

Innovation and diversification in forest management

The new marteloscope training network aims to enhance owners' confidence and ability in managing a diverse range of forests.

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Land owners plant trees for a variety of reasons. These include income diversification, timber production, carbon sequestration, protection of water quality, protection/enhancement of biodiversity, creation of woodland amenities and improved work-life balance.

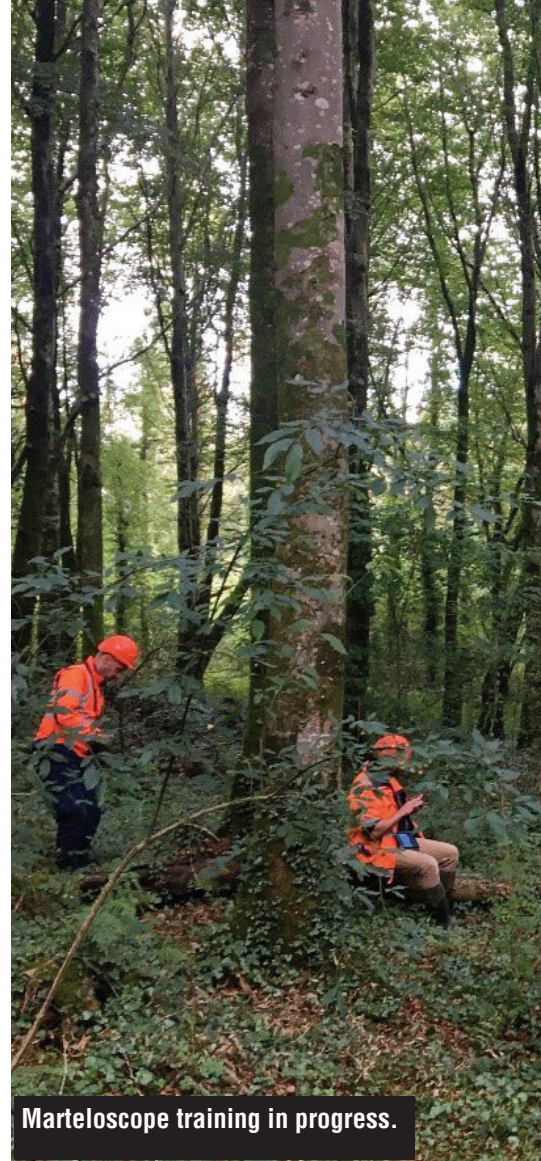
In recent years, interest in establishing a diverse range of forests has been steadily growing, including interest in native woodlands and the

adoption of "close-to-nature" management options.

A balanced mix of forest management systems is therefore required to cater for the diversity of forest types, site conditions and, in particular, owner objectives.

Recent developments in European and national forestry policy are also directed at promoting diverse and integrated management as a means of enhancing forest resilience in the face of climate disruption, sustaining forest production and delivering diverse ecosystem services.

As part of these efforts, novel systems, known as continuous cover forestry (CCF), can allow commercial timber harvesting on suitable sites



Marteloscope training in progress.

while retaining a permanent forest cover. In this context, the Teagasc Forestry Development department will be rolling out a new programme of marteloscope workshops in 2022. This is a new knowledge transfer initiative aimed at enhancing owners' confidence and ability to manage a diverse range of forest types.

The main aim is to equip forest owners with the skills to choose the most appropriate management systems to meet their objectives and to help integrate and enhance both the production and biodiversity value of each forest.

The marteloscope network

A marteloscope is a specially prepared forest plot, ranging from 0.4ha to 1ha in size, commonly used across Europe for training purposes.

The name comes from the French "martelage" meaning "hammering" which refers to the way trees were traditionally marked for thinning across Europe by using a purpose-built hammering tool.

In essence, a marteloscope plot is an outdoor-classroom forest facility for training participants in tree selection and tree marking. It facilitates 'learning by doing'.



Senator Pippa Hackett, Minister of State at the Department of Agriculture, Food and the Marine, launched Teagasc's new marteloscope training programme, on her recent visit to Teagasc Oak Park, Carlow.

Pictured (L to R): Jonathan Spazzi, Teagasc Forestry Development Officer, Dr Nuala NiFhlatharta, Head of Teagasc's Forestry Development Department, Professor Frank O'Mara, Teagasc Director, Senator Pippa Hackett, Liam Herlihy, chair of Teagasc and Derek McCabe, chair of the North East Forestry Group.



The European Forestry Institute (EFI) has, in recent years, further developed marteloscope plots with specially designed software to be used on touch screen tablets while in the forest. Since then, the EFI has facilitated the development of a network of over 160 marteloscope training plots across Europe.

The Teagasc Forestry Development department has partnered with the EFI, in collaboration with Coillte and Pro Silva Ireland, to make this resource available to forest owners/foresters/students and other user groups here.

Training software

On a marteloscope plot, every tree is

numbered, measured and its timber and biodiversity values estimated. All the information is entered into the tablet-based software.

This is then used by participants to carry out thinning simulations and to analyse the impact of different choices on financial return and biodiversity.

Exercises almost always lead to group discussions, facilitating valuable peer-to-peer learning.

To date in Ireland, we have a total of nine marteloscope plots, three installed by Teagasc and six by Coillte. Teagasc has installed one plot in Co Limerick in Curragh Chase forest in partnership with Coillte and two in Oak Park Teagasc research centre, a

conifer plot and a broadleaf plot, to cater for a wide range of participants.

Given available resources and demand, further plots will be developed in other locations in the future.

Blended training

The training plots are available to forest owners for a one-day forest workshop. They are also utilised as part of a longer training course. The course currently available to broadleaf forest owners is designed as a blended programme.

It takes place over a number of weeks and consists of several facilitation-style virtual meetings, video tutorials and interactive exercises. A forest workshop in a marteloscope plot provides an end-of-the course validation. The course encourages participants to explore their woodland, carry out practical exercises, practice selection skills on their own trees and to measure and share results with their peer group through a forum platform.

Donagh O'Grady is a progressive, active farmer and hands-on forest owner who attended one of the marteloscope courses earlier this year in Co Limerick.

He said: "For me, the course content and presentation were excellent and gave me a much better understanding of many issues around forest management including production and biodiversity.

"I now have the confidence to go into the forest and pick out the better trees. I think for those owners growing timber, a course like this is absolutely invaluable. The practical day in the forest was particularly enjoyable and informative."

Despite COVID-19 restrictions, four workshops have taken place in recent months. For the near future, the Forestry Development department will be increasing the marteloscope training activity with more workshops already scheduled in 2022, primarily for forest owner groups, but also including consultant foresters and forestry students.

For further information, contact jonathan.spazzi@teagasc.ie

The evolving nature of Irish forestry

Ireland is one of the few countries in Europe that experienced almost complete deforestation in recent history, with just over 1% of forest cover remaining at the beginning of the 1900s.

Since the foundation of the State in 1919, Ireland has undertaken progressive expansion of its national forest resources to reverse the deforestation trend of past centuries.

Early plantings focused on spruce

afforestation, followed in more recent decades by an increasing diversity of species being planted, reflecting the trends in land types available for forest creation. Today, our forest cover stands at over 11% of land area, of which approximately 30% is made up of broadleaf species and a further 20% of diverse conifers. This trend in species diversification is envisaged to continue in the future.

Almost 75% of private forests in Ire-

land are less than 30 years of age and many are approaching thinning stage.

There is a growing need for owners to understand management options and control the thinning process in order to realise the full value of their forests as part of a sustainable management approach.

This is imperative if a sustained level of timber mobilisation and a strong delivery of ecosystem services are to be achieved from our private forests.