

newsletter

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

Issue #4 – Winter 2010

Message from Dr. John Innes, Principal Investigator

In this issue of the newsletter, we explore the third and final dimension in the South Selkirks Climate Change Research Project: Economic Resiliency. Economic Resiliency is the ability for an individual, organization or community to bounce back and recover from a major economic shock. Economic Resiliency requires individuals, communities and organizations to broaden their economic base, thereby weathering the storms of economic and climate change cycles that are occurring at the local, regional, provincial and global scale. This type of resiliency can manifest as individuals expanding their financial portfolio options; communities broadening their engagement in multiple sectors; or senior executives of public or private sector organizations demonstrating determination, proactive coping strategies and leadership in the face of changing markets and priorities. The Economic Resiliency Dimension (ECDRD) Team is investigating which economic factors influence how companies and communities within the region experience and adapt to climate change. One anticipated outcome is a more general framework that can be used to explore the economic impacts of climate change on forest resource-based communities and firms. The ECDRD depends on the full engagement of all strategic partners – academic, government, business, Aboriginal and non-Aboriginal community leaders – to maintain our philosophy that ecological, human and economic dimensions are richly interdependent. Watch for highlights from Dr. Natasha Caverley's report on Aboriginal perspectives on climate change in the Spring 2011 issue.



Conservation Logging on the Darkwoods Property
Photo Credit: Pat Field

Not Business as Usual: Economic Resiliency in Action

In the past, Economic Resiliency in BC has tended to focus on mitigating change while maintaining economic activity – a kind of “business as usual” approach. However, climate change has created ecological and social stress which, in turn, has affected the economy of the South Selkirks region. Recent economic shocks from the softwood lumber dispute, the Mountain Pine Beetle and the closure of pulp mills can be felt at the individual, community, regional and provincial levels. Over recent years, BC's forest industry and forest dependent communities have demonstrated low Economic Resiliency – becoming overly dependent on single products and US markets, and thereby falling victim to the up and down cycles of lumber prices and export needs. Dr. Sinclair Tedder, Economist with the BC Ministry of Forests, Mines and Lands, reminds us that “efforts to maintain current economic dependencies may no longer be relevant.” Similarly,

For information contact:

South Selkirks Climate Change Research Team
Forest Resources Management—University of British Columbia
2nd Floor—Forest Sciences Center #2045-2424 Main Mall
Vancouver, British Columbia V6T 1Z4
Phone: 604.822.6761 | Fax: 604.822.9106
Email: john.innes@ubc.ca | natasha@turtleislandconsulting.ca

The South Selkirks Climate Change Research Study is funded by the Future Forest Ecosystems Scientific Council (FFESC) and BC Hydro.

newsletter

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

Issue #4 – Winter 2010

Scott Blissett, Operational Director of Nupqu Development Corporation, warns us that “if we continue to do the same things, the same way and expect a different result or rely on someone else to make problems go away, it will only amplify climate change threats at the regional and provincial levels.”* Clearly, a new approach is called for: it is no longer “business as usual.”

“In order to encourage economic resiliency while adapting to climate change, communities and organizations need to be responsive, flexible and adaptive in their forest management decision-making – communities need to continually learn from their local and global environments.”

-Dr. Sinclair Tedder
Economist – BC Ministry of Forests, Mines and Lands



A Tug Boat Towing a Log Boom Barge on Slocan Lake
Photo Credit: Howard Harshaw

recession) and product cycles. The South Selkirks region is focusing on adaptation and sustainability over time with greater connections with the social and human dimensions of organizations and communities (e.g., sustenance, employment, social support networks and community cohesion). The following are several examples of Economic Resiliency in action, examples that suggest that ECR is a creative and ongoing process.

The creation and implementation of the Beetle Action Coalitions (Cariboo-Chilcotin Beetle Action Coalition, Omineca Beetle Action Coalition and Southern Interior Beetle Action Coalition) is an excellent example of ECR in action. A regional approach was taken in the formation of these organizations in response to addressing the social and economic implications of the Mountain Pine Beetle infestation on local forestry-dependent resource communities in BC's interior regions.

“In the South Selkirks region, there is a need to strategically think about the long term implications of climate change in relation to economic resiliency. Though short term salvage opportunities are presenting themselves in the region due to the Mountain Pine Beetle infestation and Annual Allowable Cut (AAC) increases, the long term quality and accessibility to an economically viable timber supply remains uncertain. Locally, we are balancing the annual cost of fire protection and suppression, safety and increased fuel loads surrounding our communities with sustainable access to available timber fiber and saw logs that can aid our communities with revenue and employment opportunities.”

