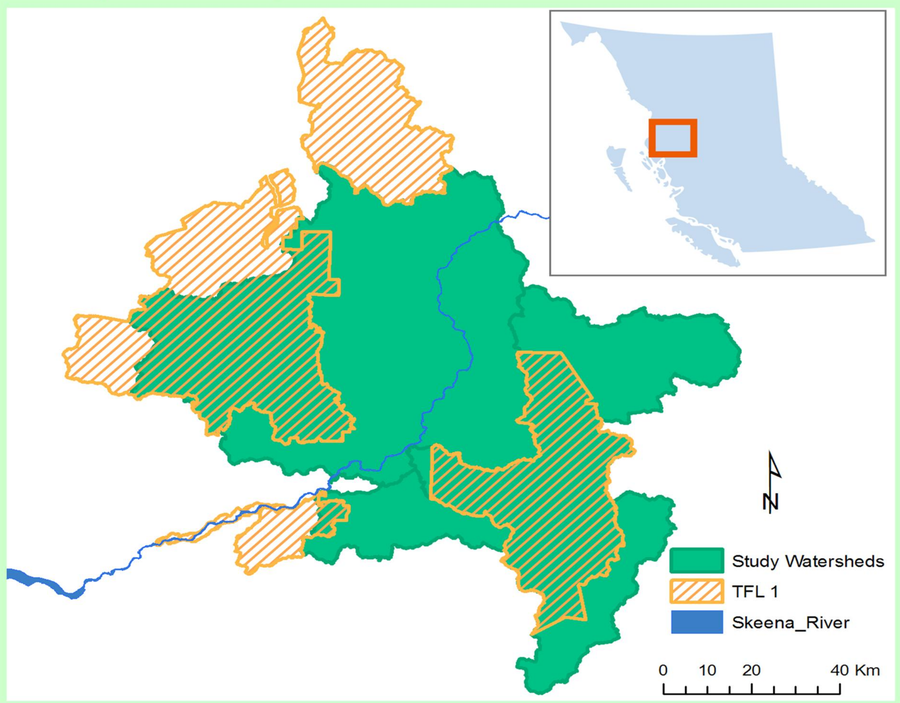
Skeena River Water Conservation Project

WWF-Canada, Coast Tsimshian Resources, Cortex Consultants, Brinkman Forest

Introducing Scenario-thinking into Forested Watershed Management

Project Study Area



Water…

Linking pristine mountaintops to lakeshore and ocean communities, water is the ultimate integrator of every activity that occurs in a landscape.

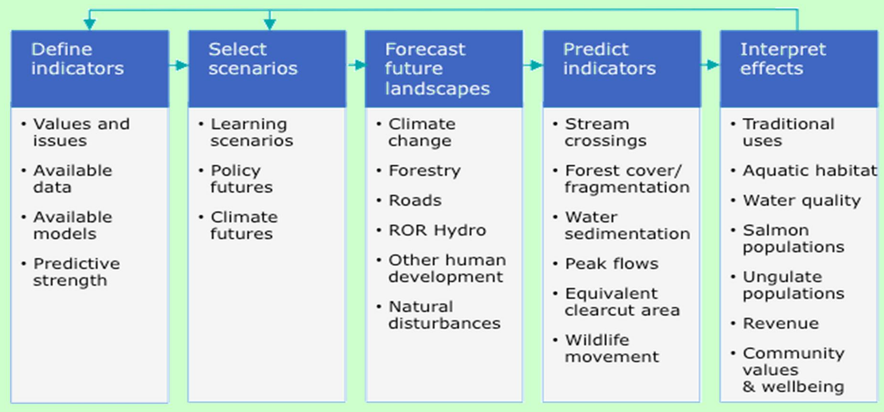
Environmental and human health depends on clean, flowing freshwater.

The quantity and quality of freshwater are affected by changes in ecosystem structure and function. These changes result from global processes, such as climate change, and by local development, such as forest harvesting.

So how do we develop our natural resources while preserving freshwater values?

World Wildlife Fund of Canada (WWF-Canada) is funding development of a framework to make water conservation one of the primary goals of resource development. The *Skeena River Water Conservation Project (SRWCP)* will develop and test an approach for managing water values and resource development, using existing land management objectives and scenarios about possible future conditions.

