

Forum profiles some potential local effects of climate change

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The climate around Clearwater could look a lot like Kamloops by 2080 or even 2050, with bunch grass growing on the valley bottom and greatly altered forests on the hillsides.

That was one of the less optimistic scenarios presented by Cindy Pearce, Stewart Cohen and Cam Brown during presentations and discussion about climate change and Clearwater held in the Pit at Clearwater Secondary School on Wednesday evening. Over 50 local residents took part.

The trio was representing the K2 Project, which is developing a future forest strategy for the Kamloops Timber Supply Area.

Much of the talk about climate change has been about mitigation, said Cindy Pearce - things that can be done to reduce emissions of greenhouse gases such as carbon dioxide or to increase their uptake into carbon sinks such as forests.

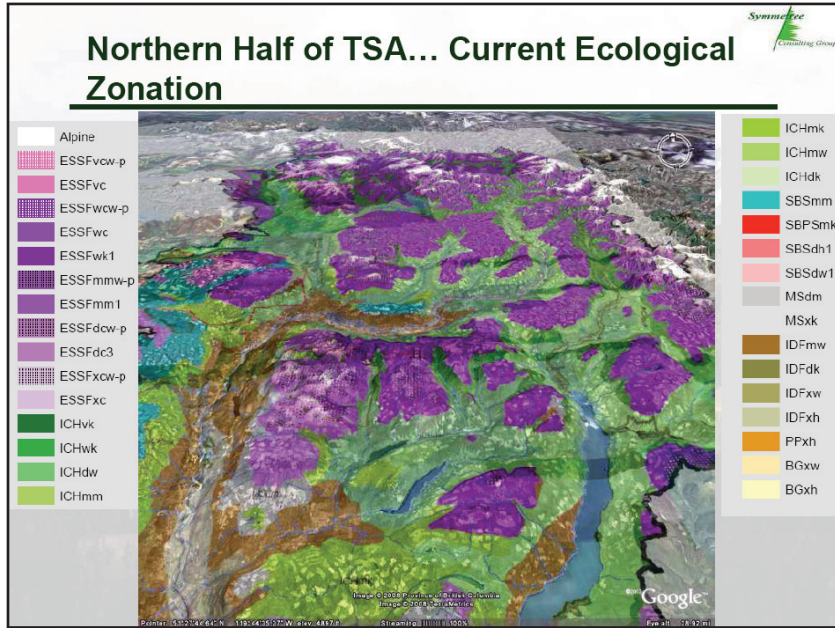
They want to talk more about adaptation - learning how to manage what is unavoidable, given that climate change is happening.

There isn't much doubt that climate change is happening, according to Stewart Cohen, a geographer with an interest in the subject. An employee of Environment Canada, he works out of University of British Columbia.

"Some of the effects are quite startling," he said. He gave as an example the sea ice in the Arctic Ocean, which has shrunk to a fraction of its former coverage.

"If Sir John Franklin wanted to sail the Northwest Passage in 2010, he would have no problems," said Cohen.

In the future, the local area probably will have warmer, wetter winters and warmer, drier summers. There is some evidence for this happening already. A recent study found the glaciers in B.C. receding at lower elevations (1,000 - 2,000 meters) while those at higher elevations (3,000 m)



A map of the northern half of the Kamloops Timber Supply Area shows the area around Clearwater (at the bend of the North Thompson River on the left) as it is now. Purple is high elevation Engelmann spruce and balsam fir, green is mostly Interior cedar and hemlock, while the brown in the Valley is Interior Douglas fir.

staying the same or even increasing as a result of increased snowfall.

This will bring problems such as how to manage a water reservoir when peak flows come weeks earlier in the spring and the dry season is much longer.

Temperatures likely will continue to increase, according to their computer models. How the precipitation will change is less easy to predict.

An important unknown factor will be how successful the international community will be in limiting greenhouse gas production.

"It does matter if we are in a high emission world or a low emission world," said Cohen. "Small changes can bring large changes in risk."

Integrating climate change adaptation into decision-making is an opportunity to decrease long-term costs and impacts. Working with local people to create local solutions is important, he said.

Translating climate change information into something that means something to foresters has been the focus of his work, said Cam Brown, a forester himself.

The impetus for the Kamloops TSA project came from Tolko and other licensees, he said. B.C.'s chief forester even came to Barriere Lakes to discuss the project, he said.

