Transformation to Continuous Cover Forestry in Ireland
by Lucie Vítková

Continuous cover forestry (CCF) has only been used to a limited extent in Irish forests due to prevailing use of the clear-cutting system. Although the interest in CCF has been growing, at both policy and practice levels, little has been reported about CCF in Ireland. However, a PhD project addressing some of these information gaps was recently completed yielding much needed insights into some aspects of transformation to continuous cover forestry in Ireland. A brief summary of this project is presented here.

In order to compile relevant information about CCF a comprehensive literature review focusing on major aspects of transformation to CCF was produced; i.e. Vítková and Ní Dhubháin (2013). This review described the historical development of the use of transformation as well as when and where it is appropriate and when it is complete. The reasons why transformation may be chosen were also discussed.

In addition to the literature review, a survey of forest owners/managers was conducted to determine the extent to which, and on what site types CCF is practised in Ireland. According to the survey, only 1.5% of Irish forests can be classed as ‘managed under CCF’. Almost 80% of this area was recorded to be in public ownership with the remainder being private. A sample of the stands managed under CCF was visited; although many of these stands were suited to CCF management, there was little evidence yet of the implementation of CCF; adoption of CCF appeared to be more of an aspiration rather than a reality (for details please see Vítková et al., 2013).

Forests managed under CCF in Co. Wicklow; Ballard (left) and Knockrath (right).
Since the views and knowledge levels of forestry professionals play a key role in the successful implementation of CCF, a survey was conducted exploring forestry professionals’ knowledge of and attitudes towards the practice of CCF. The survey revealed that the majority of the respondents were familiar with the term CCF. However, a lack of knowledge regarding the practice of CCF was identified. This lack of knowledge along with windthrow risk was ranked by the survey respondents as the main constraints to the use of CCF. Certification, on the other hand, was considered to be the main driver of CCF in Ireland. This study identified the need for further research into CCF as well as the need for training in skills necessary to deliver CCF, which would allow a more widespread use of CCF in Ireland. It is also important to point out that uncertainty regarding some aspects of CCF, especially economics, was also identified. More details are available in Vítková et al. (2014).

The practice of CCF requires practitioners to mark trees prior to felling. Although this activity is not widely practised in Ireland, those intending to engage in transforming stands to CCF will have to become familiar and confident in selecting trees to be retained or removed. Participants with varying level of forestry expertise took part in an exercise whereby they were asked to ‘mark a stand for thinning’ without being provided with any information. Consequently, they were given training in crown thinning and were asked to mark the stand for thinning again; this time using crown thinning. Marking trees for a crown thinning was chosen as this type of thinning, which is not commonly practised in Ireland, is expected to be used in the transformation process. The level of expertise affected the way the participants approached the task reflecting how new skills are acquired. This study highlighted the need to ensure that the techniques being used in transformation are understood and practised correctly; additional intensive training of foresters will be required to achieve this (further details in Vítková et al., under review).

In order to provide data on the early stages of transformation to CCF in young Sitka spruce stands, two thinning treatments (crown thinning and graduated density thinning, GDT) along with a control thinning treatment (low thinning) were tested for their ability to initiate the transformation to CCF. Stand characteristics before and after two thinning interventions were recorded. The use of the single-tree growth simulator, MosesGB, made it possible to attempt to simulate the effect of a further four thinning interventions (20 years). There was little difference in tree spatial distribution and diameter differentiation in the treatments due to the short observation period. Furthermore, all treatments resulted in stable stands after two thinning interventions with crown thinning resulting in the lowest number of stable trees according to the height:diameter ratio. Stability in subsequent modelled thinning interventions declined in all thinning treatments, but particularly where crown thinning and GDT was used. This was attributed to limitations imposed by the model and was considered not to be a true reflection of the expected trends. Larger trees, on average, were removed in the crown thinned plots in the first two thinning interventions. In the second thinning, the total volume removed in the GDT was much greater than in the two other thinning treatments as a greater number of stems were removed compared to the other treatments. Further monitoring of this experiment will be required to understand the long term impacts of the thinning treatments. Additional detail available in Vítková and Ní Dhubháin (unpublished).
References:

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