Analytical Framework



Abstract

Keywords: Freshwater, Forestry, Scenarios, Adaptation

THE SKEENA RIVER WATER CONSERVATION PROJECT is part of the Regional Adaptation Collaborative that will enable Canadians to be better prepared to adapt to changes in the climate by providing them with adaptation knowledge, tools, networks and other resources.

The SRWCP is jointly led by WWF-Canada and Coast Tsimshian Resources with federal funding support through Natural Resources Canada and a matching contribution from the Coca-Cola Foundation.

The SRWCP will develop and test an approach for managing water values and resource development, using existing land management objectives and scenarios about possible future conditions. The project is interacting with technical advisors from WWF-Canada, CTR, government agencies, and academia, to obtain specialist knowledge about disturbance processes and their effects on water, biodiversity, and economic values. This forward-thinking approach to resource management is:

- **Integrative: The project will design a framework for implementing the guidance obtained in previous regional and sub-regional planning initiatives.**
- **Scenario-based: The project will develop several scenarios to explore the impacts of resource development and climate change effects on future environmental services.**
- **Strategic: Through scenario-building, the impacts of most resource development activities planned in the region will be integrated and projected as much as 150 years into the future. The scenarios could provide a basis for developing operational ground rules in the study area.**

The SRWCP analytical framework projects changes resulting from disturbance to the landscape and assesses indicators of effects on key values.

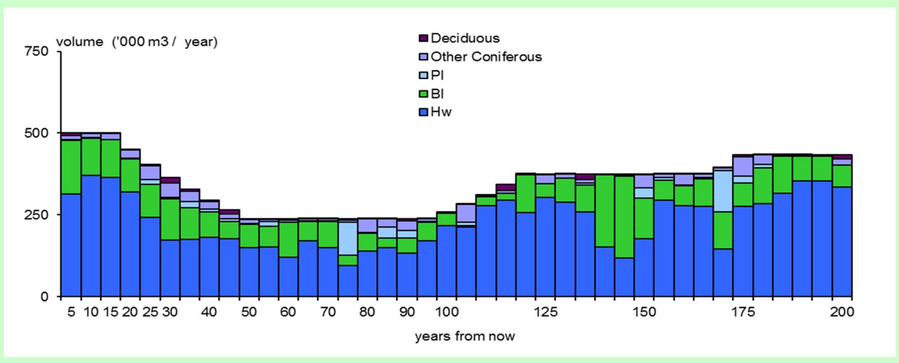
The SRWCP will integrate several models to project changes to the landscape over various time frames and spatial scales, and assess likely impacts on environmental, economic, and socio-cultural values in the study area. Scenarios will be designed to meet the objectives of strategic land use plans and other initiatives in the study area. In particular, they will draw on targets and guidance from the Kalum LRMP (2006) and SRMP (2006), TFL 1 Management Plan 10, and the most recent TFL 1 AAC Rationale.

Scenarios will incorporate assumptions about development activities (e.g. timber harvest intensity, minimum span networks of transmission lines). They will also consider the effects of climate change (e.g. increases in precipitation and water temperature, distribution of ecosystem types) on forest cover, productivity and other ecosystem services.

The analysis will focus on the study watersheds shown in green on the map above. Guidelines developed for this area will provide operational TFL 1 Management Plan 11, covering the yellow-lined areas in the map. advice to CTR in developing

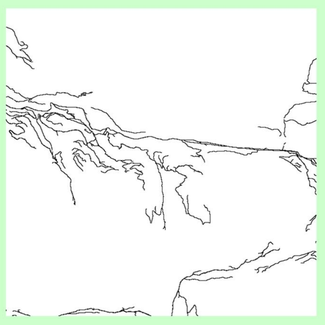
Preliminary outputs from Proof of Concept Models

Potential Forest Harvest Schedule Under Current Conditions

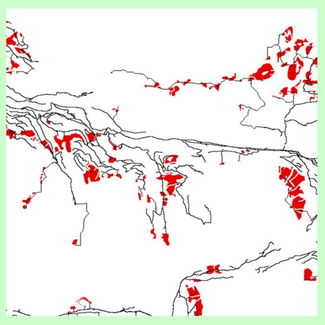


Potential Future Cut blocks, Mine Sites and Stream Crossing Under Current Conditions

