Summary of Harrop-Procter Community Forest climate change adaptation project

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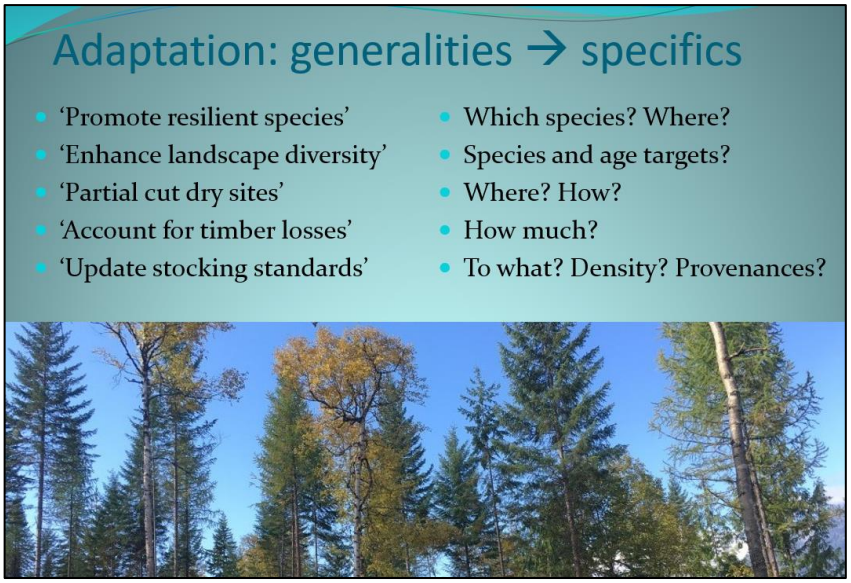
March 2022

Project objectives and scope

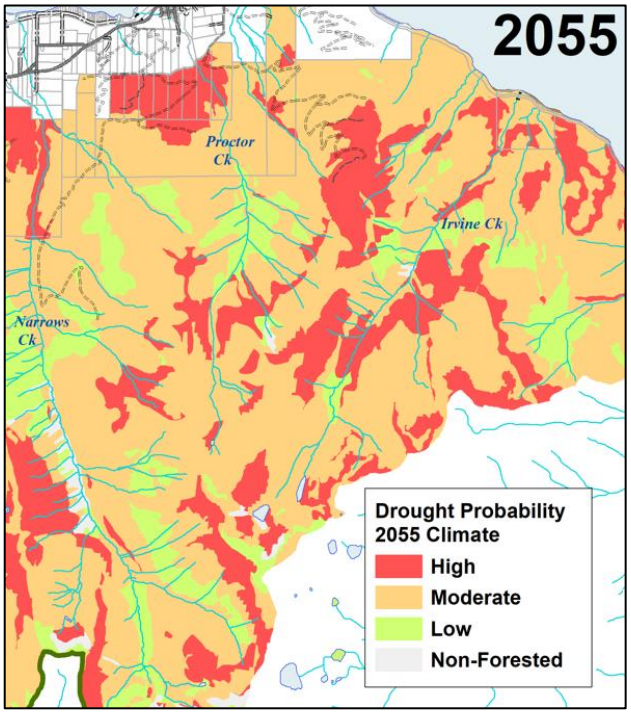


Climate change projections and risks have been widely discussed in broad terms for many years, but climate change adaptation principles have generally been poorly integrated into operational forest management decision-making. Real world examples of systematic climate change adaptation efforts in the forestry sector are sparse.

This project provides a detailed case study that demonstrates how to integrate climate science and risk assessment into tangible forest management decision-making on a specific landbase within a specific rural community. The project has an applied and practical focus that is oriented towards forest managers.

