

ANNUAL MEETING OF THE WESTERN DIVISION OF THE CANADIAN ASSOCIATION OF GEOGRAPHERS (WDCAG)

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PAPER ABSTRACTS

- Lila Bonnardel – Chasing Freedom and Self-Reliance: Breaking the Cycle of Dependency amongst Aboriginal Peoples

New social and economic challenges in Canada raise questions about feelings of security. According to Calvin Helin, in a book that is receiving national attention Aboriginal people are particularly vulnerable to questions of security because of an enduring “dependency mindset” and unsettled agreements with the Canadian Government. Questions of dependency are central within the discourse of the marginalization of Aboriginal peoples. This marginalization is arguably the outcome of various colonial and neo-colonial processes. This paper, much of which reviews the literature on issues of dependency, the historical and current Aboriginal-Canadian government relationship and the limitations to present negotiation and treaty processes, uses geographically informed ‘post-colonial’ and ‘neo-colonial’ theoretical critiques to consider issues of dependency. The paper discusses approaches of overcoming welfare dependency and social exclusion in Indigenous communities. Particular emphasis is paid to the challenges that urban Aboriginals face in Canada, many of which are geographic. Alternatives to the treaty process in resolving issues of displacement, particularly on ‘sense of place’, are also addressed. The process of regaining control over self-determination will not be any easy, one time, quick fix solution; rather it is an ongoing process that must challenge the current approach to addressing these issues and defining the desired goal. I argue that along with reconciliation comes a need to break from the victimization/dependency mindset and replace it with messages of strength and hope.

- Melanie Grubb – Kitsumkalum Lake: A History of Sedimentary Variance

Varved lake sediments offer valuable records of environmental change when combined with instrumental records, historical documents, aerial photography, and radiometric dating. We analyzed inorganic varved lake sediments from proglacial Kitsumkalum Lake and discovered recent and historic changes in sedimentation. Inter-annual variations in varve thickness can be attributed to large episodic hydro-climatic events in the region. The decrease in varve thickness over time is most likely attributed to a decrease in glacier cover and watershed sediment storage. An abrupt facies change present in the bottom of three sediment cores from the distal end of Kitsumkalum Lake delineates a dramatic change in sedimentation from sandy laminations to silt and clay couplets. Hemlock (*Tsuga heterophylla*) needles at the boundary between facies were radiocarbon dated and show that the sedimentation change occurred $325 \pm 15^{14}\text{C yr BP}$ ($381 \pm 25^{14}\text{ cal yr BP}$). The cause of the abrupt change in sediment size may be attributed to the progradation of the Nelson River delta further into proglacial Kitsumkalum Lake. Multiple working hypotheses will be discussed further.

- Jennifer Herkes – Planning for Resilience: A Case Study of Kitimat, BC

Kitimat BC was the first comprehensively planned town in British Columbia. Built in 1954 to house the workers of Alcan, it was planned to be a town with strong social cohesion and designed to be resilient. The physical plan intended to encourage interaction while the social plan was meant to solidify those bonds, thereby developing social cohesion, resulting in the capacity for the town to remain resilient. Focus groups and interviews were conducted to determine if the plan had indeed succeeded. The results indicate that while the physical plan certainly removed many barriers to developing social capital, the development of social cohesion can more likely be credited to the formation of relationships through gender, job-type, ethnicity, and interests.

- Chelan Hoffman – Governing Rural Regions: A Case Study of the Cariboo-Chilcotin Beetle Action Coalition

Rural and small town places in Canada are experiencing economic, social, and political changes, which present them with new challenges and opportunities. In response, some rural and small town places in British Columbia (BC) have attempted to take greater control of regional development through new governance initiatives. The attempt to take control of regional development decision-making signals a change from how rural development decisions have been historically made in BC and Canada. This presentation considers the core-periphery model in comparing historical and contemporary decision-making in rural BC and explores the applicability of the new regionalism literature. The Cariboo-Chilcotin Beetle Action Coalition (C-CBAC) is a newly emerged rural regional governance organization that is addressing issues of development in the interior of BC. C-CBAC formed in 2005 to address economic and social changes as a result of the mountain pine beetle epidemic. This case study highlights the changing governance of rural regional development in BC. The presentation concludes with a discussion of policy considerations to facilitate rural regional governance and development.

