200 – 2006 West 10th Avenue
Vancouver, BC V6J 2B3
www.wcel.org

tel: 604.684.7378
fax: 604.684.1312
toll free: 1.800.330.WCEL (in BC)

West Coast Environmental Law
Dialogues for Legal Innovation series:
Law Reform for Nature, Climate and Communities
February 16, 2011

Legal Backgrounder

Nature, Climate and Communities in BC: Legal Considerations

Introduction

British Columbia has the potential to maintain both high levels of human well-being and our rich biodiversity, but sustaining these levels into the future means protecting the vital ecological life support systems upon which we and all species depend. And we need to act with urgency, because these life support systems are facing potentially dire threats from climate change and other cumulative ecological changes. In practical terms, it seems likely that we need to consider how we can better integrate our nature and climate action strategies.

This backgrounder provides analysis to support a Dialogue about how our laws and policy need to evolve in light of climate change.

Our intent through the Dialogue is to bring together diverse perspectives in an exchange that will open paths towards solutions, and help inform our ongoing development of law reform proposals related to nature, climate and communities.

Our Life Support Systems under Stress: Climate Change & Cumulative Impacts

British Columbia's laws about land and resource management reflect the historical legacy of the province's settlement and development, which has been intertwined since the earliest days with extraction, use and export of its natural resources. While only a small percentage of BC consists of private land, nonetheless the vast majority of the land base is allocated to various resource companies through often overlapping licences, leases and other rights, referred to as 'tenures'. These tenures give private parties rights to extract timber, minerals, petroleum and natural gas or undertake other land uses. One estimate from the provincial government suggests that there are over 260 different provincial rights, interests and designations, 21 rights granting agencies and numerous statutes enabling resource use in BC.[i]

The accumulated changes (spatially and over time) that result from these resource sector and other human activities are referred to as 'cumulative impacts' or 'cumulative effects'.[ii] A comprehensive, science-based assessment of the province's natural environment in 2008 concluded that: "The cumulative impacts of human activities in British Columbia are increasing and are resulting in the loss of ecosystem resilience," and that "[e]cosystem degradation[iii] from forestry, oil and gas development, and

transportation and utility corridors has seriously impacted British Columbia's biodiversity."[iv]

However, it is the imperative of climate change that has truly brought the question of cumulative impacts to a head in BC.[v] "Climate change is already significantly impacting healthy ecosystems in British Columbia, and will likely cause more dire consequences for fragmented or degraded ecosystems."[vi] As the United Nations Environment Program has noted, "many of the most severe impacts of climate-change are likely to stem from interaction between threats… rather than from climate acting in isolation."[vii] If current trends continue unabated, BC can expect mean annual temperature increases of 3 to 5 degrees, and more extreme weather events "with increasing frequency of storms, floods, wildfires and drought."[viii] Globally 20-30 percent of animal species are likely to go extinct.[ix] The biological underpinnings of our "natural capital" or "the heritage of ecosystems that provide Earth's life support system" are under threat.[x]

We have reached a point where the cumulative impacts of resource development and climate change on BC's forests and grasslands, lakes and rivers will increasingly undermine the life support systems upon which humans depend, including:

- vital goods such as water, food, forage and timber;
- life support services, such as air and water purification, nutrient cycling and waste treatment; and
- life enriching benefits, such as recreational opportunities, tourism assets nature education, beauty and serenity.[xi]

As BC communities grapple with water shortages, forest fires and the mountain pine beetle epidemic there is little question that we must evolve the way we manage our land and resources to take climate change into account. In particular, as discussed further below, how we manage our forests today can make a vital difference in both climate change mitigation--avoiding emissions of greenhouse gas pollution that cause climate change-- and giving species, ecosystems and ultimately ourselves a chance to survive and adapt to the inevitable level of climate change that we already face.

