INFORMATION ON THE COMPLETED PROJECT CONTRIBUTION AGREEMENT

Resilience, Genomics and Mountain Pine Beetle Outbreaks

Over the past two decades, the mountain pine beetle (MPB) has killed over 18 million hectares of mainly lodgepole pine forests in western Canada. In the wake of the MPB epidemic, decision makers must grapple with reforestation strategies and seek solutions to increase forest resiliency.

PROJECT TITLE
A framework for anticipating risks, analyzing trade-offs and fostering resilience related to mountain pine beetle outbreaks and genomic-enhanced tools for risk management planning

ORGANIZATION
Carleton University

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START DATE
April 1, 2020

END DATE
March 31, 2023

Currently, genomic research offers a promising solution to the epidemic. Planting trees genetically resilient to the MPB has the potential to reduce losses to the beetle in future outbreaks. However, to fully realize the potential for such an approach, researchers and forest managers need to consider how communities will accept this potential solution.

Professor Vivian Nguyen and her team are developing a framework to inform government, organization and industry decision makers on how to deal with the mountain pine beetle threat. The framework will account for the opinions of local Indigenous and non-Indigenous communities on how they wish to see this risk be managed. Professor Nguyen and her team will create their framework for decision makers in the three provinces threatened by the MPB epidemic: British Columbia, Alberta and Saskatchewan.

During the first year of the project, Professor Nguyen and her research group collected information on risk perception, in addition to assessing the risks and benefits of using genetics and genomics in forestry applications. This information will be useful in the next steps of the project, which consists of interviews, surveys and meetings with concerned stakeholders to discuss a potential solution.

Professor Nguyen and her team will also analyze relevant policy to understand the implications associated with the MPB epidemic and the various trade-offs with its many management options. With this analysis, interested stakeholders will be able to inform themselves on the research, helping to mitigate risks and foster more resilient forests.

The intent behind this project is to communicate knowledge and science to different stakeholders that have an important role in managing western Canada's forests. Professor Nguyen and her team's project is an important step in the process of implementing a genomic solution to Canada's over twenty-year long history with the MPB epidemic.

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