- Anne Hogan – Housing, Health, and Social Inclusion of Older People on Low Income in Prince George, BC

Many older people with low incomes live in rental housing because they cannot afford to own a home. They often pay more for rental housing than they can afford. Older women and people with disabilities or chronic health conditions face additional difficulties in finding affordable rental housing. Older people with low incomes often have insufficient funds for food, transportation, and other necessities after they have paid their rent and utilities. Without transportation, they may become socially isolated. Incomes, housing, and social inclusion are all determinants of population health. For my thesis, I used in-depth interviews and interviews with key informants to examine the impact of rental housing on the self-perceived health status and social inclusion of older people living on low incomes in Prince George. Results show that incomes, housing, and social inclusion are inter-related. Low incomes were the primary cause of stress among participants. Low incomes, combined with rental housing costs, led to

inadequate nutrition, lack of dental care, and potential social isolation. Participants felt their health was affected as a consequence.

- Eric Kopetski – The Potential of Agro-Forestry to Increase Resilience in Forest Dependent Communities Affected by the Mountain Pine Beetle

Forest-dependent communities in the central-interior of British Columbia are facing an increasingly uncertain future due to ongoing change in the forest industry and more recently because of the mountain pine beetle. These communities are looking for ways to diversify their economies to compensate for what will likely be a weaker forestry sector. One increasingly popular strategy is the development of bioenergy as an alternative energy source, a strategy that is being promoted by the federal and provincial governments. Using a case study methodology, this presentation will focus on Quesnel, B.C., and the efforts of the Quesnel Community and Economic Development Corporation (QCEDC). At issue is the role of short rotation forestry crops on marginal ranchland and whether this may provide economic opportunities for ranchers.

- Joe LeBourdais and **Neil Hanlon** – Health Services as a Foundation for Community Development in the Peace River Regional District

Community development is defined as the way a population works together to increase the local stock of social, economic, and developmental institutions (Frank and Smith, 1999). In the Peace River Regional District (PRRD), community development is especially important due to the extreme remoteness from large urban centres. Health services are an important aspect of community development, but the communities in our study area have experienced ongoing challenges in this sector. The purpose of this research is to understand the existing process of community development at both community and regional levels as well as to explore the potential for greater community and regional mobilization specifically around issues in health human resource recruitment and retention. The method that this research employs is semi-structured interviews and purposive sampling to gather information across various levels of decision making in the PRRD. The analysis of the data indicates that community officials feel that there is underutilized potential for inter- and intra-community networking to solve health human resource issues. Through the identification of barriers and highlighting of successes, this case study research has transferability to other rural and remote communities facing similar challenges.

- Joanne Lee, **Philip Owens** & TA Stott – Contemporary Glacial Dynamics as Indicated by Pro-Glacial River Sediments and Volume Change of Castle Glacier, BC

Glaciers are susceptible to climate change and a detailed understanding of their present activity will increase our prediction of the impacts of climate change on both pro-glacial environments and downstream areas. This study examined the contemporary glacial dynamics of Castle Glacier, in the Cariboo Mountains, British Columbia, and compared this to sediment fluxes and sources in the pro-glacial stream. Suspended sediment concentrations (SSC) and discharge (Q) were monitored from 09 July until 12 August 2008 in order to determine sediment loads and

yields. The geochemical properties of suspended sediments and potential sediment sources (collected from sites on the glacier, forefield and talus) were compared in order to determine the major sources of sediment to the stream. A digital elevation model (DEM) of Castle Glacier was constructed using a 3D mapping software from aerial photography taken in 2005 and 2008 in order to examine the glacier's volumetric change. Results suggest that glacial recession is influencing suspended sediment sources and loads in the proglacial stream.

- Malysa Maurer – A 10,000 Year Multi-Proxy Record of Glacial Activity in the Cariboo Mountains, BC

Since glaciers are sensitive indicators of climate change, they can provide detailed information about past environmental conditions in their surrounding areas (Leonard and Reasoner, 1999). Glaciers in the Northern Hemisphere have been expanding from the early Holocene until recently, and thus evidence of past glacier extents has often been destroyed during the Little Ice Age advance (Osborn et al., 2007). To rectify the discontinuous record usually obtained by surficial evidence, sedimentation rates in proglacial lakes can be used in conjunction with glacial landforms and deposits to interpret glacial activity (Souch, 1994). This multi-proxy method compares a sediment core from a proglacial lake in the Cariboo Mountains to surficial evidence in the glacial forefield to determine a continuous timeline of glacial activity during the Holocene. The study area at Castle Glacier and Onoff Lake (unofficially named) shows a detailed record of glacier fluctuations in the Cariboo Mountains because the lake only receives sediment by glacial melt water when the ice advances across the watershed divide. The detailed timeline of glacial activity in the Cariboo Mountains shows three separate periods of glacial activity which correspond to other studies done in both the Coast Mountains and the Rocky Mountains (Luckman et al., 1993, Menounos et al, 2004).