Goal 1: Improve Management of the Effects of Cumulative Environmental Change to Increase Resilience and Adaptability of Ecological Systems in BC

As we seek to manage the existing and anticipated effects of cumulative environmental change BC faces at least three important challenges:

1. We presently lack "goalposts" based on best available information about environmental thresholds and limits to direct future development across valued ecosystem components and resource uses. [xii]

2. We lack a comprehensive assessment of how well our laws (for example, existing land use designations, zonations and objectives) are presently assisting us in sustaining the well-being of human communities and economies within ecological limits.

3. We lack an institutionalized mechanism for evaluating, deciding upon and formalizing an assessment of different future scenarios to achieve desired objectives.

The good news is that BC has the benefit of a legacy of concerted effort with respect to strategic land use planning over the past twenty years. Strategic land use planning has been completed for most of the provincial land base and provides us with a solid foundation. All the same, the potential effectiveness of these plans remains limited by the following:

- climate change considerations, including climate change impacts, were virtually absent from these deliberations;

- forest carbon was not recognized as a value (i.e. the services that forests provide with respect to climate change mitigation, as carbon storehouses and through ongoing carbon sequestration, were not accounted for);

- legal mechanisms were lacking to implement plan outcomes in ways that would guide resource industries other than forestry;

- scientific credibility of outcomes was limited by politically established caps on protected areas (and in the case of landscape level planning, timber supply impact caps on implementation of measures to conserve biodiversity and species);

- timber tenure reform (i.e., 'who' has the right to make operational decisions, manage and extract resources) was not on the table; and,

- absence of government-to-government engagement with First Nations creates instability for plan outcomes unless and until the Crown's constitutional duties to First Nations are met.

Evolution in our legal and policy framework will be required to address these challenges and gaps in managing existing and anticipated cumulative environmental change affecting our ecological support systems.

Goal 2: Enable a Green Economy and Safeguard Our Natural Life Support Systems

The drivers that have shaped the development of our current laws and policies respecting land use in BC have been primarily economic. It is possible a new type of economy, a green economy, can help safeguard our natural life support systems while sustaining community well-being. But how will our laws and policies need to evolve to enable the green economy?

The so-called "green economy" is an economic development model that stresses the interdependence of human economies and natural ecosystems, and values 'natural capital.' Among other things it includes economic opportunities associated with

substituting responsibly-developed, renewable sources of energy for fossil fuels and conserving natural resources. Globally, the green economy employs millions. According to International Labour Organization figures, for example, worldwide the renewable energy industry (such as wind and solar power) is already generating more jobs than oil production and refining. [xiii]

Climate change has been a major catalyst for the development of the green economy, by forcing us to recognize that our existing economic laws and structures do not assign an adequate value to nature, in effect often treating harm to nature as an 'externality.' Laws that ensure a recognition of the cost of greenhouse gas pollution is factored into governmental and private decision-making (i.e. by putting a price on carbon through caps on the amount of greenhouse gas pollution that may be emitted or through a carbon tax) are widely considered an essential driver for retooling our economy and redirecting investment, and meeting our targets to reduce greenhouse gas emissions.[xiv] BC has shown considerable leadership on these overarching legal frameworks, although ultimately national and international action will also be required.

It is possible that the green economy may also be able to help attenuate the impacts of declining activity in more traditional economic sectors. Historically, the timber industry has been a stalwart of rural BC's economy. However, trends in the Canadian forest industry have been towards falling prices for wood products and "dramatic declines in employment" now for more than a decade,[xv] exacerbated by the recent global economic downturn. Oil and gas production, while still a significant source of government revenue and local jobs, particularly in the northeast of the province, depends on non-renewable resources and ultimately has a finite future.

At the same time that these resource activities become less able to backstop the economic security of rural British Columbians than in the past, we are increasingly aware of the contribution they make to the climate crisis. Forests store massive amounts of living carbon that is abruptly released into the atmosphere as heat-trapping greenhouse gases when forests are logged or converted to other uses.[xvixvii] And with respect to oil and gas production, it is widely accepted that addressing the climate crisis will entail making a shift away from burning fossil fuels, which releases greenhouse gas pollution into the atmosphere, and toward responsibly developed renewable energy.

