

Adapting British Columbia's Forest Practices to Address Climate Change: Assessment of Opportunities

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1. Purpose

British Columbia's Cabinet-approved [Adaptation Strategy](#) envisions that British Columbia is prepared for and resilient to the impacts of climate change. The Ministry of Forests, Lands and Natural Resource Operations (Ministry) envisions a prosperous forest sector based on sustainably managed resources now and for generations to come. A warming climate has the potential to increase productivity on cold soils, lengthen growing seasons, and create business opportunities for BC's abundant forest carbon. However, as demonstrated by the rapid progress of the mountain pine beetle epidemic and more expensive wildfires, BC's forests and the forest sector can also be affected by disturbance patterns that will be exacerbated by a changing climate. Two recent reports:

- [Ecological resilience and complexity](#): a theoretical framework for understanding and managing British Columbia's forest ecosystems in a changing climate; and,
- [Vulnerability of Canada's Tree Species to Climate Change](#) and management options for adaptation,

identified a number of potential management actions that can reduce climate change impacts and risks, and enhance ecosystem resilience. These two reports provide a basis for undertaking the following policy assessment project. This project looks at BC's policy framework governing forest practices (the *Forest and Range Practices Act* or FRPA), and seeks to identify opportunities and barriers to management options that can foster resilience. This assessment was initiated as part of the [Future Forest Ecosystems Initiative](#) to guide any necessary adjustments to forest stewardship policy, practices, and decision support tools. A forest management framework that empowers forest managers to undertake management actions that foster resilient forest ecosystems will help to ensure sustainably managed forests in a changing climate.

2. Project Description

The Ministry is leading a study to assess opportunities and constraints within BC's existing forest policy and practices framework with the aim of enabling forest managers to adapt their forest practices relative to a changing climate. The first phase of the project asked whether the statutory provisions in the *Forest and Range Practices Act* (FRPA) enable or impede practices that could contribute to forest ecosystem resilience to climate change. The second phase will seek to identify opportunities to foster resilience through other avenues such as forest management strategies, plans, and practices.

3. Progress to date

Phase 1 of the study found that FRPA provides much flexibility for adaptation actions to occur, but contains few objectives and practice requirements to achieve the desired outcomes, and a few impediments such as a geographically based (rather than a climatically-based) seed transfer system. There are also a few bright spots, such as recent changes to upward elevation limits for tree species deployment, and new assisted migration opportunities for western larch.

Improving the resilience of forest ecosystems is intended to maintain or enhance the benefits British Columbians receive from forests. Our desired end results are a sustainable forest economy with ecosystem goods and services that are valued by society in the future. The project team identified five proposed goals and desired outcomes to foster resilient ecosystems, help tree species adapt, and reduce climate change impacts and risks. These proposed goals and desired outcomes, designed to maintain or enhance forest productivity and associated ecological, social, and economic benefits in a changing climate, are:

1. **Keep Pace with climate change:** Managed forest ecosystems that are suited to a changing climate;
2. **Not Reduce Diversity:** Ecosystems and landscapes that are complex and diverse (e.g. biological, genetic, and functional diversity; and diverse forest species and age class distributions) to foster resilience to impacts of climate change;
3. **Protect Resources and Values:** Adequate biological legacies (e.g. seed and seed sources) are maintained and climate refugia (e.g. reserve areas that are likely to be buffered or otherwise protected from climate change impacts) are managed through a climate change lens;
4. **Manage Risks and Capture Opportunities:** Capture opportunities and reduce climate change impacts and risks over a rotation (may include such elements as increasing productivity on cold sites, increasing forest carbon sequestration, fuel management, etc.)
5. **Build Adaptive Capacity:** Increased capacity to apply climate change information, knowledge and tools in forest management.

4. Next Steps

Phase 2, which is getting underway, will explore opportunities to adapt BC's forest practices and move towards goals and desired outcomes for a changing climate (proposed above). This phase will consider opportunities available, not just through the FRPA statutory framework, but also in other areas such as: certification; professional reliance; effectiveness evaluations; administrative requirements and processes that support FRPA implementation;¹ Timber Supply Review; alternative policy models;² and other initiatives that have the potential to improve resilience.³

Phase 2 will engage partners involved in FRPA implementation and administration. Consultations will include, for example: forestry professionals and managers in industry, government, woodlots, community forests, and consulting; adaptation leaders; and professional associations. Phase 2 will seek to identify the most promising opportunities to build ecosystem resilience, and begin to determine how they could be operationalized in a practical and cost-effective way. Outreach is scheduled for spring 2011 and the summary report anticipated by fall.

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¹ (e.g. FRPA tests that support Forest Stewardship Plan approvals; FSP Administrative Guide);

² (e.g. Code pilots, Innovative Forest Practices Agreements (IFPAs)

³ Such as post free-growing monitoring, forest health and/or landscape level silviculture strategies, etc.