- Angela Reid – Identifying Geographic Variations in Access to Seniors Care in a Rural and Remote Region

Those residing in rural and remote areas face numerous geographic barriers when trying to obtain health care, and these issues are especially problematic for seniors. Northern British Columbia, with its small, dispersed and aging population base, has more than its share of health care challenges. Yet even within such a region, there are important differences in the experience of health care accessibility that have major implications for service planning and delivery. In this study, we analyze data obtained from Northern Health's Home and Community Care Program to explore geographic differences in the need for, and the use of, formal and informal seniors care. Using GIS and statistical techniques, we construct service user catchment area profiles for each of 23 Health Centres offering home care assessment in the study region. The catchment areas will be used to identify geographic differences in levels of caseload acuity, service need, and utilization of formal and informal sources of support amongst clients. This study will provide insight into how geographical principles can be used to inform regional health services planning, and to enhance access to services in challenging environments.

- Laura Ryser – Shedding Some Light on Hidden Rural Poverty

Communities across northern BC have been exposed to mounting pressures stemming from the economic recession, fluctuating commodity prices, poor conditions on aboriginal reserves, the Mountain Pine Beetle epidemic, and the mobility of capital. This has led to renewed concerns about poverty rates and support services. At the national level, growing interest in rural poverty emerged with the Standing Senate Committee on Agriculture and Forestry's recent report documenting rural experiences with poverty. Despite these renewed interests, there is no national poverty strategy, and little research has explored the complex underpinnings of rural poverty. This presentation explores the spatial relations that undermine and drive coping strategies for rural poverty. Among the issues of concern are the unique context of rural poverty, the impact of power relations and social exclusion, the presence of physical and social infrastructure, and institutional barriers to addressing rural poverty.

- Tyler Smith – Impact of Land Use Activities on Fine Sediment-Associated Contaminants, Quesnel River Watershed, BC

It is expected that land use activities will influence the quality of water and sediment in rivers and streams draining such land. In turn, it is likely that this will influence aquatic ecology and drinking water quality. Few studies have compared different land use activities on sediment quality simultaneously within the same basin so as to identify the relative importance of land use activities on sediment geochemistry. The effect of various land use activities on the quality of fine-grained sediment was investigated in the Quesnel River Watershed (ca. 12,000 km²) in central British Columbia, Canada. Samples of fine-grained sediment were collected monthly during the snow-free season in 2008 using time-integrated sampling tubes as replicate sites representative of forestry, mining and agricultural activities in the basin. Samples were also collected from replicate reference sites that had undergone limited or no disturbance in recent years, and also from the main stem of the Quesnel River. Samples were passed through a 63 µm sieve and analyzed for various physical (such as particle size), organic (C and N) and geochemical properties (including nutrients, metals and trace elements). This presentation will describe the results from the 2008 field season.

- Mark Steynen – What's Good For the Mill is Good For the Town: The Consequences of Forest Dependence for the Socio Economic Development of Houston, BC

One assumption in rural British Columbia (BC) is that economic growth through forest harvesting and processing is a viable strategy for the social and economic development of forest-dependent places. This strategy is still widely employed despite the fact that BC's forest economy has struggled to cope with the effects of economic, political, and resource related change for over three decades. Forest-dependent places are now struggling with the effects of recent change and Houston, BC is one of many examples. Houston is a small place in northern BC that has been forest-dependent since its beginnings. In the early 1970s, Houston became a forestry production powerhouse and is currently home to the world's first and fourth largest sawmills producing 3.3 million board feet of commodity structural lumber per day. Houston provides an extreme example from which to explore the consequences of forest-dependence for the socioeconomic development of a forest-dependent place. The purpose of this research is to determine the effects of recent change on and explore the obstacles to the social and economic

development of Houston. The hypothesis of this research is that forest-dependence has produced economic growth but has limited the socioeconomic development of Houston.

POSTERS

- Sam J. Albers and **Ellen L. Peticrew** - Interactions Between Salmon Spawning Aad River Biofilms – Biogeomorphic Regulations on Habitat Quality
- Katrina Caley and **Philip Owens** – Sediment Storage Capacity of Wetlands in Deforested Catchments
- Laura Ryser – Community Development Institute at UNBC



UNBC Group in Cache Creek, BC on the journey home from Nanaimo, BC