

newsletter

Climate Change Adaptation Research
for Forest and Rangeland Ecosystems
Resiliency Implications at the Landscape Level

Issue #5 – Spring 2011

Message from Dr. John Innes, Principal Investigator

As this is the final year of the South Selkirks Climate Change Research Project, our last four issues of the e-newsletter will focus on research results from the Resiliency Dimension (RD) teams. This issue and next feature results from the Human Resiliency Dimension's work. Our lead article explores Dr. Natasha Caverley's research report findings from the forthcoming publication "Honouring the Voices of the Ktunaxa Nation and Métis Kootenays Region: Perspectives on Climate Change in the South Selkirks Region." Dr. Caverley's report considers Aboriginal viewpoints on the subject of climate change to be "equal to existing western science approaches in understanding climate change adaptation in the South Selkirks Region." The summer edition of the e-newsletter will highlight Dr. Howard Harshaw's Public Opinion Survey research results. Dr. Caverley's work complements that of Dr. Harshaw: both are integral to understanding the human dimensions of climate change. Our general focus in this and future e-newsletters continues to be **resiliency** and a **landscape level approach to climate change**. We are interested in the ability of social, economic and ecological systems to absorb disturbances while retaining their structures and ways of functioning. We view these systems as linked; therefore a holistic approach must be adopted for adaptation to occur at the landscape level. These beliefs and principles are at the foundation of our research and continue to guide us. Feel free to read Dr. Harshaw's February 2011 UBC Faculty of Forestry [BranchLines](#) article "Fostering climate change adaptation" (p. 14 – 15) which provides a synopsis of our South Selkirks Climate Change Study.



Dr. Natasha Caverley, Co-Team Leader
Human Resiliency Dimension
South Selkirks Climate Change Research Project

Ktunaxa Nation and Métis Kootenays Region Perspectives on Climate Change Adaptation

In 2010, Dr. Natasha Caverley interviewed thirteen members of the Ktunaxa Nation and Métis Kootenays Region about their perspectives on climate change in the South Selkirks Region. Her qualitative study, funded by BC Hydro and the Future Forests Ecosystem Scientific Council (FFESC), involved reviewing extant literature and conducting in-depth semi-structured interviews using the Repertory Grid Technique and Echo Approach. Dr. Caverley writes that "results from the study found that respondents are constantly weighing the pros and cons of climate change adaptation strategies in terms of trade-offs in advancing the Ktunaxa Nation and Métis Kootenays Region as being self-governed and self-sustaining communities now and in the future." Her assumptions

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in entering this work were that indigenous culture and traditional knowledge offer unique and valuable ways of adapting to climate change; that positive psychology, a movement that focuses on positive human qualities, can help to identify optimal characteristics for humans to thrive in sub-optimal conditions; and that humans are resilient creatures, able to maintain equilibrium despite economic, ecological, and social disturbances. The Research Team's holistic policy framework guided Dr. Caverley's study, as she examined all three resiliency dimensions—economic, ecological, and human—from the perspectives of Ktunaxa Nation and Métis Kootenays Region members. Five major themes emerged from the rich results yielded by the study:

1. Understanding the Ktunaxa Nation and Métis Kootenays Region;
2. Perspectives on Climate Change;
3. Human Resiliency and Adaptive Capacity;
4. Ktunaxa Nation and Métis Kootenays Regional Level Decision Making; and
5. Climate Change Adaptation (local initiatives and strategies).

Excerpts from the five data themes are described. In adherence with confidentiality provisions during the research process, pseudonyms are utilized rather than respondents' actual names. Though the Ktunaxa Nation and Métis Kootenays Region share a geographic region, it is important to respect their sovereignty and distinct perspectives.

Theme #1. Understanding the Ktunaxa Nation and Métis Kootenays Region

Respondents expressed a dilemma that some of the economic diversification activities that are threatening the regional environment also allow the Ktunaxa Nation and Métis Kootenays Region to generate revenue at the individual citizen level to the Ktunaxa Nation and Métis Kootenays Region-wide level in order to promote self-sufficiency. Due to the interrelationship between Ktunaxa People, Métis Kootenays Region citizens, the land and its natural resources, there is a risk of gradual loss of traditional languages and socio-cultural ties to the land such as losing localized knowledge, survival methods, sustenance and biodiversity in the region which are integral to monitoring and adapting to changing climates in the South Selkirks Region.

"[We] are always having to work with and adapt to limited funding and determine how to be creative in dealing with these short falls...we need to establish our own land management frameworks to facilitate our own economic development and not be restricted by INAC rules, regulations and processes...we need to ensure that the monies that they have and access reflect our needs and priorities for programs and service delivery in the Nation."

