

# **Growth and Yield Monitoring Task Force**

## **Individual Tree Working Group**

### **Terms of Reference**

**DRAFT**

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## Background

The Growth and Yield Monitoring Task Force has identified growth and yield needs which require monitoring, It has divided these needs into three groups and established a Working Group for each. One of those is the Individual Tree Working Group (ITWG).

## Mandate

In general, the ITWG will assess and decide upon the feasibility and appropriateness of monitoring growth and yield estimates resulting from specific tree-based measurements. Where deemed feasible and appropriate, sampling designs will be developed and tested. These designs will provide statistically controlled growth and yield estimates for comparison with existing estimates.

More specifically, the ITWG will explore the following growth and yield related questions:

1. Accuracy of tree volume estimates:

Does a specific set of taper equations, when applied to a specific inventory area, provide accurate estimates of tree volumes by species and size classes?

2. Approach to decay estimates:

Which approach (net factoring or current volume/decay program) should be used, should it be monitored and, if so, how?

3. Site index assessment:

Is it appropriate and feasible to monitor how well site index equations represent the growth of top height trees and thereby the accuracy of growth and yield estimates? If so, what monitoring method should be used?

The ITWG efforts and results are focused on inventories rather than silviculture: assessments will be in terms of the extent to which inaccuracies (if any) are contributing to the overall inaccuracy of the inventory. Further, ITWG efforts and results are focused on a specific inventory, the Vegetation Resource Inventory (VRI): the intent is to determine first if the VRI can be used as a framework for a monitoring design.

## **Guidelines**

### 1. Accuracy of tree volume estimates:

The Working Group will focus on the development of a monitoring design which utilizes the tree data obtained from the Vegetation Resource Inventory (VRI).

The Working Group will attempt to identify key criteria affecting the accuracy and, if successful, use them for stratification purposes in the design.

### 2. Approach to decay estimates:

The current volume/decay program includes the development of new decay/waste equations and is designed for use with current inventory methods.

The net factoring approach is part of the new VRI design.

The Working Group will explore differences between the two approaches and make recommendations regarding the approach to use in the future, keeping in mind the likely adoption of the VRI in future provincial inventories.

### 3. Site index assessment:

The Working Group will focus on site index as assessed from individual trees (other WG's may assess site quality using other attributes). It will review existing information, determine if the accuracy of site index estimates should be and can be monitored and, if so, develop a monitoring design.

## **Workplan and Timetable for 1997**

January - April:

- Review background information on all three mandate components.
- Make an initial appraisal of mandate (3), Site index assessment.

May - June:

- Determine to what extent the VRI can be used for monitoring purposes, what modifications to the VRI plots will be required, approximately what sample size will be required, and the type and measurements of any additional plots.
- With other Working Groups, develop an integrated, coordinated approach.

July - September:

- Complete review of mandate (2), Approach to decay estimates, and report.

October - December:

- Complete work on mandate (1), Accuracy of tree volume estimates, and report.

The timing of work on mandate (3), Site quality assessment, will be determined in consultation with the other Working Groups.

## **Membership**

The Working Group will be chaired by Ian Moss. Members will include growth and yield experts from government, universities, industry and the consulting community.