How's the weather?

Old trees have a tale to tell of climate, past and future

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Berwick's trees have a tale to tell.

Researchers looking for the oldest trees in the province visited the Berwick United Church Campground this summer, taking core samples they hope will help build future models for climate change in the region.

"We were looking for the oldest trees in Nova Scotia, and we'd often come across people who'd say, 'try the Berwick campground'," says Colin Laroque, an assistant professor of geography with Mount Allison University.

He and research students made the trip to look at the renowned and almost spiritual hemlocks on the Berwick grounds, and found some of the data they were looking for.

"We're doing tree ring analysis in the dendochronology lab - we look at the rings and they can tell us about the past. Big rings, healthy year; small sings, poor year."

Tree growth depends on environmental conditions - weather, temperature, water; and data from decades - even centuries - ago can help scientists predict future climate trends.

"There is only about 100 years of instrumental data collected for Nova Scotia," Laroque says. "Everyone's worried about climate change, so we can look back in time and see the trends, add in the data and let the future climate model go.

"Some of the predictions are already out there - warmer or cooler seasons."

Environmental Science major Sarah Hart and a few other students took core samples from 20 Berwick trees, using a tool that drills into the trunk and cuts out a pencil-shaped section of wood. Back in the lab, they can count rings and study differences from year to year.

"You can tell when you take a core that there may be some rot in the tree, and we found maybe three or four had rot," she says.

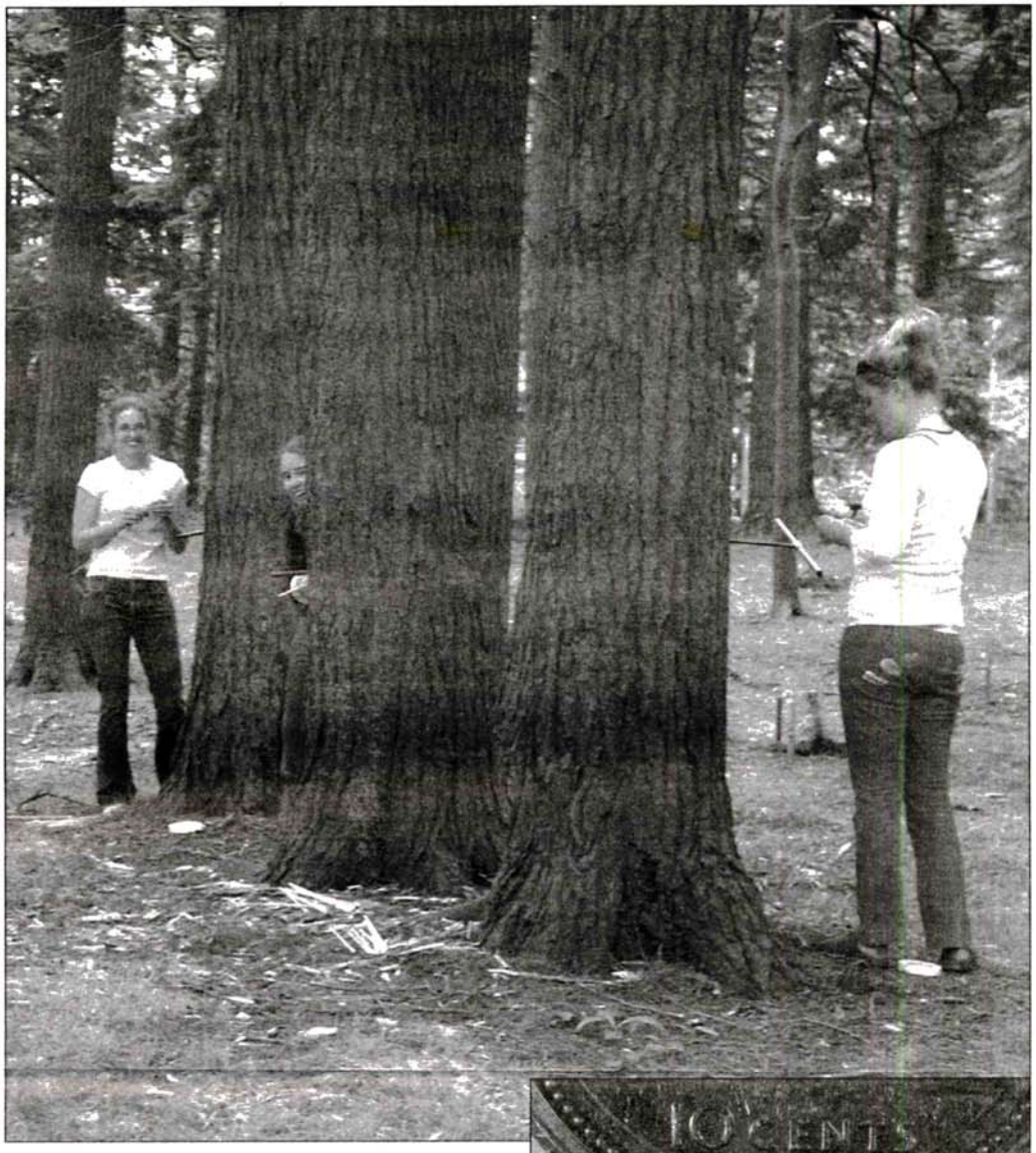
Campground stewards have made an effort in recent years to preserve their trees, limiting parking, smoking areas and groundswork that could affect the health of roots and trees.

"We found a tree there that was 235 years old - that's pretty high, and there aren't many more trees older than that in Nova Scotia," Laroque says. The oldest the team did find was in the Tobeatic wilderness area, at 280 years old. The campground testing extended the history in the study of hemlocks in Southwestern Nova Scotia back to 1777.

The average annual growth of the berwick stand is a small 1.04 millimetres per year, and researchers think this probably has contributed to its longevity. Even so, the recent years from 2002 to 2006 show higher than average growth, suggesting the hemlocks are continuing to grow healthily.

"Old trees may not necessarily be the biggest; they're more likely to be slow growing, and all scraggly from a hard, long life."

In addition to climate change research, the project is also feeding its data to the provincial environment department. Tree age and older stands may play a part in deciding what areas of the province's woodlands should be considered for protective status.



More sampling at Berwick Camp (above). From left to right - Sarah Hart, Natasha O'Neil, Carolyn Reardon. *Submitted*

This picture (right) is a magnified view showing a sanded sample. It illustrates the size of the tree rings using a dime for scale. *Submitted*