Continuous Cover Forestry in Ireland: update on recent developments and initiatives.
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Introduction

The past year has seen several significant developments for Continuous Cover Forestry (CCF) in Ireland. As readers will be aware, CCF is the management of irregular structure woodlands, with multiple canopy layers and an emphasis on natural regeneration to achieve stand renewal and sustainability (Ní Dhubháin 2003). Traditionally, production forests in Ireland have been managed on a rotational system, often with clear-felling and re-planting in Sitka spruce stands taking place on a 35-40 year cycle. Relatively few woodlands in Ireland are currently being managed on CCF principles (Vitková et al. 2013). However, interest in CCF is growing rapidly and has become a matter of national debate. For owners of small private forests, CCF is becoming increasingly attractive due to savings in operational costs, such as re-stocking, Hylobius control and weeding, while generating a continuous income from regular stand interventions (Spazzi et al. 2019). For larger forest estates, including the state-owned forests managed by Coillte, CCF is being considered where landscape, biodiversity and environmental factors are of high importance.

CCF is widely recognised as an important component of climate change adaptation strategies for forests across Europe, due to the potential for carbon sequestration and storage in the above- and below-ground components of the ecosystem (Brang et al. 2014). This is influencing forest policy developments in Ireland. A motion brought forward by the Green Party in the Dáil Éireann (Irish Parliament) on 1 October 2019 called for a move away from short rotation plantations to a “close to nature” model that addresses economic, biodiversity and climate change considerations. Although non-binding on government, the motion passed by 70 to 38 on 17 October and included a call on government to “begin a national programme of transformation of existing young, even-aged monoculture forests to continuous cover forestry.”¹ Further, at hearings of the Oireachtas (Houses of the Irish Parliament) Joint Committee on Climate Action – Forestry, on 11 December 2019, Pro Silva Ireland presented a statement highlighting the potential of CCF to foster profitable, biodiverse forests to meet increasing climate and biodiversity challenges, whilst ensuring rural employment, improved social amenity and valuable diverse timber production.² These important developments, raising the profile of CCF in Ireland, come after a year that has seen new policy measures, investment, research and training opportunities come on stream, as described further in this article.

¹ Debate in Dáil Éireann (Private Members Motion) moved by Eamon Ryan TD and Catherine Martin TD. URL: https://www.oireachtas.ie/en/debates/debate/dail/2019-10-01/39/
² Pro Silva Ireland statement on CCF to the Oireachtas Joint Committee on Climate Action – Forestry, 11 December 2019. URL: https://prosilvairland.com/2019/12/12/resilient-forestry-at-leinster-house/
Forest Policy

A new grant scheme dedicated to CCF was announced by Andrew Doyle TD, Minister of State for Forestry, on 22 January 2019. This initiative is part of a wider government strategy to promote the sustainability, resilience and biodiversity of Ireland’s forest estate, and was the result of a consultation process between the Department of Agriculture, Food and the Marine (DAFM) and a number of stakeholder groups, including Pro Silva Ireland. Embedded within the current Woodland Improvement Scheme (2014-2020), the new measure allows for a total of 30 applications in the first year on conifer or broadleaf woodland sites up to 10ha in size (DAFM 2019). There will then follow a review of progress before the measure is extended forward from 2020. Funding is for 12 years to assist with planning and management costs associated with stand transformation to CCF. Three cost-based payments will be made, up to €750/ha in year 1, another payment of €750/ha between years 4-8 and a final payment of €750/ha at year 12. The management plan must follow a standard template and payments are based on work in the plan being completed. Foresters making applications on behalf of clients must provide evidence of prior knowledge of or training in CCF.

The new CCF management grant has been called a “landmark”3 in Irish forestry and was fully subscribed within the first few months of its launch. With approximately 22,000 small and farm woodland owners across the country, there is potential for CCF to be widely adopted. The outcomes of the review process and announcement about extension of the scheme are eagerly anticipated for 2020.

