastly I am a Certified Professional in Soil Erosion and Sediment Control, CPESC, and am familiar with environmental site assessment and advanced erosion control planning.

I spend my spare time exploring the region with my wife and two young children. We are still acclimatizing to region after moving from Vancouver Island.

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Sue Hemphill, Environmental Educator Scout Island Nature Centre, Member of the Horsefly River Roundtable, Director Cariboo Chilcotin Conservation Society, and Treasurer Williams Lake Environmental Society

I was born and raised in Detroit Michigan many years ago. I spent summers at my grandparent's farm exploring all the things I couldn't find in my own backyard. I graduated (1969) from the University of Michigan with a BS in Science of Education and began teaching in inner city Los Angeles. I earned a MS in Special Education and kept on teaching, but always dragging my students outside to look at bugs, plants, dirt, etc. I found a partner, sailed for 5 years and then homesteaded near Horsefly BC in the middle of a forest. The logging of the forest bothered me so I went back to university and got a BS and MS in biology (botany is/was my thing), so that I could work intelligently on environmental issues. I spent 5 years doing botany field work, which I thoroughly enjoyed, but it kept me away from home too much. Now I focus on getting people of all ages outdoors exploring, enjoying and learning about nature—while continuing to work on environmental issues.

Contact- shemphill@wlake.com

There is no death in mortal things, and no end in ruinous death. There is only mingling and interchange of parts, and it is this that we call "Nature." Empedocles

Richard Holmes, M. Sc., R.P. Bio, President and Senior Project Scientist of Cariboo Envirotech Ltd. and Manager of the UNBC Dr. Max Blouw Quesnel River Research Centre.

Richard has been involved in fisheries and environmental work for 30 years and leads a team of integrated resource specialists dedicated to providing clients with the best possible solutions to their environmental problems. He has a broad background in British Columbia freshwater fishery issues and his interests include research and the sustainability of natural resources including the communities that depend on them. He continues to work with First Nations, Universities, industry including the ranching, mining and forest sectors, the federal and provincial governments, non-governmental organizations, and individual land owners. He is active in implementing eco-system based management planning for the Xeni Gwet'in First Nation Government in their Caretaker Area and managing their instream freshwater fishery for sockeye stocks migrating into the Chilko River. He is strong believer in increased local governance of watersheds.

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Heidi Knudsvig Masters Candidate, UNBC

The NHG investigates the role of climate variability and climate change on the high-latitude and alpine water cycle. The research group is led by Stephen Déry, a Canada Research Chair in northern hydrometeorology, a tenured, associate professor in the Environmental Science and Engineering Program of UNBC, as well as a member of UNBC's Natural Resources and Environmental Studies Institute.

Contact- heidi.knudsvig@gmail

Alex Koiter, PhD Candidate, UNBC

Alex Koiter is a Ph.D. student at UNBC working under the supervision of Drs. Phil Owens and Ellen Petticrew. Alex received his B.Sc. in environmental science from the University of Guelph in 2006 and a M.Sc. in soil science from the University of Manitoba in 2008. From the beginning of his academic career, Alex has had an interest in soil and water conservation and protection. His current research focuses on better understanding soil erosion and sediment transport at the watershed scale using sediment fingerprinting (sediment tracing). The goal of this research is to explore how sediment moves from hill slope to watershed outlet and how this influences the sediment fingerprinting technique. When Alex is not in the field or in the lab he can often be found hiking, fishing, canoeing or skiing in the backcountry of BC.

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Suzan Lapp, Watershed Management Specialist, FORREX

FORREX Forum for Research and Extension in Natural Resources (FORREX) is a British Columbia, Canada-based charitable non-share corporation, founded in 1998 to help people develop science and knowledge-based solutions to complex natural resource challenges. Through the contributions of staff, partners and donors, FORREX links people to knowledge, and facilitates continuous innovation and improvement in natural resource policy and management – practices that greatly influence the ecological, social, and economic well-being of our communities. FORREX believes that knowledge can make the greatest difference when it is shared, empowering people to make more informed decisions.

