BUSINESS & ECONOMY

The battle against spruce budworm continues

Spruce budworm hotspots are being treated and researched in northern New Brunswick, but the outbreak here pales in comparison to the one next door in Quebec.
Photo: Submitted

Tim Jaques | The Tribune

A federal research scientist said he thinks an effort to control the spruce budworm in New Brunswick is successful so far, although a threat still exists from a massive infestation gobbling up nearby Quebec forests.

"We had roughly 35,000 hectares we were treating this year. Just to remind you of the trajectory, we went from 2017 [when] it was 147,000 hectares, in 2018 it was 220,000 hectares, 2019 it was a huge drop to 10,000 hectares, and this past year it bumped up to 35,000 hectares," said Rob Johns, a forest insect ecologist with the Canadian Forest Service, Natural Resources Canada.

"They had a good spray season. They got everything done in a timely fashion," he said.

Spruce budworm is a caterpillar, native to eastern Canadian forests, that eats the needles of spruce and fir trees. Later in its life cycle, it becomes a moth. In the 1950s and again in the 1970s, there were huge outbreaks in New Brunswick, destroying huge portions of the forest.

The Healthy Forest Partnership project (healthyforestpartnership.ca), a partnership of governments, forest industry, and academia in which Canadian Forest Service is a partner, treats localized outbreaks of budworm infestation before caterpillars can grow into adult

budworm are treated with Btk (short for *Bacillus thuringiensis var. kurstaki*), and Mimic.

Both are used in residential settings and in organic farming. The first is a naturally occurring bacterium, and has been used for years to kill tent caterpillars. The second is a natural insect growth regulator that disrupts the caterpillar's regular growth pattern.

The idea is to prevent a big outbreak by locating and eradicating the hot-spots.

"This is the time of year we were going out to collect our post-treatment samples to see how well the treatments worked. It was over such a small area this year, we think it was pretty fine within those areas. But we know up in Quebec, there was a ton of defoliation this year. So it's quite possible we had some immigrants come in, the moths," Johns said.

He said possibly aside from what he saw on a video of moths around lights in the northeast, there were no big flights of moths into the province as happened a few years ago, when they descended on Campbellton in an immense swarm.

Nonetheless, because of the defoliation of trees in the much bigger Quebec outbreak, there may still have been budworm moths coming in this year.

"I know they [Quebec] saw a substantial defoliation this year, at least in the lower St. Lawrence area. They basically scaled back their treatments to almost nothing, because of COVID. They didn't do the half-million hectares they were planning for sure, and that would apparently explain why we would have moths coming our way," he said.

He said while the team working in New Brunswick including researchers were working under COVID restrictions, they were able to get the work done. He said working for a federal organization, he was not allowed to go into the field until recently, but Forest Protection Limited, being provincial, was able to get permission to work. He praised post-doctoral researcher Dr. Sara Edwards and technician Keegan Moore, who were able to get the data.

"We actually got all the data that we wanted, and got the field season done," he said.

The research team is now processing its findings, and analyzing branch samples. The data should show where the budworm is most active, and determine how will this year's efforts went and help plan for next year's activities. Researchers are also studying if climate change has any effect on budworm.

Johns said the main hotspot last year was about 30 or 40 kilometres south of Campbellton, with some in the northwest of the province near the Quebec border. He said so far, no hotspots have been detected in southern New Brunswick.

He said he believes the treatments of the hotspots are working to prevent the kind of huge outbreaks that happened in New Brunswick in the 1950s and the 1970s, and which is happening in Quebec right now.

"I think that we have maintained these populations this low is evidence," he said.

"In Quebec, if you go just a little north up the Matapedia, to Amqui and Causapscal, they are having tree mortality at this point. They've had four or five years of sever defoliation, and trees are dying," he said.

"But I think we are stemming the spillover into the province ... the hope is that the outbreak in Quebec will collapse," he said, adding that with a huge amount of defoliation in Quebec it could "end up with a lot of starvation next year which would help to bring that population down."

"The strategy right now is to keep these hotspots from growing, and coalescing into one large outbreak like they're dealing with there."

- With files from the Brunswick News archives