

Quantifying risks and opportunities from climate change: Interim results for Merritt TSA.

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Abstract

We would like to identify opportunities for natural resource managers to increase ecosystem resilience, reduce risks, and maintain the benefits society will expect in the future. Therefore, we set out to assess if different management actions can maintain or increase the diversity of our forests, make a difference to forest health impacts, and be effective from an economic or social perspective. We used the mountain pine beetle epidemic in Merritt timber supply area as a proxy scenario to develop a risk assessment model.

Simulation modelling allowed us to compare four different management scenarios from 1980 to 2080. One scenario represents the past and planned harvest and regeneration activities. The other three explore alternatives that were designed to increase or maintain landscape-scale diversity of tree species. These alternatives are like different investment portfolios – but the shocks they are to withstand are from forest pests and diseases rather than market shifts. Interim results indicate that alternative management options can increase the timber supply in the future by earlier harvesting more of the dominant species (e.g. pine) and increasing the regeneration of non-dominant species (e.g. spruce). The next step is to complete the socio-economic assessment. These results show that the people of BC can benefit from adapting our forest management strategies to increase resilience.

Biography

Caren is a forest ecologist with a background in carbon modelling, natural disturbances, ecological modelling and geomatics. She has a M.Sc. and a B.Sc. in Ecology from the University of Calgary and is a Professional Agrologist. After finishing her masters, Caren started her career in a landscape ecology lab at the University of Wisconsin Madison. Since then, she worked for the Canadian Forest Service on various projects over eight years. Joining the BC Forest Service in 2008 as a Research Scientist, Caren works as on accounting and forecasting the carbon and greenhouse gas dynamics of BC's forests, lands and harvested wood products. Her new mantra is: mitigation through adaptation.