

Vegetation Sampling Network: Field plot network to support the provincial forest resources inventory

What is the vegetation sampling network or VSN?

The vegetation sampling network is an extensive set of temporary and permanent four hundred square metre (400 m²) fixed radius ground plots in forested areas across Ontario's boreal and Great Lakes-St. Lawrence regions. It is part of the Ministry of Natural Resources' (MNR) initiative to modernize Ontario's forest resources inventory and integrate other terrestrial vegetation monitoring and modelling needs.

When feasible to meet the design and sampling objectives, the network integrates plots from growth and yield and wildlife monitoring networks.

What types of data are collected?

Network data collection protocols are modular and subdivided into three modules:

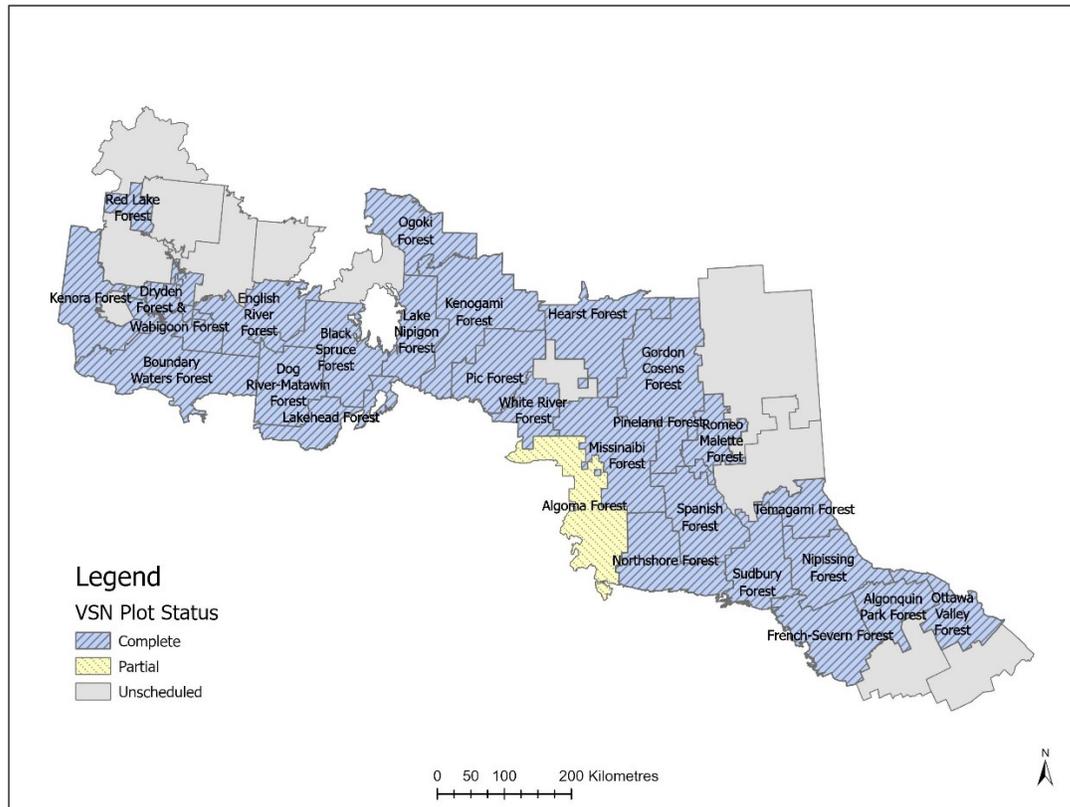
- *A* modules describe stand, tree, and site/soil attributes, as well as the smaller trees and shrubs below tree canopy layers
- *B* modules include tree stem and crown mapping
- *C* modules describe understory plants, downed wood, tree deformities, and wildlife uses

How are data collected?

Data are collected annually, mostly in the snow-free season by trained field crews hired principally by vendor companies. Field crews apply very specific standardized protocols to collect stand, tree, soils and vegetation data that are usually captured via a mobile data collection app. Other modern instrumentation and techniques are also used, including high-precision Global Navigation Satellite Systems (GNSS) for accurate plot location and 360 degree cameras to capture images that help the ministry understand what pulses of airborne lidar (stands for light detection and ranging) penetrate the tree canopy to contact the understory (the ministry typically acquires lidar one to two years before VSN ground plot data are collected in a given area).

Where are we collecting data?

We are collecting data in forest management units across the province. Field data are collected one to two years after lidar is flown. Forest management units in which field plots are complete, partially complete, and yet to be scheduled for data collection are shown in the map below. Map shows field plot acquisition status as of October 2024.



How will the data be used?

Data from the network will be used to train and validate models that enable a lidar-enhanced forest resources inventory and for a variety of other terrestrial vegetation modelling and monitoring purposes.

Where can I get more information?

[Request the current version of the Vegetation Sampling Network Protocol](#) (VSNP). This manual, updated intermittently, provides technical specifications and standardized field procedures for collecting data from the ministry's VSN plot network and is relevant to those who collect or use the data. It includes definitions/descriptions, detailed instructions, and measurement precisions and standards.

If additional questions, email FRI@ontario.ca with the subject line VSN.

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