

The Stakeholder Workshop Series- Water/Climate Change/Salmon



Workshop 3- Wednesday November 23 and Thursday November 24, 2011 Likely BC

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

In collaboration with: Williams Lake Indian Band, 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, Williams Lake Field Naturalists, Horsefly River Roundtable, West Fraser Mills, Department of Fisheries and Oceans, Scout Island Nature Centre, Northern Shuswap Tribal Council, Ducks Unlimited, Alex Fraser Research Forest, Gibraltar Mine Ltd., Cariboo Chilcotin Conservation Society, Ministry of Environment, Williams Lake Transition Town Group, Baker Creek Enhancement Society, Ministry of Forests Lands and Natural Resources, Northern Lights Lodge, and Ecotours BC

Objectives of Workshop 3- Salmon:

- 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 salmon 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

Sam Albers, Research Associate UNBC

My research interests lie in examining the watershed-scale impacts of small scale biogeomorphic processes. Generally, I am interested in how animals alter nutrient cycling processes in aquatic systems and how this impacts downstream or adjacent ecosystems. Specifically, I have studied the role that salmon spawning and decay influence stream biota and sediments both in natural and artificial environments.

I hold a Bachelor of Science degree ('06) from the University of Victoria and a Master of Science ('10) from the University of Northern British Columbia. I have worked in the Quesnel watershed and the Quesnel River Research Centre on salmon related issues for 4 years and have developed a strong attachment to the region, it's waters and it's people.

Contact- albers@unbc.ca

Barry Booth, Regional Manager Northern Region, The Land Conservancy

Barry Booth is responsible for managing TLC's affairs in the northern region. This ranges from spearheading restoration efforts in the Horsefly River Riparian Conservation area, to digging ditches at Talking Mountain Ranch, to working with partners on a variety of provincial-scale conservation issues. Barry worked as a consultant for government, industry, and the not-for-profit sector on examining the impacts of commercial activities and development (e.g., forestry, urban development, tourism) on a wide variety of wildlife, but mostly birds, throughout B.C. for over 15 years before coming to TLC. He has a B.Sc. in Zoology and a Master's of Science in Forestry/Wildlife Management, both from UBC. When not at his desk, or in the field on TLC properties, he can usually be found cross-country skiing, mountain biking, canoeing, or hiking in the just about anywhere in western North America with his partner, Loraine. Oh, and at times you may see him singing, and sometimes dancing on the stage in Prince George.

Contact- bbooth@conservancy.bc.ca

Terry and Sharron Borkowski, Northern Light Lodge

Join us at Northern Lights Lodge for exciting dry fly fishing on up to four different rivers that are so diverse and beautiful you will think you are in a different part of the world each time! The Mitchell River, Quesnel River, Horsefly River, Cariboo River and the surrounding waters are home to a unique strain of large, aggressive wild native Rainbow Trout and hard fighting Bull Trout. This unique strain of Girard Rainbow Trout do not spawn until they are seven years old, do not go through the stress of spawning during this period, do nothing but grow and need to become very aggressive in order to survive in their completely natural environment. This Quesnel lake watershed is one of the purest, natural trout habitats found anywhere.

Contact- info@nllodge.com

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Katrina Caley, MSc Candidate, UNBC

Katrina Caley recently completed her Master's of Science 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

Warren Fortier, Natural Resources Coordinator, Williams Lake Indian Band

Currently working for the Williams Lake Indian Band as a natural Resources Coordinator, Warren has achieved a Natural Resources Science Degree, a Forestry Diploma, and a Teaching Diploma. Warren has worked for forest industry, post-secondary institutions, First Nation Bands, and Tribal Councils. Warren is the proud father of four wonderful children and six delightful grandchildren!

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.

Contact- phaseldine@gibraltarmines.com

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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.

Contact- holmesr@unbc.ca



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Robin Hood, President, BC Community Forest Association, Manager Likely/Xat'sull
Community Forest

Robin has been President of the BC Community Forest Association for the past 6 years. He is the manager of the Likely/Xat'sull Community Forest and was the driving force and a major role player in its formation. Through the collaboration of the community members both in Likely and Soda Creek, the community forest intends to create a model multi-use forest that ensures environmental quality while creating economic opportunities. This forest will become the focal point for community pride. Robin has worked for himself most of his life doing farming and forestry contracting.

Contact- sherwood@thelakebc.ca

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.

Contact- koiter@unbc.ca

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 Nanaimo, 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.