Part 1: Risk Assessment

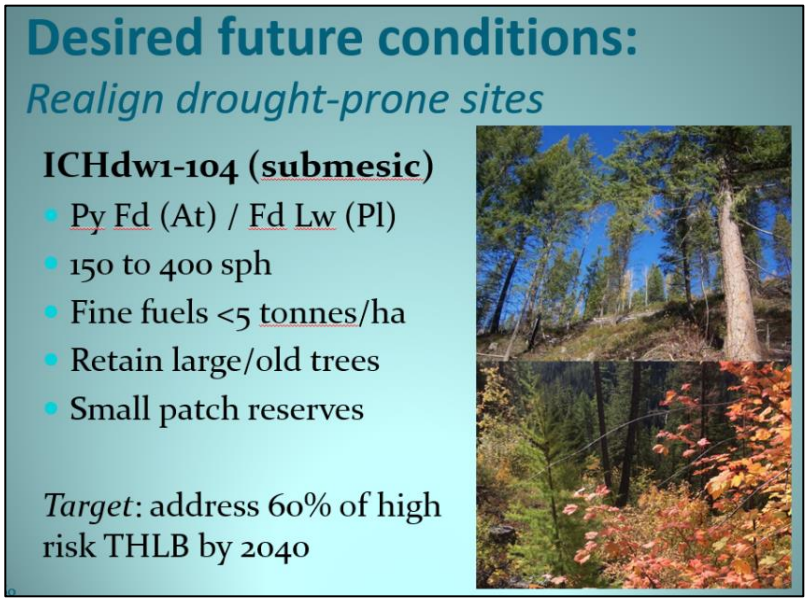
A structured risk assessment approach is used to prioritize areas for adaptation actions. The current *probability* (relative likelihood) of wildfire and drought is assessed for each stand in the community forest based on terrain, ecosystem classifications, Vegetation Resource Inventory, and LiDAR interpretations. Fire and drought probabilities are then reassessed for 2055 and 2085 climates using provincial climate data and modelled changes to actual soil moisture regimes.



The *consequences* of potential fire and/or drought to homes, water, biodiversity and timber are also independently mapped. By combining probabilities and consequences, relative risk ratings are assigned and highest priority areas for adaptation action are identified.

Part 2: Operations strategy

Based on the results of the climate change risk assessment, an operational climate change strategy is developed for the community forest landbase. The operations strategy includes specific climate-based *resistance*, *resilience*, and *realignment* techniques, including identification of priority reserve areas, location of strategic landscape-level fuel breaks, descriptions of partial cutting techniques, and the development of fire- and climate-adapted stocking standards.

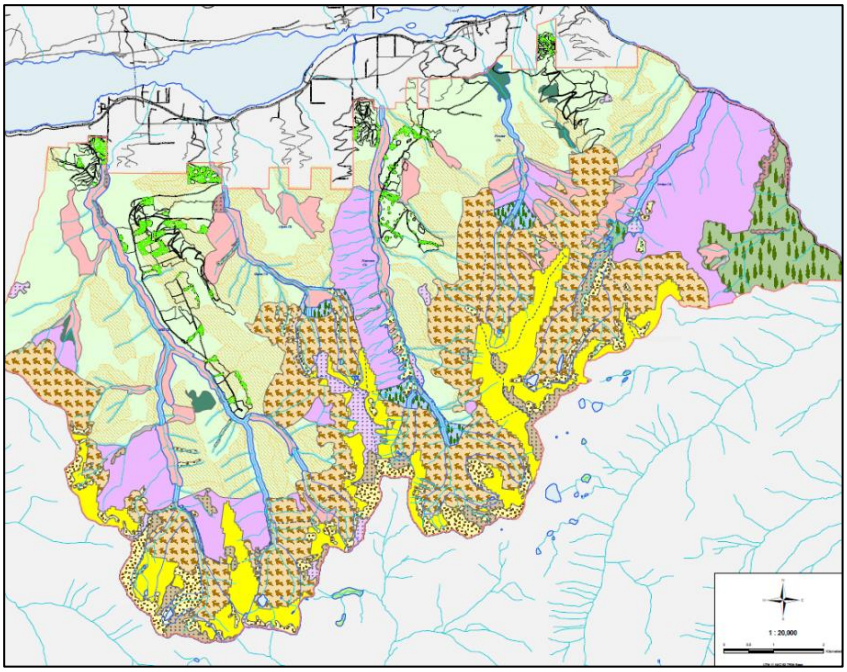


Examples of specific community forest adaptation decisions are provided for both low- and high-elevation forest types, based on actual values at risk and an assessment of desired future conditions.

Part 3: Management Plan and AAC scenarios

Part 1: Risk Assessment addresses the question of where to adapt, while Part 2: Operations Strategy addresses the question of how to adapt. Part 3: Management Plan / AAC addresses the question of how fast to adapt.

Allowable Annual Cut determinations are ultimately social decisions based on local values and priorities, and should include assessments of the relative risks associated with a range of scenarios.



Rates and prioritization of harvest are key levers for forest managers adapting to climate change. Targeting protection, management, or conversion of stands at higher risk due to drought and/or wildfire can help address timber supply impacts as well as climate change risks to homes, water, and biodiversity.

Thus, in the final part of the project, a custom-built timber supply model is used to assess potential impacts of a suite of climate adaptation-based harvest scenarios.