However, while we have made progress on developing legal frameworks to reduce greenhouse gas pollution associated with burning fossil fuels and as a result of manufacturing and other processes, we have not yet taken significant steps to integrate and advance our nature and climate strategies, and capture the associated range of climate change mitigation and green economic opportunities.

In particular, in order to provide for the long-term economic and environmental well-being of BC's rural and resource-dependent communities we need to consider new opportunities associated with BC's wealth of renewable natural resources, and how they might be legally enabled, to be responsibly, sustainably and fairly developed. Law reform in this area is a priority focus of West Coast Environmental Law, and includes the recognition and protection of natural ecosystem services and values.

An important consideration in this regard is the role to be played by carbon financing in BC forests, given that it appears to have the potential to generate new streams of revenue to support conservation and more sustainable forms of forest management. Carbon offsets for voluntary markets and the regulatory market that will be created under BC's forthcoming cap and trade system are one type of carbon financing mechanism, but there are further possibilities for financing, that may include using some of the revenue from auctioned allowances in the cap and trade system, for example. In order to enable carbon financing opportunities, and ensure they bring real climate benefits, we need clarity about carbon ownership, rigorous forest carbon accounting protocols, as well as legal designations that are compatible with good forest carbon accounting. A key consideration is that financing should be contingent on demonstrating that changes in land use produce real, verifiable, additional, permanent reductions in carbon emissions or increases in carbon sequestration, and do not just result in increased emissions elsewhere. While there are legal and practical challenges posed by carbon financing in BC, it nonetheless offers a potential new stream of revenue for rural communities, particularly First Nations.

Nature and climate strategies can also support other important economic activities that rely on renewable natural resources, and that face threats from climate change, such as fisheries and tourism.

And finally, the economic costs of inaction on climate change with respect to nature and communities must be weighed carefully.[xviii] Provincial and local governments, organizations and individuals will jointly bear these costs. Providing safe, clean water; ensuring health and safety in communities; dealing with wildfires, pest infestations and invasive species are all areas where the cost effectiveness of action today is evident, while we still have time to avert the most severe impacts of climate change.

Building the Legal Backbone of a Nature and Climate Action Strategy

Resource management in British Columbia is governed by a wide variety of often industry or resource specific legal regimes. Many of these deal with project specific approvals/permits and the operational requirements associated with resource development or land use (e.g., forest practices or waste management regulations). While these operational level measures can and should evolve in light of climate change, the backbone of our nature and climate strategies rests at the more strategic level.

It would seem that two strategic level legal mechanisms are critical:

1. land use designations/zonations that set out management priorities for defined areas. The imperative of dealing with cumulative environmental change, particularly related to climate change seems to suggest a more integrated and holistic approach than is currently the case with existing legal tools; and

1. resource tenures, which set out rights and responsibilities for resource use through various forms of licences and leases. It seems likely that taking steps to

achieve green economy objectives would lead us to re-examine the compatibility of existing tenuring systems with nature and climate goals, and potentially identify where evolution is required.

Already, a wide variety of BC initiatives are grappling with climate considerations (e.g., the Species at Risk Task Force; First Nations land use planning; the Conservation Framework; High Conservation mapping for forest certification; Water Act modernization) and many will result in shifts in land use direction. This presents opportunities for efficiencies and enhanced effectiveness if similar background scientific and policy work can inform these processes.

Questions for the Dialogue

West Coast Environmental Law is currently developing law reform proposals related to sustaining nature and community well-being in an era of climate change, building on several years of research and discussions with a variety of people engaged in this area, along with the Dialogue on Law Reform for Nature, Climate and Communities. We propose the following questions for the Dialogue and look forward to the responses of Dialogue participants:

- What vision or goals for nature and community well-being should we be enabling with our laws and policies in an era of climate change?

- In light of climate change, what challenges and opportunities are presented by our current legal framework for land use and resource management on public and indigenous lands in BC?

- What are priority issues or considerations that must be taken into account as we evolve our laws and policies around land use and resource management in an era of climate change?

- What will it take to make viable legal and policy shifts to enable optimal land-use changes for nature and community well-being in an era of climate change?