Contact- don.lawrence@dfo-mpo.gc.ca

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John Rex, Forest Hydrologist, Ministry of Forests, Lands & Natural Resource Operations, Omineca Region and Adjunct professor, Geography Program, UNBC

My research area includes the application of hydrology and biology to fish/forestry interaction management questions. Some of the topics I have focused on include fine sediment transport and storage in streams, small stream riparian zone management, mountain pine beetle and salvage harvesting effects on small streams and soil hydrology, and the role of fine sediments in marine-derived nutrient retention and cycling in salmon-bearing streams.

Contact- John.Rex@gov.bc.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 raising 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.

Contact- robinsoe@unbc.ca



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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

Ellen Petticrew, FRBC Research Chair in Landscape Ecology, UNBC

The underlying theme of my research is the fate and effect of sediment moving from terrestrial environments into and through the aquatic system. My work addresses the role of inorganic and organic sediments on the biological (plants, fish), chemical (nutrients, contaminants) and physical (sediment erosion and transport) aspects of land-water systems. Specific focus areas include: Landscape scale linkages between terrestrial and aquatic systems, Landscape disturbances on sediment transfers (fire, forest harvesting, agriculture), Biogeomorphology: influence of organisms on physical attributes of aquatic systems and vice versa, Ecological implications of transfers and storage of fine sediment (both organic and inorganic) in rivers and lakes, Fine sediment morphology and composition (flocculation processes) and, Lake restoration and community stewardship.

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John Stace-Smith, Registered Professional Forester and Board Member, Likely Xat'sull Community Forest

John is a member of the Likely/Xat'sull Community Forest and works for the Xat'sull First Nation Band in Soda Creek.

Contact- stace-smith@shaw.ca

Gord Sterritt, Fisheries Resource Manager, The Northern Shuswap Tribal Council

The primary purpose of the Northern Shuswap Tribal Council (NSTC) is to assist members and to act on behalf of member First Nations at the request of, and under the direction of, the member First Nations.

Contact- g.sterritt@nstq.org

Jocelyn Joe-Strack, Masters Candidate, UNBC

Jocelyn is currently working on her M.Sc. with the University of Northern British Columbia. Her thesis project involves the role of sulfur-reducing bacteria in the speciation of atmospherically deposited mercury and mercury toxicity in sub-arctic lake sediments of the southern Yukon. To complete this project, she is also employed by the Alaska-Canada Research Innovation Centre, which aims at increasing engineering and scientific development in the Yukon. Here, she is responsible for relations with First Nations and environmental projects.

She obtained her B.Sc. with the University of Victoria in Biochemistry and Microbiology. While attending school, she worked on various co-operative projects regarding stem cells in breast cancer malignancy, pine beetle pathogens and tree mycology. Since graduating, she has worked for the Government of Yukon as the Hydrology Technologist. Her responsibilities were to operate and maintain the Yukon's hydrometric, snow survey and meteorological networks. She was also involved in government activities during flooding events.

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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.

Contact- davidzirnhelt@hotmail.com

Gary and Peggy Zorn, Eco tours BC

Imagine drifting down an untamed Canadian wilderness river - a river where the salmon have returned annually for eons, surrounded by nature, wildlife and the inspirational simplicity of mountain beauty. The early morning mist is just lifting off and a large grizzly appears out of the mist in front of you. His quest - catching a wild sockeye salmon for breakfast. A pure and intimate experience with nature!

Meet the Cariboo Mountains "bear whisperer". Gary Zorn has a passion for grizzly bears, the signature species of the Canadian wilderness. He has devoted his life to studying the habits, habitat and nature of grizzlies and has many humorous bear stories along with a great respect for them.

Discovery is part of human nature. At Ecotours-BC we focus on the discovery of nature combined with the delivery of quality in diverse recreation experiences and genuine Canadian hospitality. This makes Ecotours-BC's Lodge in the heart of the Cariboo Mountains the place where your dreams come true. Commune with nature, see a grizzly bear, expand your birding knowledge and much more. It is a place of renewal that creates desire to become part of the natural world or create a new family tradition. You can count on Ecotours-BC to build your connection to nature through our diverse wildlife and nature experiences. This is what Ecotours-BC is all about! This is what Canada and British Columbia is all about! Authentic experiences. Lifetime memories. Life changing moments in nature. Come and experience it!

Adventure in the wilds of British Columbia! - untamed, wild and remote: rare ancient forests, glaciers, alpine, wildlife, mountain grizzly bears, eagles, and salmon - all surrounding the deepest fjord lake on earth.

Contact- adventure@ecotours-bc.com