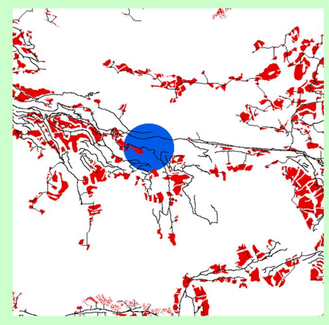
Existing roads – zoomed



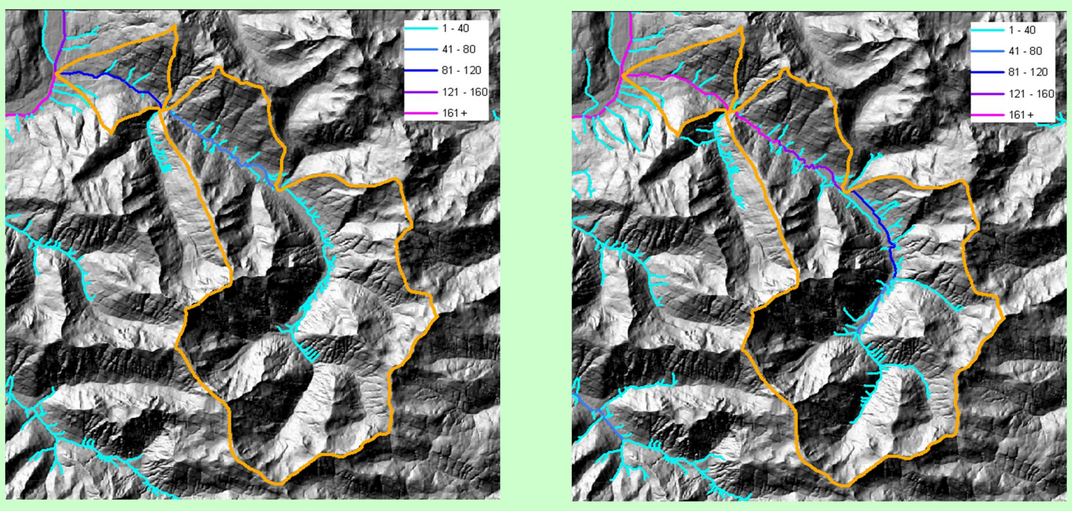
Possible New roads – with new possible cut blocks in 2015



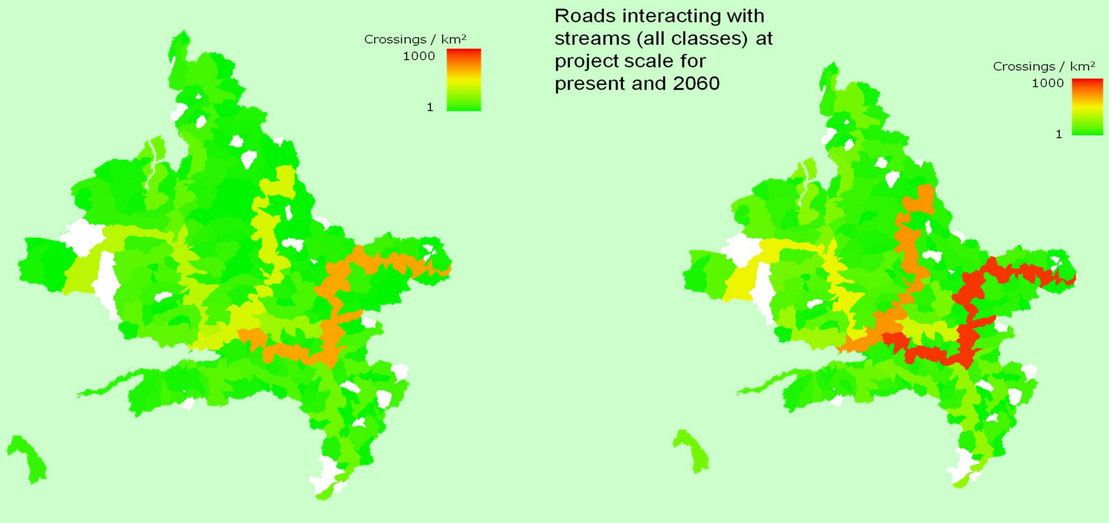
New roads, cutblocks, and mines at end of simulation period 2060



Spatially Located Potential Stream –crossings in 2010 and 2060



Roads interacting with streams (all classes) at project scale for present and 2060



In Collaboration with the Climate Change Adaptation for Northwest Skeena Communities

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