New Investment

Another notable development for CCF took place in May 2018 with the launch of the SLM Silva Fund. This fund will be managed by SLM Partners, an asset management company that acquires and manages rural land on behalf of institutional investors. The company’s mission is to scale up regenerative, ecological farming and forestry systems that deliver financial returns and environmental benefits. The SLM Silva Fund is backed by the European Investment Bank (EIB), Irish investors and other European institutional investors. The EIB investment package includes €12.5 million in EU guaranteed loans, plus additional funding for training and development activities.4

The EIB investment package for CCF is part of the bank’s Natural Capital Financing Facility, launched in 2015. This is a €400m initiative intended to protect and enhance Europe’s natural capital. The facility will enable institutional investors to support alternative sustainable forestry models and support Ireland’s ambition to protect biodiversity, soils and landscapes, and combat threats associated with climate change.

3 Pro Silva Ireland [online], 24 January 2019. URL: https://prosilvairland.com/2019/01/24/landmark-continuous-cover-forestry-ccf-scheme-announced/
The strategy for the fund is to acquire existing plantations in Ireland and, where possible, transform them to CCF. SLM Partners is collaborating with Purser Tarleton Russell Limited (PTR), a leading forestry management, consultancy and research company with considerable experience in Continuous Cover Forestry. PTR will be responsible for managing the forest properties after acquisition. Environmental impact monitoring, training and development activities will continue over the lifetime of the fund.

**Research and Development**

The most important CCF research project currently taking place is the TranSSFor Project, which is being led by Teagasc Forestry Development Department and University College Dublin (UCD), with support from Coillte and a private forest owner. This is dedicated to the transformation of Sitka spruce stands to continuous cover forestry. Given that Sitka spruce accounts for over 50% of the productive forest area in Ireland, it is essential that more detailed research is conducted with this species to understand how it can be managed on CCF principles (Wilson et al 2018a).

The primary objective of the TranSSFor Project is to compare crown and graduated density thinning with conventional (low) thinning regimes in two productive woodlands, one on gley soil and the other on brown earth (Figure 1). Crown and graduated density thinning are thought to promote stand structural diversity and facilitate natural regeneration. The trial was established at the time of first thinning in 2010. The stands were both thinned for the third time in 2018-2019 and are being assessed in terms of stand stability, structural diversity, productivity, timber quality, environmental impacts, operational factors and economic performance. Further background information is provided in CCFG Newsletter 38 (Wilson et al. 2018b).

Other applied research taking place at the present time includes monitoring of Research Stands established by Coillte with technical assistance from the Irregular Silviculture Network (ISN). This organisation is based in Ireland and the UK, and is closely linked with the Association Futaiie Irrégulière (AFI), based in France. Seven different forest type stands have been identified in the Irish network, with detailed inventory being repeated on a 5-year cycle. Summary reports are produced for each site along with a spreadsheet that facilitates detailed stand analysis. This is generating information on the transformation in stand structures, natural regeneration, economic performance and ecological attributes. Details of the AFI-ISN protocol are provided by Susse et al. (2011).
In a new development for Coillte, a project called BioForest has mapped areas of biodiversity value across their estate. Sites have been categorised in one of five classes, depending on site sensitivity and biodiversity/habitat importance. Part of the project has included recommendations for future management of these sites. This has flagged a large number of woodlands and sites where CCF is the optimum management option due to its potential for enhancing biodiversity value of the forest stand, while facilitating quality timber production.

**Training and Knowledge Transfer**

Linked to the active CCF research and development programme are several initiatives in forestry education and training. A network of 1 ha training plots, known as marteloscopes, were set up by Coillte in 2012 to support new skills in tree marking and the preparation of stand prescriptions (Figure 2). This network is based on the AFI-ISN protocol. These plots have proved highly effective among forestry practitioners for continuing professional development, and additionally are being used for silviculture teaching in the undergraduate forestry course at Waterford Institute of Technology. Following a workshop in February 2019 on the topic of marteloscopes and CCF training, hosted by the Teagasc Forestry Development Department, a number of training programmes have come on stream, with broad cooperation and collaboration among interested parties.

