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**INFORMATION ON THE COMPLETED PROJECT
CONTRIBUTION AGREEMENT**

Developing Optimized Plot Networks

Taking inventory of an entire forest can be extremely costly and labour intensive. Instead, Canadian forest managers often choose to observe a network of plots to make estimates about the condition of a forest. Selecting and creating these plots can be a difficult task. Collectively, the plots must accurately represent a forest's diversity of trees– not only in terms of species, but in age, height, health and other characteristics.

PROJECT TITLE

A Toolbox to Assist Forest Practitioners in Developing Optimized Plot Networks Using LIDAR Data

ORGANIZATION
University of British Columbia

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April 1, 2020

END DATE
March 31, 2023

Professor Nicholas Coops and his team are working on the first steps toward creating a suite of technological tools for developing optimized forest plot networks. The finished suite of tools will help forest managers and provincial forest staff use structurally guided sampling approaches to optimize plot placement and assessment. Structurally guided sampling (SGS) is a method of creating and assessing plot networks. This method consists of examining the existing stands in a forest to decide where plots should be located to best capture their variation.

Professor Coops's team has developed an algorithm and conducted an in-depth literature review. This will assist forest practitioners in developing optimized plot networks using data from LiDAR, a remote-sensing technology.

Because taking stock of a forest is so costly, minimizing the number of necessary plots is a key objective for Canadian foresters. Empowering forest managers to use technology for plot development will help them create plot networks that are not only smaller, but more accurate than networks created from manually collected information. SGS will revolutionize plot network design in terms of the number and location of plots within a plot network.

Sustainable forest management is critically important for the survival of the forest industry in Canada and the well-being of its population. By supporting optimal plot placement, this project supports Canada's path to greater sustainability in the forest industry. It also helps local forest communities save funds, time and labour in field work.

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