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Don Lawrence, Senior Habitat Biologist, Fisheries and Oceans Canada

Raised in Prince George BC, Don attended technical schools in Forestry and Wildlife management in the late 70's. He then started a natural resource management career with the BC Forest Service throughout the north central part of British Columbia. In the late 1980's, he moved to the Department of Fisheries and Oceans as an officer when Fishery Officers worked as generalists fisheries resource management. After working in Nanimo, Lillooet and Kitimat, he moved in 1995 to Williams Lake to specialize in fish habitat management as a Habitat Technologist. In 2004 he graduated from Royal Roads University with a degree in Environment and Management and became the Senior Habitat Biologist in Williams Lake. Don now works as DFO's representative in fish habitat management for watersheds that flow into the Fraser River from Quesnel to Churn Creek (including the Quesnel and Chilcotin Rivers). Duties relate mostly to environmental and technical assessments of specific project proposals but other duties can include planning, fisheries inventories, and enforcement in salmon habitat.

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Fredrico Osorio, PhD Candidate, UBC

Since high-elevation environments respond rapidly to minute changes in climate they provide realistic means for assessing whether the climate in British Columbia will follow predicted global patterns of change or whether other conditions (e.g. increased snowfall) can counteract global warming at a local scale. The results of Federico's research will help land managers and scientists determine how the ecology of the province might respond to human induced changes in regional climates, including how the forests of British Columbia might change in composition and distribution under new climatic conditions. As most of the ecosystems in the province depend on high-elevation snow catchments to meet growing season water requirements, the project also has implications for understanding how the hydrological conditions of our ecosystems might respond to changes in snow melt timings and new water uptake capacities.

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Presentation title- *Changes in vegetation in the alpine and policy implications.*



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Phil Owens, FRBC Research Chair in Landscape Ecology, UNBC

Phil Owens is the Endowed Research Chair in Landscape Ecology at UNBC. He also co-directs the Quesnel River Research Centre. His main interest is how landscape disturbances and changes (such as climate change, land use change, mining, wildfires, and urbanisation) influence water and sediment quantity and quality in river basins. In particular, he is interested in tracing sediment and contaminants in rivers. He is also interested in how science can be used to inform improved management decisions, and is involved in a variety of organisations such as the European Union, US Army Corps of Engineers, and the International Atomic Energy Agency. He is Editor-in-Chief of the Journal of Soils and Sediments. Much of his work and that by his graduate students is based out of the QRRC.

Contact- owensp@unbc.ca

Erin Robinson, Research Associate for the University of Northern British Columbia's Dr. Max Blouw Quesnel River Research Centre and the Likely/Xat'sull Community Forest

I obtained my MA in cultural anthropology and natural resource management by studying the cross-cultural collaboration of First Nation and non-First Nation communities by researching the Likely Xat'sull Community Forest as a case study. I advocate focusing on similarities as well as common goals and interests that can be improved through cross-cultural work; stabilizing local control of the forest with *all* of its inherent values. Through my research, I am documenting how local people are exemplifying what can be accomplished when decision-making over land management is carried out at the grassroots level. Currently I sit on the Likely Community Forest Society (Likely's governing body for the Likely Xat'sull partnership) and the Likely Chamber of Commerce.

My passions in life are parenting my son, serving my community, and advocating for sustainable treatment of our planet.

Area of interest to me are: power and resistance, post-colonialism, local land management, and community advocacy.

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Bob Simpson, MLA Cariboo North

I'm a Scottish immigrant, raised in a blue collar family with four younger brothers, my Mom's youngest brother, and my Dad -- a lot of testosterone for my poor Mom to manage, but she rose to the challenge with humour and grace. We immigrated to Winnipeg, Manitoba from Glasgow when I was ten. After graduating from High School I worked at an accounting firm in Winnipeg for a year until I turned seventeen and joined the Navy. I spent time on the East Coast for basic training before being posted to a destroyer escort based out of CFB Esquimalt in Victoria for the next two years.