-Dan Wigle
Strategic Advisor – South Selkirks Climate Change Research Study and Former St. Mary's Indian Band Natural Resource Coordinator (Ktunaxa Nation)

What does this new approach entail? Economic Resiliency “in action” is when individuals, communities, businesses and organizations avoid becoming dependent on a single product, resource or sector that can be subject to external forces (e.g., global

For information contact:

South Selkirks Climate Change Research Team
Forest Resources Management—University of British Columbia
2nd Floor—Forest Sciences Center #2045–2424 Main Mall
Vancouver, British Columbia V6T 1Z4
Phone: 604.822.6761 | Fax: 604.822.9106
Email: john.innes@ubc.ca | natasha@turtleislandconsulting.ca

The South Selkirks Climate Change Research Study is funded by the Future Forest Ecosystems Scientific Council (FFESC) and BC Hydro.

newsletter

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

Issue #4 – Winter 2010

“Political will, policies, programs, legislation and funding need to be collectively advanced in BC in order to encourage and reward carbon footprint reductions and create greater opportunities for local communities to better adapt to climate change.” *

-Scott Blissett, RPF
Operational Director, Nupqu Development Corporation

“Our overarching approach to economic resiliency recognizes that ecology and economics at the landscape and stand levels are all interconnected. Ultimately, it is how we manage the region’s ecosystems which, in turn, will determine the quality and quantity of products and resources that we derive economic benefits.”

-George Edney, RPF
Planning Officer – Kootenays Timber Sales Office, BC Ministry of Forests, Mines and Lands

providing an alternative to fossil fuel consumption in the traditional territory.”*

Economic Resiliency is also manifested in the thoughtful balancing of financial interests with social needs. For example, Kootenays Métis citizens recognize the importance of monetary contributions to individual, family and community wealth. However, the term “wealth” also extends to having positive family and community networks and working as a team rather than as individuals when dealing with a change, crisis or set back.

“As a political leader and citizen of the Métis Nation in British Columbia, economic resiliency means making an investment in skills training and education of our Métis Youth. It is through this investment that our Métis Youth can better meet regional and province-wide economic needs ensuring they possess the necessary training to become productive members of the labour force.”

-Terry Anonson
Kootenays Regional Director – Métis Nation British Columbia and Elk Valley Métis Chartered Community Citizen

Another illustration of Economic Resiliency in action is the research and development of green industries and alternative energy sources in the region. Cranbrook has the most sunlight hours in BC; therefore, solar energy is viewed as a viable energy source for the community. Bioenergy and biofuels can aid in reducing the fuel load surrounding Ktunaxa Nation communities while providing economic and social benefits for heating local schools, hospitals, businesses and homes. According to Scott Blissett, the Ktunaxa Nation is presently “conducting a feasibility study to determine the economic viability of a bioenergy industry that could contribute to addressing the Nation’s goals of stewardship, sustainability and self-sufficiency. The utilization of bioenergy from renewable resources such as wood fiber is a real opportunity to enhance economic well-being for the Ktunaxa Nation while



Métis Skills & Employment Centre Students
Photo Courtesy of the Métis Nation British Columbia

For information contact:

South Selkirk's Climate Change Research Team
Forest Resources Management—University of British Columbia
2nd Floor—Forest Sciences Center #2045-2424 Main Mall
Vancouver, British Columbia V6T 1Z4
Phone: 604.822.6761 | Fax: 604.822.9106
Email: john.innes@ubc.ca | natasha@turtleislandconsulting.ca

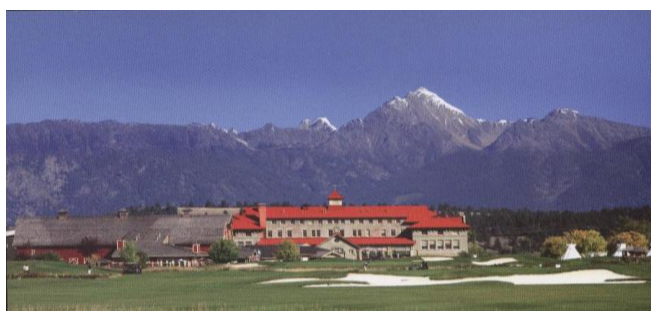
The South Selkirk's Climate Change Research Study is funded by the Future Forest Ecosystems Scientific Council (FFESC) and BC Hydro.

newsletter

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

Issue #4 – Winter 2010

The Ktunaxa Nation has demonstrated Economic Resiliency in action in their development of and investment in St. Eugene's Mission Resort. An historic building near Cranbrook, St. Eugene's Indian Residential School is now transformed as St. Eugene's Mission Resort which includes an 18-hole championship golf course, a 4 ½ star hotel, casino, Ktunaxa Nation Interpretative Center and health club. St. Eugene's Mission Resort is a Certified Aboriginal Tourism Association of BC "Authentic Aboriginal" Tourism Business and is owned in equal partnership by the Ktunaxa Nation (BC), Samson Cree Nation (Alberta) and Chippewas of Rama First Nation (Ontario). St. Eugene's is a brilliant example of the new approach to Economic Resiliency taken by Aboriginal community members and business leaders in the South Selkirks region and elsewhere.



