

Beech bark disease rolling through county

JENN WATT

Editor

It starts as fluff on the side of a beech tree's smooth grey bark. Pinpricks of white wax dot the tree; sometimes sparsely, other times it nearly covers the trunk. That's the scale insect, digging in – opening up the tree's bark – and is the first step to beech bark disease.

Next comes the fungus. It takes advantage of the tree's vulnerability and once it takes hold, producing red cankers, even the most tall and sturdy tree will eventually fall.

There was a time when foresters weren't sure of the impact beech bark disease would have on the woodlots and wilderness of Ontario. Now they're certain and it's devastating.

"It was about four years ago that it was like oh my God. This is really serious. There's no way around this," says professional forester and manager of Haliburton Forest and Wild Life Reserve Malcolm Cockwell.

About 20 per cent of Haliburton Forest's 90,000 acres is beech and according to Cockwell, the disease pushed through the forest unimpeded over the last decade.

By happenstance, the first time he identified beech scale was eight years ago at Haliburton Forest as he was taking a tree marking course.

"That was the first time he [a forester at Haliburton Forest] had noticed it here and it was one of my first times doing professional forestry," he says.

Beech bark disease has been an unstoppable force in North America for the last 100 years. On the East Coast, beech trees look nothing like what Ontarians would identify as a beech. The people of Nova Scotia or New Brunswick would be shocked to see what beech trees look like outside of the gnarled, spindly trees they now have in their province.

Forest manager at Haliburton Forest Pavel Gmuzdek recently returned from a trip to Nova Scotia.

"There is beech there still growing," he says. "The beech there is very scraggly, very ugly."

Cockwell recalls a workshop done in Huntsville in 2013 attended by foresters from the Maritimes. As part of the event, they were taken on a tour of Algonquin Park.

"All these foresters from New Brunswick and Nova Scotia were lining up to take pictures with [beech trees] because they had never seen a beech that looked like a tree," he says.

It now seems clear that will be the case for Haliburton County and the rest of Ontario as well.

Research forester Sylvia Greifenhagen says over the last five years she has watched the disease spread through most of the beech in the province. She works for the Ontario Forest Research Institute of the Ministry of Natural Resources and Forestry.

"It certainly has spread ... it's spread throughout pretty much all of the range of beech, though there are pockets of beech here and there that haven't been infected," she says.

That might just be a matter of time. There is some disagreement amongst foresters and scientists about whether disease resistant beech trees exist.

"It's hard to know exactly if it's actual resistance or not, but trees that aren't getting the disease, they're very rare," Greifenhagen says. About one to three per cent of the population may be resistant.

"In Michigan and New York State they have found trees that do not get the disease. What they have been doing is propagating those trees in orchards and planting out and seeing how they do," she says.



Haliburton Forest and Wild Life Reserve is coming to terms with beech bark disease, which appears to be an unstoppable and deadly force. They are finding uses for the trees before they become infected. From left, manager Malcolm Cockwell, German forester Sabine Funk and forestry manager Pavel Gmuzdek walk through forest laden with beech thickets. JENN WATT Staff

"That's one process or method that's being followed and that's what we want to do here as well."

After disease takes over a forest, that's not the end of beech trees, but what is left is a far cry from what once was.

Beech trees are useful to the ecosystem largely because of the nuts they produce, which feed animals from bears and deer to turkeys and squirrels. If a tree can make it to nut bearing age it will produce nuts, says Greifenhagen.

In New York State they haven't seen a collapse of nut production, but it has been greatly reduced.

"We don't really know exactly how much we will lose [here]," she says.

However, unlike the behaviour of other stressed or dying trees that tend to produce more seeds and nuts the more stressed they become, beech trees scale back production as they die, Peter McElwain of Forest Design says.

McElwain is forest technician who has been in the industry for 34 years. He specializes in private land management and has had plenty of conversations with landowners from Parry Sound, Muskoka and Haliburton County about beech bark disease.

It hasn't been hard for him to convince landowners that they need to deal with their beech trees before disease destroys them entirely, he says, because the disease moves so rapidly.

"In this case they see it automatically and recognize something has to be done," he says. "They see it on their own woodlots. It's not the challenge where you have to convince people to do anything."

If the trees are not harvested before the disease takes hold, they are unusable. They are also dangerous once they are infected, apt to fall apart and snap off unexpectedly.

"I have clients and landowners that have high recreation use [of their property] that will have a huge liability risk for the danger trees as they're declining," McElwain says, noting hikers, ATVers, snowshoers and skiers all need to make sure the beech trees along their paths are cleared out of the way.

Ron Hamann has 160 acres near Redstone Lake and leads an outing for Hike Haliburton that includes a talk about beech bark disease. He says beech snap can be a huge issue for landowners.

"On a windy day you've got these dead limbs up there that come crashing down," he says.

Hamann is a member of the Ontario Woodlot Association and manages his forest with selective logging – the standard for good stewardship.

He intends to remove his beech trees over the next few years so that they can be used for firewood.

"The rest will simply drop and end up as mulch for the



Bright red cankers can be clearly seen on the bark on this beech tree at Haliburton Forest and Wild Life Reserve.

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— Malcolm Cockwell
Haliburton Forest and Wild Life Reserve

forest bed," he said in an email. "I intend to pursue the wood removal for the Haliburton Heat Bank."

While the disease is clearly moving on its own mostly spread by wind and animals, the MNRF believes that some pockets can be accounted for when people bring infected firewood to a new location. Greifenhagen says they've done research into when it's safe to transport beech wood from one location to another.

"It's really important that beech wood with scale on it not be moved when the life stage of the insect is a mobile stage. The mobile stage of that scale insect in Ontario is from mid July to mid November. That's the time when wood shouldn't be moved."

Beyond the loss of food for animals, the safety risk and the impact of losing 20 per cent (or more) of a forest's trees, the disease offers another dilemma for foresters.

As a beech tree dies, it sends up suckers from its roots – genetically identical trees. Under normal circumstances, the successful of these saplings would grow into new beech trees. Under beech bark disease conditions, they will never become big trees, remaining small and spindly and bushing out into thickets throughout the understory.

"What we're finding is that by the time these little [trees] get to be two centimetres, three centimetres in diameter, they have scale," says Cockwell.

The thickets shade out other trees, effectively killing them, and taking over the forest.

Recently, Ernie Demuth of the Bancroft Minden Forest Company made a delegation to Haliburton County council detailing how his company is dealing with the thickets.

Controlling them often means scraping the forest floor with a feller-buncher, a logging machine that gathers and chops trees, he said.

At Haliburton Forest, serious conversations are happening about exactly how to deal with the thickets and the beech trees that are still healthy.

Because beech doesn't usually fetch high prices, the Forest has tried to add value by making paddles out of the wood. They've also been harvesting the trees to be used as shoring timbers for the Toronto subway extension.

"I think we're having some spiritual discussions right now about what we're going to do about beech and I think we're all kind of moving down the road of it doesn't have a place here," says Cockwell. "I don't know what else you do."

There are hard decisions ahead for anyone with a woodlot containing significant beech populations – something Cockwell is preparing for.

"We're all struggling to find something – even if it hurts to do it now – something that means a hundred years from now we'll still have productive forests."

Health Unit Holiday Hours

The Health Unit office will be closed for the holiday season on: December 24, 25, 28, 31 and January 1.

Best wishes for a happy and healthy holiday season from the staff of the Haliburton, Kawartha, Pine Ridge District Health Unit.



HALIBURTON, KAWARTHA, PINE RIDGE DISTRICT HEALTH UNIT

Toll-free: 1-866-888-4577
Website: www.hkpr.on.ca