In 2004 I became concerned about the direction the Province was going in and decided it was time to get more directly involved in the political process to see if I could be a change agent from within. I was elected as an NDP MLA in 2005 and again in 2009 in two very close elections. I served as the NDP's Forestry Critic in my first term and as their Critic for Aboriginal Relations after the 2009 election.

In the fall of 2010, I left the NDP to sit as an Independent. I believe that over the past few decades, political parties have garnered too much control over our democratic institutions to the detriment of good governance. We are now locked in a cycle of perpetual electioneering which has created cynicism among citizens and undermines our ability to embrace the complex and time sensitive challenges confronting us. I'm committed to working with my constituents and British Columbians to get better government through democratic reform and by using my freedom from the constraints of a political party to propose public policy alternatives that will benefit everyone, especially future generations.

Contact- bob.simpson.mla@leg.bc.ca

Mike Simpson, Senior Regional Manager, Fraser Basin Council

Mike Simpson is a facilitator and a forester who has lived in the Cariboo region of BC since 1994. His current position is Senior Regional Manager, Cariboo-Chilcotin and Thompson Regions, with the impartial non-for-profit organization Fraser Basin Council. His current work involves multi-stakeholder facilitation and mediation of complex environmental and natural resource management issues involving all levels of government, first nations, the private sector and civil society. His work before joining the Council in 2006 was in natural resource management consulting for the forest industry, government, woodlot licensee and first nations clients throughout the Southern Interior and Central Coast. Mike's education includes a BScF, University of Toronto in 1994, and MA conflict resolution, Royal Roads University in 2004. He's been a registered professional forester in BC since 1996. Mike is father to Abigail and Aaron and life partner to Holly. In his spare time he likes good coffee, hiking, backpacking, cross-country skiing, reading, cooking and avoiding all domestic duties and handyman chores.

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Katharine VanSpall, Conservation Programs Specialist for the Cariboo-Chilcotin, Ducks Unlimited Canada

Ducks Unlimited Canada (DUC) has been committed to **wetland conservation** for more than 70 years. Despite this, wetland loss continues across Canada. Up to 70 per cent of wetlands have disappeared in settled areas of the country. DUC—a national, private, non-profit organization—is committed to conserving Canada's wetlands. It's a responsibility DUC does not take lightly.

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Charlie Wyse

Charlie Wyse is a long-time resident of the Cariboo. He taught high school Science and Math for 35 years in Williams Lake. Charlie served on Williams Lake City Council for 23 years, on the Cariboo Regional District, on the Cariboo Chilicotin Health Board, and on the North Central Mental Health Board. He was MLA for the riding of South Cariboo from 2005 to 2009. At various times during his term as MLA, Charlie served as Opposition Critic for Mental Health, for Trade, Investment, Labor and Mobility Agreement (TILMA), for Municipal Affairs, and for Agriculture.

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David Zirnhelt, Board of First Nations Agriculture Association, Grasslands Conservation Council of BC

David Zirnhelt is a rancher and a consultant in economic development and land use policy. He is from the Cariboo region of BC, and has worked extensively with First Nations in the Province. He and his family raise grass feed beef, woodlot products, lumber and build timber frame houses. David has been doing farm research and production of industrial hemp. David's formal education is in Political Science, but he has been a student of agriculture and forestry and has farmed for over 30 years. David serves as advisor to Board of First Nations Agriculture Association. David was an elected member of the Legislature in BC for 12 years from 1989 to 2001. While in the legislature he served as Minister of Economic Development; Agriculture, Food & Fisheries; Aboriginal Affairs; and Forestry.

Presentation title- *Carbon sequestering into grass finished beef in the Cariboo.*

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