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[i] Integrated Land Management Bureau, Ministry of Agriculture and Lands, *Integrated Land and Resource Registry Factsheet*, September 2007.

[ii] In turn, "the practice of systematically analyzing cumulative environmental change" is referred to as cumulative effects assessment: Smit and Spaling 1995; Sears and Yu 1994, Spaling 1994, Gunn 2009 at 3.

[iii] E.g., changes to the natural structure of an ecosystem from human activities such as timber harvesting.

[iv] M.A. Austin, D.A. Buffett, D.J. Nicolson, G.G.E. Scudder and V. Stevens (eds.). 2008. *Taking Natures Pulse: The Status of Biodiversity in British Columbia (Victoria:* Biodiversity BC, 2008) at xix Available at: www.biodiversitybc.org.

[v] *Ibid.* The same report concludes that "Climate change is already seriously impacting British Columbia and is the foremost threat to biodiversity."

[vi] Jim Pojar, *A New Climate for Conservation: Nature, Carbon and Climate Change in British Columbia* (Working Group on Biodiversity, Forests and Climate, 2010) at 15. Available at: http://wcel.org/resources/publication/new-climate-conservation-nature-carbon-and-climate-change-british-columbia-ful.

[vii] UNEP, *Climate Change and Biodiversity: Executive Summary of the Report on Interlinkages Between Biological Diversity and Climate Change* (CBD Technical Series no. 10, 2003).

[viii] Pojar at 15.

[ix] United Nations Intergovernmental Panel on Climate Change, *Climate Change 2007 – The Fourth Assessment Report* (AR4) (Geneva: IPCC, 2007)

[x] Pojar at 51-52.

[xi] We also run the risk of undermining options for the future, for example losing genetic diversity for adaptation and evolution in changing environment, and undermining the potential of "resilient forests for carbon stewardship in a world being overwhelmed by CO2." Pojar at 51.

[xii] Despite the urgency of this situation, a recent FORREX paper concluded that "well-defined measures and the thresholds to determine, regulate, and manage cumulative impacts" are lacking in BC.

[xiii] International Labour Organization, *Green Jobs - Facts and Figures* (Geneva: ILO, 2008).

[xiv] See, for example, National Roundtable on the Environment and the Economy, *Getting to 2050: Canada's Transition to a Low-Emission Future* (Ottawa: NRTEE, 2008).

[xv] Daniel Dufour, *The Canadian Lumber Industry Recent Trends* (Ottawa: Statistics Canada, 2007). Stiffer competition on international markets from lower cost producers in developing countries, production overcapacity in the industry, and fewer housing 'starts' particularly in the US market are among the reasons cited. As the BC Truck Loggers Association recently noted: "While the inherent nature of market cycles will always provide some good and bad years, we cannot continue to ignore the negative trend that has plagued our industry for the past two decades." (Submission to the Working Roundtable on Forests, 2008).

[xvi] In fact, BC's last *Greenhouse Gas Inventory Report* reports that emissions from logging were 55 megatonnes of greenhouse gas pollution in 2008, equivalent to those from energy, BC's highest emitting sector by far. Even heavily discounting this figure to address the fact that some carbon remains stored in wood products after logging (i.e., emissions are delayed) it is still a very substantial impact.

[xvii] A recent report from the United Nations Environment Programme ranked various land use options for their carbon and biodiversity benefits. Protecting natural primary forests came out ahead of other options (e.g., logging and replanting forests, plantation management) not just for conserving biodiversity, but also when it comes to storing living reservoirs of carbon and the value of the services these areas provide to human communities (e.g., clean water, flood control). This is in part because when forests are logged, their vast stores of living carbon are released into the atmosphere as CO2, contributing to our global warming challenges.

[xviii] The economic costs of inaction on climate change have been considered on a global scale, and it has been estimated that an investment of approximately 2% of GDP per year will help avoid a reduction in GDP of as much as 20%. Nicholas Stern, *Stern Review on the Economics of Climate Change,* (Cambridge: Cambridge University Press, 2007) (Note: Stern initially projected an investment of 1% of GDP but later updated this in light of inaction and GHG levels todate).