Figure 2. Forestry students from Waterford Institute of Technology developing tree marking skills at the marteloscope in Oughaval Forest, Stradbally, County Laois. Source: Edward Wilson.
Several organisations in Ireland are actively engaged in CCF training at the present time:

1. DAFM/Teagasc

A recent initiative for private forest owners is the new Knowledge Transfer (KT) scheme and associated KT groups. Supported with funding from DAFM, KT groups (KTGs) are enabling forest owners to develop skills and understanding of woodland management, including CCF. Regular meetings and forest visits are a feature of KTGs, under facilitation by a forester and with additional support provided by the advisory team at the Teagasc Forestry Development Department (Figure 3). The KT scheme was tested in 2017 by forest owners groups in Counties Limerick, Tipperary and Clare, and today can count approximately 30 KTGs nationwide.

![Figure 3. Learning about tree growth and increment. Members of a Knowledge Transfer Group (KTG) at a Teagasc Forestry Development Department training course on CCF. Engaging private forest owners in active management of their woodland is a priority for Teagasc, and is a critical element of Ireland’s climate adaptation plan. Source: Jonathan Spazzi.](image)

2. Coillte

As part of the BioForest project, Coillte has initiated CCF training for foresters and ecologists working on their estate. In September 2019, a new Marteloscope was established in Donadea Forest, near Dublin, using the protocol and software developed by INFORMAR, an international project of the European Forest Institute. Similar to ISN marteloscopes, INFORMAR is based on the establishment of 1 ha plots where trees are mapped, and where both timber production and biodiversity attributes are measured. Additionally, INFORMAR is designed for tablet computers that make it possible to deliver in-forest training that includes, for example, the marking/selection of trees and the identification of habitat structures. Results of individual exercises can then be instantly visualised and form the basis of discussions or feedback sessions in the field. The responses for each individual or group can be saved for later analysis in the office or classroom. Two pilot training events in September 2019 proved to be highly successful, with strong positive feedback from over 30 participants. Funding for this project came from Coillte with technical assistance from EFI.
3. Pro Silva Ireland
ProSilva Ireland (PSI) is the leading non-profit organisation and registered charity dedicated to CCF in Ireland. Over many years, Pro Silva Ireland has forged strong links with similar forestry groups across Europe, including CCFG. Pro Silva Ireland’s regular programme includes two Open Forest Days each year in woodlands being transformed to CCF and an annual international study tour (Figure 4). The group is strictly apolitical but also provides input to relevant DAFM forest policy consultations and advises other organisations interested in sustainable forest management practices. Starting in March 2019, PSI supported the delivery of five 2-day short courses in tree marking practices and stand transformation, focusing on early-stage interventions in Sitka spruce plantations. These were fully booked and received valuable comments that will enhance future course offerings. Tree marker training courses will continue in 2020 and the PSI committee is actively exploring opportunities to add new topics in response to growing interest and demand.

Figure 4. Learning about CCF in broadleaf woodland on the PSI study tour to Alsace, France, September 2018. Over the years, the PSI international study tour has facilitated many professional connections and collaborations with forestry colleagues across Europe.
Source: Edward Wilson.

Concluding Points

Across the forestry sector in Ireland at the present time, relatively high timber prices continue to draw more woodland into active management. The imperatives of enhancing the resilience, sustainability and biodiversity value of woodlands are stimulating new interest in CCF. With the introduction of a new grant scheme, investment initiatives and training programmes, there is more engagement than ever before in the potential of CCF across a broad range of woodland types in Ireland. The challenge is to build on this increased awareness and ensure that future develops are founded on a robust and evidence-based approach.
More Information

• AFI - Association Futaie Irrégulière - www.prosilva.org/activities/afi
• Coillte - www.coillte.ie
• Forest Service (DAFM) - www.agriculture.gov.ie/forestservicen
• INFORMAR - www.informar.eu\marteloscopes
• Pro Silva Ireland – www.prosilvairesland.com
• SLM Partners – www.slmpartners.com/activities/irish-forestry
• Teagasc Forestry Development Department - www.teagasc.ie/crops/forestry
• UCD Forestry - www.ucd.ie/agfood

Literature Cited

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• Wilson, E. R., I. Short, Á. Ní Dhubháin and P. Purser. 2018b. The TranSSFor Project: the transformation of Sitka spruce stands to continuous cover forestry. CCFG Newsletter 38 (Spring 2018): 91-97

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