St. Eugene's Mission Resort
Photo Courtesy of St. Eugene's Mission Resort

Finally, BC Hydro's climate change adaptation strategy shows Economic Resiliency in action. The main business of this Crown Corporation is to generate, transmit, distribute and sell electricity. Thus, BC Hydro is prone to several economic vulnerabilities in relation to climate change, including impacts on hydroelectricity

generation from changes in precipitation amounts and patterns, increased transmission line service losses due to increases in average annual temperature and impacts on infrastructure and system resiliency due to a greater frequency of extreme events, such as floods, droughts and wild fires. Over the past two years, BC Hydro has developed a climate change strategy including consideration of the long-term physical impact from climate change and assessed key vulnerabilities in its operations. BC Hydro's climate change strategy is aligned with the BC Government's *Climate Action Plan* and associated provincial, regional and federal climate change regulatory regimes. Moreover, through its partnership with the Pacific Climate Impacts Consortium (PCIC), BC Hydro supports climate change research, modeling/forecasting and scenario development to aid operational and planning decision-making. Specifically, PCIC aids BC Hydro in quantifying the impacts of climate change and variability on the hydrology impacts on water resources in BC.

"As an electrical utility with predominately clean or renewable resources in its generation mix, BC Hydro relies on the natural environment for continued success and low-carbon performance. We are taking a triple bottom line approach to understanding climate change based on social, environmental and economic dimensions of resiliency."

-Greg Arnold
Senior Sustainability Coordinator – BC Hydro

Economic Resiliency means retiring "business as usual" attitudes and adopting new approaches to doing business. These examples illustrate the many ways ECR is thriving in the South Selkirks region at

For information contact:

South Selkirks Climate Change Research Team
Forest Resources Management—University of British Columbia
2nd Floor—Forest Sciences Center #2045-2424 Main Mall
Vancouver, British Columbia V6T 1Z4
Phone: 604.822.6761 | Fax: 604.822.9106
Email: john.innes@ubc.ca | natasha@turtleislandconsulting.ca

The South Selkirks Climate Change Research Study is funded by the Future Forest Ecosystems Scientific Council (FFESC) and BC Hydro.

newsletter

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

Issue #4 – Winter 2010

individual, community, organization, government and corporate levels.

**Note: the above mentioned quotations by Scott Blissett are professional opinions and do not reflect the views and opinions of the Ktunaxa Nation.*

Resiliency Dimension Highlights

From October to December 2010, we carried out the following activities:

Ecological Modeling. Dr. Walt Klenner and the Ecological Resiliency Dimension Team implemented the climate change management scenarios in the landscape models of the South Selkirks region to inform the research team's recommendations on climate change adaptation.

Economic Resiliency. Dr. Howard Harshaw and Dr. Harry Nelson (University of British Columbia) are currently working on a research paper that examines the economic resiliency of lumber firms in the Kootenays Region.

Public Opinion Survey. Dr. Harshaw is administering the survey to Aboriginal communities (Ktunaxa Nation and Métis Nation BC – Kootenays), the general public from municipalities and surrounding communities in the South Selkirks region and General Managers in the Kootenays forestry sector.

Collaboration. Dr. Harshaw worked with the WK Project Team regarding the survey of managers as a sub-sample for the South Selkirks Climate Change Research Team's Public Opinion Survey. Dr. Klenner worked with the WK Project Team and NCC to finalize

landscape projections, climate change scenarios and interactions between ecological modeling indicators and socio-economic indicators in the Kootenays region.

Moving Forward

In the next quarter (January – March 2011), the South Selkirks Project Team will be carrying out the following activities:

Public Opinion Survey. Dr. Harshaw will engage in data entry and initial analyses of the survey results. A final report describing key findings from the survey will be prepared in Spring 2011.

Collaboration. Dr. Harshaw will be participating in the WK Project Team's Manager Workshops which will offer tools and strategies to local forest managers in the region regarding climate change adaptation and ecological resilience.

Extension. As the research project enters its second and final year, the team will be advancing extension opportunities to support South Selkirks communities in better understanding climate change. Such enhancements include developing culturally-congruent participatory research modules for the FORREX Social Science Curriculum and facilitating climate change dialogue sessions in the South Selkirks Region to increase collaboration, networking, information sharing and engagement of Aboriginal and non-Aboriginal community members in developing integrated climate change adaptation strategies.

For information contact:

South Selkirks Climate Change Research Team
Forest Resources Management—University of British Columbia
2nd Floor—Forest Sciences Center #2045-2424 Main Mall
Vancouver, British Columbia V6T 1Z4
Phone: 604.822.6761 | Fax: 604.822.9106
Email: john.innes@ubc.ca | natasha@turtleislandconsulting.ca

The South Selkirks Climate Change Research Study is funded by the Future Forest Ecosystems Scientific Council (FFESC) and BC Hydro.