

CONTINUCOVER

An evaluation of continuous cover forestry in Ireland

PROJECT TEAM

Dr Áine Ní Dhubháin, University College Dublin*
 Prof. Tom Bolger, University College Dublin
 Nuala Freeman, University College Dublin
 Denis Coghlan, University College Dublin
 Seamus Kennedy, University College Dublin
 Dr Michael Keane, Coillte
 Donal O'Hare, Field forester
 Tottenham family, Forest owners

* Email: aine.nidhubhain@ucd.ie

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BACKGROUND

Continuous cover forestry (CCF) includes all silvicultural systems that involve the continuous and uninterrupted maintenance of the forest. While the practice of CCF is not new, interest in this approach to forest management increased in Europe in the early 1980s. The vast majority of forests in Ireland are managed using the clearfell system, but this has increasingly been criticised. This study set out to explore means by which stands managed under the clearfell system can be transformed so as to be managed under alternative systems. A key element of the transformation process is the ability to develop an understorey below an existing canopy using natural regeneration or underplanting.

OBJECTIVES

- To assess the survival and growth of a number of tree species under various levels of canopy cover;
- To monitor throughfall, temperature, and rate of nutrient turnover (C and N) under these canopies;
- To establish plots to demonstrate the implementation of alternative silvicultural systems to clearcutting.

PROGRESS

Experiments investigating the survival and growth of a number of tree species under various levels of canopy cover shade were completed during previous reporting periods and the objectives outlined above have been achieved. The main focus during this reporting period was to set up additional demonstration sites. The first stage of the work to establish

Mount Callan forest as a demonstration forest for continuous cover forestry is finished, with the completion of an inventory. Prescriptions for the management of sections of this forest under CCF systems are currently being drawn up. Different thinning systems will be used to demonstrate the initial stages of the transformation process to CCF.

ACTIVITIES PLANNED

The following tasks will commence in 2009:

- Complete the set up of Mount Callan as a demonstration site;
- Host an international conference on Continuous Cover Forestry in Europe in conjunction with CONFOREST, a European Forest Institute regional project centre concerned with the process of converting stands to CCF;
- Establish an AFI* site in Mount Callan;
- Establish an additional marteloscope site;
- Complete and submit the final project report.

OUTPUTS

Seamus Kennedy was awarded a PhD in April 2008 for his thesis *The impact of shade on the morphology, physiology and photochemistry of Picea sitchensis, Larix x eurolepis and Thuja plicata*.

Denis Coghlan was awarded an M.Agr.Sc in April 2008 for his thesis *Survival and growth of five commercial tree species planted under various levels of canopy cover in a 40 year-old Sitka spruce stand*.

* The AFI (Association Futaie Irrégulière) is an association registered by French law, setup in 1991 by a group of private forestry consultants in order to promote the management of irregular stands. It aims to share technical information and is founded on the principles advanced by ProSilva. These two associations remain quite distinct, although they each share a certain number of common objectives. Much of the effort in the organisation has been directed toward irregular management of broadleaved stands. The AFI has put in place a network of "reference" stands to demonstrate how managers were working and what was successful. A key principle of the network is that there is no overall prescribed management: the network observes and records the operations of experienced practitioners in well-structured forests owned by a range of private forest owners across a range of sites type. At the start of December 2004 there were 61 reference stands.