Under a moderate climate change sce-

nario, the forests around Clearwater in the valley bottom in 2050 could look more like dry belt Douglas fir stands farther south in the valley does today - scattered in clumps rather than a continuous forest. With more extreme climate change, this area could even have bunch grass similar to that seen around Kamloops at present.

"Even with the least change, there's still lots to tackle," Brown said.

Possible problems include drought stress plus increased root disease, insects and fire risk.

"There will be significant mortality of cedar, as well as hemlock, birch and spruce," he said.

Much of Tree Farm License 18 northwest of Clearwater is on a plateau dominated by spruce and pine.

The snowpack likely will remain similar to today's for some time. However, there will be some increased risk of bark beetle attack on spruce and balsam.

By 2080 the warmer and drier slopes should see an increase in aspen. Spruce and balsam will show decreased growth

and increased mortality. Higher elevation forests elsewhere in the upper North Thompson drainage should not suffer moisture deficits by 2050, although there could be slightly less snow.

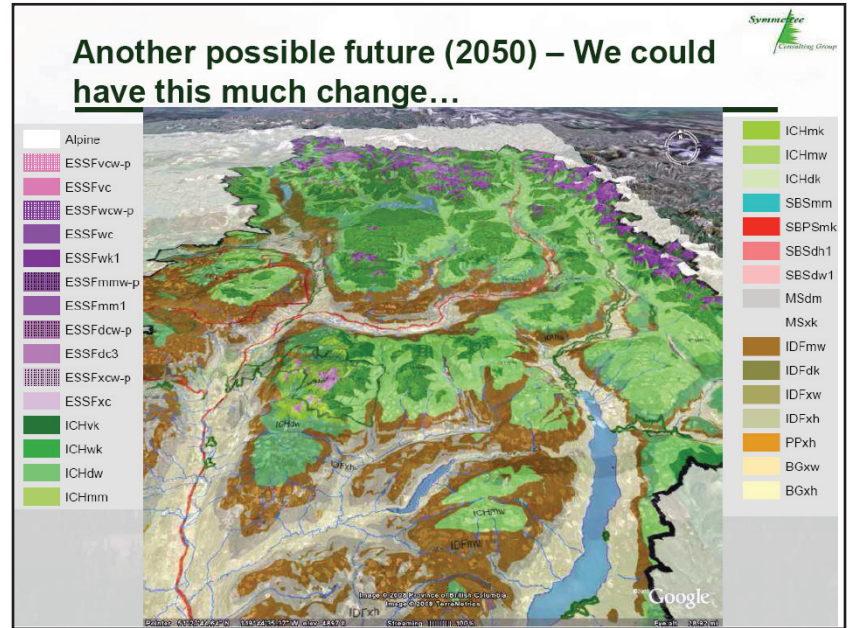
By 2080 the higher elevation forests should show some mortality, some increased fire risk and a decrease in snowpack, especially at lower elevations.

At first glance this might appear to be not too bad a situation for the forest industry, as low value balsam fir would be replaced by higher value species.

However, there are too many variables to accurately predict what will happen, he said.

Knowing which type of tree to plant is one difficulty. The first few years of a tree's life are the most vulnerable, so whatever you plant now must be adapted to present conditions - but those conditions will have changed considerably by the time that tree is ready to harvest.

Local forester Wes Bieber asked about the effect of climate change on wildlife. Brown noted that caribou are a big issue in this area.



The most extreme of two scenarios presented at the climate change meeting shows, by 2050, most of the spruce and balsam fir forest replaced by Interior cedar and hemlock, while bunch grass has moved into the Valley bottom to beyond Vavenby.

What effect changing climate will have on the lichen they eat is not known, he said.

Vavenby rancher Ed Shook said the presenters encouraged local people to make changes but more and more decisions are being made elsewhere.

"I don't think some-

one in New York cares if a tree falls in the forest here," said Shook.

Clearwater councilor Brent Buck agreed. "When you look at what we have control of, it's a drop in a bucket," he said.

Cindy Pearce responded by saying communities such as

Kimberley and Elkford are incorporating climate change into their official community plans.

Thursday the K2 trio held meetings with representatives of Clearwater's OCP committee, the forest industry, Ministry of Forests, and local ski clubs.