

PLANSFM

STANDMODEL

Development of dynamic yield models for conifers, broadleaves and mixtures

PROJECT TEAM

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BACKGROUND

Better resource information is one of the key requirements for investment decisions. Growth and yield models, including those developed under the DYNAMIC YIELD project, are a key component of any decision-making framework. Models developed to date cover Sitka spruce, lodgepole pine, Norway spruce, Douglas fir and Scots pine. These models have an operational interface called GROWFOR (Figure 1), which is licensed by COFORD and which is now in use by Irish foresters. The models are also incorporated into Coillte's volume forecasting systems. Given the increase in the use of both broadleaves and mixtures under grant-aided afforestation, further models need to be developed. The STANDMODEL project is currently developing new dynamic yield models for ash and Japanese larch and is examining ways in which mixtures can be modelled using the dynamic approach.

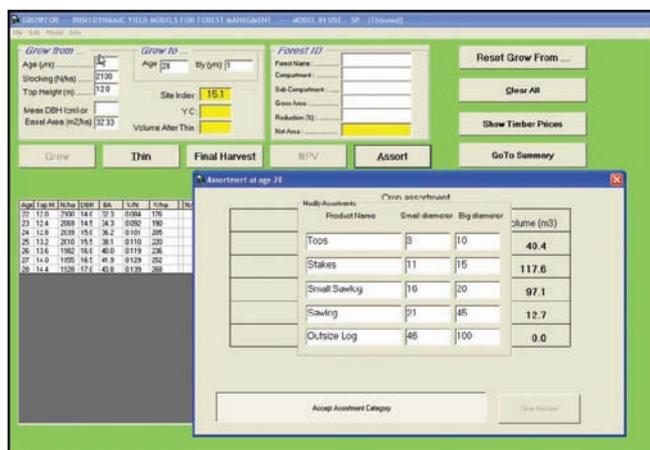


Figure 1: GROWFOR software interface. Models developed for ash and Japanese larch will be included in GROWFOR.

OBJECTIVES

This project is aiming to achieve the following objectives:

- Produce new dynamic yield models for Japanese larch (thinned and unthinned) and ash (thinned) and integrate these into the existing Irish Dynamic Yield Model User Interface.
- Investigate the potential for generating growth forecasts for species mixtures using existing model combinations.
- Investigate the potential for utilising National Forest Inventory plot data in validating and strengthening existing dynamic yield models and in generating new ones.
- Develop additional functionality for the Irish Dynamic Yield Model User Interface in the form of:
 - User defined assortments;
 - Optimisation/goal seeking capability;
 - Facility for mixtures.

PROGRESS

Collection of Japanese larch data: The felling of sample trees and plot measurement was completed in 2008 and the data were added to the national forest measurement database managed by Coillte.

Collection of ash data: Sample plot establishment, measurement, volume sample felling and thinning of ash were carried out in 2008. There are 100 such plots located nationwide (Figure 2) and these are stratified by age and region. Eighty plots are located in Coillte forests while 20 are located in private forests. Annual DBH increment data for all 100 plots are currently being collected.

User-defined assortments have been developed for Scots pine. The process involved for this species may not be replicable for other species but further work in this area is continuing.

ACTIVITIES PLANNED

- Annual measurement of ash sample plots with updates on DBH and plot maintenance.
- A series of temporary plots will be established in Japanese larch and validation data collected for future use in validating the proposed Japanese larch dynamic model.

- There will be continued work on the user-defined assortments.

OUTPUTS

Current Internet Presence

<http://www.ucd.ie/forestry> website describing STANDMODEL in the context of the PLANSFM research programme (due for launch in March 2009).

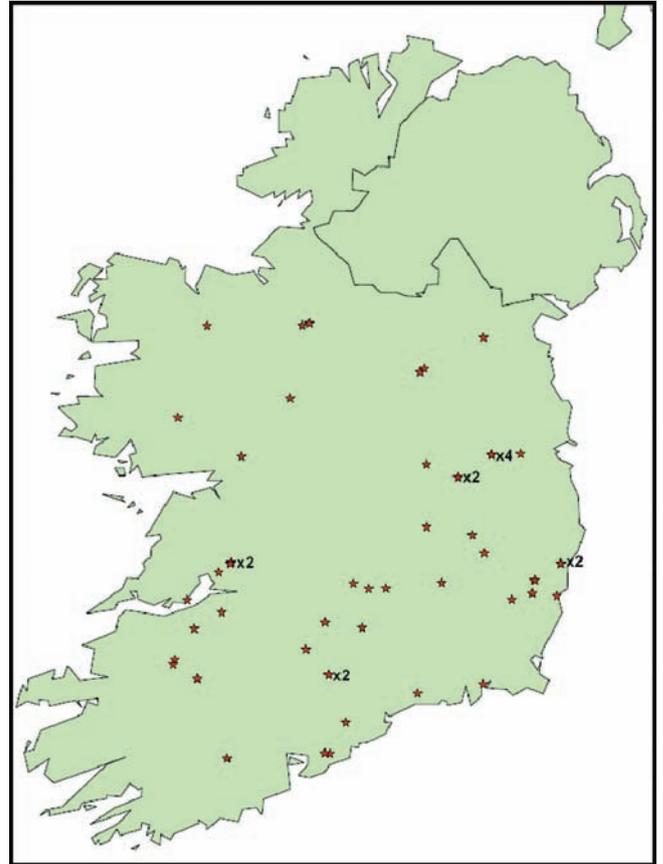


Figure 2: Map of Ireland showing the location of the ash sample plots in the STANDMODEL project.