(Dylan)

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During the early 1870s, Ktunaxa Nation children were forbidden to speak their own language and were punished when they did
Photo courtesy of the Fort Steele Heritage Town Archives

linkages to the Ktunaxa Nation and Métis Kootenays Region. Instead, climate change strategies should consider a holistic approach to adaptation that integrates social, cultural, economic and ecological interests in relation to climate change in the Ktunaxa Nation and Métis Kootenays Region.

“...we have to balance our cultural values in terms of engaging in current and future economic development opportunities while being first and foremost stewards of the land...It is part of our makeup, it is part of our DNA to engage in resource extraction and trading. The concern for us is the scale at which resource extraction and trading are occurring – it is going against one of our core values which is – ‘take what you need.’ As part of our legends, one of the mythical creatures is taking more than what is needed and the animals see this happening – a hunting party is formed to kill this creature. The creature is going against natural law and balance of nature by consuming more than what it needed...we do this as human beings...we need to be recognized as an economic contributor so that we have a seat at the table to influence decision-making on environmental well-being in the Nation and broader region.”

(Jack)

Theme #2. Perspectives on Climate Change

Respondents are of the view that climate change is a natural process; however, human activity is accelerating the speed and intensity of the change. Major vulnerabilities that respondents felt are intensified by climate change included, but were not limited to, land development and overpopulation, logging, extreme weather events, water quality and wildlife changes. Respondents felt that the future of the Ktunaxa Nation and Métis Kootenays Region lies in the wisdom of Ktunaxa Nation and Métis Kootenays Region Elders and Knowledge Keepers, the revitalization and sharing of culture, localized knowledge and language and Youth engagement. Climate change adaptation strategies and initiatives must not simply move Aboriginal people away from their communities due to climate change-effects in the area thereby distancing citizens from their ancestral

Theme #3. Human Resiliency and Adaptive Capacity

Both the Ktunaxa Nation and Métis Kootenays Region are adapting harvesting patterns and travel routes to mitigate the effects of the South Selkirk's changing environment. They are adjusting their harvesting and hunting schedules and routes to maximize their efficiency in harvesting roots, berries and hunting game to maintain sustainable practices taught to them by Elders, Knowledge Keepers and legends. Waiting and integration of traditional knowledge with western science are new coping strategies for the Ktunaxa

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Nation and Métis Kootenays Region – patiently and respectfully waiting for game to arrive, waiting for the weather to improve, and integrating indigenous and western sciences and technologies to more effectively adapt to changing climates. Both Ktunaxa Nation and Métis Kootenays Region respondents felt an overwhelming sense of connection and sense of place at the Nation and regional levels which influence their identity in the Ktunaxa Nation and Métis Kootenays Region. Sense of place for respondents represented a profound connection to cultural and spiritual values that sustain them as individuals and as Peoples. Respondents noted that the shaping of self-identity ensured recognition for the Ktunaxa Nation and Métis Kootenays Region by non-Aboriginal people regarding Aboriginal title and rights on the land and its resources.

“Everyone in the community no matter the age was brought up to respect and honour all the plants and animals of the land. When an animal was killed, no part was wasted or thrown away, even such things as the bladder and stomach were used. If anything was taken from the land, a type of offering was made to give thanks for providing nourishment for their bodies and their families. There was no concern for overharvesting as they took only what they needed and nothing more. It was a very harmonious relationship between the Ktunaxa and the lands and beyond.”

(Steven)



A Métis family (unidentified) travelling in Canada
Photo courtesy of the Métis Nation British Columbia

Theme #4. Ktunaxa Nation and Métis Kootenays Regional Level Decision Making

Community meetings, voting by membership on specific issues, committees and working groups, Annual General Meetings and Annual General Assemblies, cultural and language-specific forums, and referendums were all identified as decision-making methods that Ktunaxa Nation and Métis Kootenays Region citizens engage in. Other characteristics of Ktunaxa Nation and Métis Kootenays Regional level decision making include engaging in community visioning, growing internal and local capacity in the Ktunaxa Nation and Métis Kootenays Region, facilitating and sharing of local knowledge and resources and establishing goals, objectives and indicators. By linking vision with structure and performance measurement, respondents had an overwhelming sense that they want to be proactive in taking ownership of what they do on the land and want to be equal with neighbouring or partnering non-Aboriginal organizational entities.

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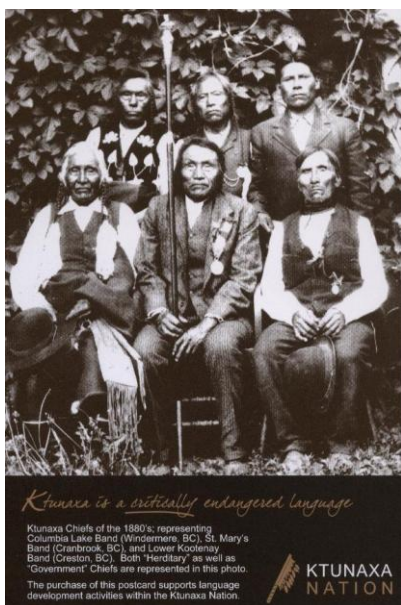
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“We have recently come together to develop a strategic plan. This exercise has seen our community come together and work on a vision and how to make this vision a reality in the future...strategic planning allows us to leave a legacy for future generations. We are working together so when our young people move forward, they do not have to go through similar struggles that we did. I know that our ancestors faced far more adversities than we can imagine; we don't want to lose what they have done for us. Instead, we need to build on our ancestors' experiences to make a better future...we just finished talking about our strengths and weaknesses for our community...our strengths as a community far outweighed our weaknesses – this is a good thing.”

(Catherine)



Ktunaxa Nation Chiefs of the 1880s

Photo Courtesy of the Fort Steele Heritage Town Archives

Theme #5. Climate Change Adaptation – Local Initiatives and Strategies

Key strategies centered on renewable energy; Nation and Regional level awareness and education on climate change; enhancement of social networks and dialogue; full participation and engagement in climate change adaptation decision making by Ktunaxa Nation and Métis Kootenays Region; recognition and integration of language, cultural and localized knowledge in Nation and Regional level climate change processes; utilization of community forests and conservation forestry practices; implementation of ecological restoration; growth or purchase of local foods, products and services; and continuation of Ktunaxa Nation and Métis Kootenays Region-specific ecological monitoring and climate change adaptation.

“There needs to be increased dialogue with our Youth about climate change adaptation...we need to integrate climate change adaptation into the school system and work with local community groups. There is a “green belt” in the South Selkirks – it is an environmental activist region so there are various opportunities for our community members and Youth to be proactive and engage in adaptation activities like recycling and other green initiatives in the community...citizens need to understand that caring for nature is part of their responsibility...it leads to preservation.”

(Thomas)

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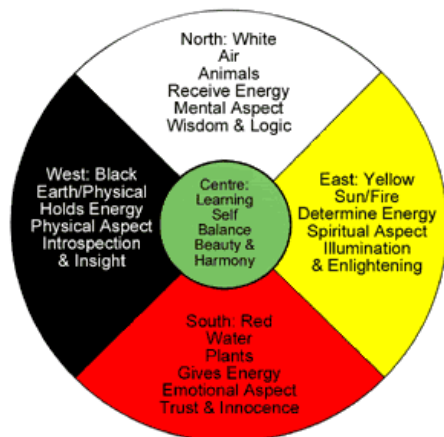


Diagram of an Aboriginal Medicine Wheel
Source: The Integral Medicine Wheel, 2010

Resiliency Dimension Highlights

From January to March 2011, we carried out the following activities:

Public Opinion Survey. Dr. Harshaw continued his administration of the South Selkirks Public Opinion Survey.

Ecological Modeling. Dr. Walt Klenner and the Ecological RD Team reviewed topology models that classify the complex terrains of the South Selkirks into areas of similar susceptibility to changing climate. Along with Forest Biologists Laurie Kremsater and Dr. David Huggard, Dr. Klenner completed the first draft of a literature review on climate change effects on Southern Interior forests and grasslands to estimate disturbance frequencies and successional pathways in the study area.

Collaboration. Dr. Klenner worked with the NCC – BC Region to incorporate forestry inventory data from the Darkwoods Property into climate change models for the study. Drs. Innes, Caverley and Harshaw continued their information exchange with the WK Project Team.

Extension. In February 2011, the UBC Faculty of Forestry and Environment Canada coordinated the [“Proactive Adaptation: Challenges and Opportunities for Incorporating Climate Change Response within Sustainable Forest Management”](#) Workshop in Vancouver, BC. Dr. Caverley presented “Experiences on climate change and forest management in the South Selkirks Region.” This workshop examined recent activities on climate change adaptation in relation to sustainable forest management.

Though these above mentioned themes may not be perceived as directly related to climate change, climate change and the ability to adapt to its effects are a priority for the Ktunaxa Nation and Métis Kootenays Region. Aboriginal paradigms and viewpoints on this subject matter are equal to existing western science approaches in understanding climate change adaptation in the South Selkirks Region. Recognizing and hearing perspectives on climate change from Ktunaxa Nation and Métis Kootenays Region citizens results from this understanding.

Dr. Caverley thanks the following groups for their instrumental roles during this study: Ktunaxa Nation Council; Métis Kootenays Region; Nupqu Development Corporation; South Selkirks Community Interview Respondents from the Ktunaxa Nation and Métis Kootenays Region; Dr. John Innes and the South Selkirks Human Resiliency Dimension Team.

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