National Forestry Conference

# THE RIGHT TREES IN THE RIGHT PLACES FOR THE RIGHT REASONS

Report on National Forestry Conference Webinar

14 October 2021

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The Society of Irish Foresters (SIF) thanks the speakers, chairpersons and rapporteurs for their contributions to the National Forestry Conference "The Right Trees in the Right Places for the Right Reasons". We are especially grateful to Teresa O'Brien for her input in organising this webinar event.

We are also grateful for the support of the various organisations involved as well as stakeholders who attend our conferences, field days and other events. We acknowledge the help of a number of organisations in promoting the event including the *Irish Farmers Journal*, the Irish Bioenergy Association, the Irish Timber Growers Association, Irish Wood Producers, Woodlands of Ireland and the Tree Council of Ireland.

Special thanks to Minister of State, Senator Pippa Hackett and her staff in the Forest Service, Department of Agriculture, Food and the Marine (DAFM) for supporting the annual conference as well as other events organised by SIF.

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Conference report https://www.youtube.com/watch?v=RsBi2y_zm6Q

Conference report on PDF available at www.wood.ie
and www.societyofirishforesters.ie or contact info@soif.ie

Society of Irish Foresters

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

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# Foreword

Senator Pippa Hackett
Minister of State for Land Use, Forestry and Biodiversity at the Department of Agriculture, Food and the Marine

Ireland has been on a journey of forest expansion over the last 100 years. After centuries of deforestation, this is something which is taking sustained effort from many stakeholders over decades. At over 11% of our land area, today's forests provide the highest level of cover in 350 years, and while this is still one of the lowest percentages in Europe, Ireland's forests do make a significant contribution to our economy and to climate change mitigation. They have also provided new habitats for biodiversity.

The concept of the right tree in the right place is the cornerstone of sustainable forest management. It is a concept that we must strive to achieve in both the forests we manage and the new ones we create. While the concept is simple, ensuring that trees and forests are planted for the right reason in the right place relies on knowledge and a wide range of expertise. Research and knowledge do and must inform those decisions.

When we look at our forest estate, we see many examples of new and old forests contributing to our landscape and providing timber for our green economy. However, creating forests cannot be to the detriment of our environment and we must acknowledge that some of our forests were not planted in the right place. We need to address this into the future. In some cases, this may mean either no tree planting, or simply allowing natural regeneration or planting to take place. However, significant amounts of land are suitable for new forests so we must engage with landowners and other stakeholders to ensure they appreciate the merits of afforestation and become engaged in the effort to ensure our forest area expands and makes a positive contribution to our society.

> “We must manage our forest resource to deliver its many potential benefits, including extensive public goods and increased use of wood in our buildings.”

The Department of Agriculture, Food and the Marine is currently developing a new Irish Forest Strategy. It will chart the way forward for forestry for the rest of this century. This renewed vision will be grounded in the principle of the right tree, in the right place, for the right reasons, with the right management. The strategy will be subject to extensive consultation and we will engage with as many stakeholders as possible to create a shared national vision of what we want our forests to look like in the future.

We have achieved a lot in the last 100 years. We must now focus on the next part of our journey. We must manage our forest resource to deliver its many potential benefits, including extensive public goods and increased use of wood in our buildings.

The decisions we make now will define the forests of the future. Let's ensure that future is sustainable.

# Introduction

Donal Magner, editor, forester and forest owner, is forestry editor of the *Irish Farmers Journal* and Environment Lead, Rotary Ireland. He holds Master's degrees in forestry from UCD and literature from DCU. A recipient of the RDS-Forest Service Special Award for his contribution to Irish forestry, he is the author of *Stopping by Woods: A Guide to the Forests and Woodlands of Ireland.*

## MULTIPURPOSE FORESTRY CENTRAL TO THE RIGHT TREES, THE RIGHT PLACES AND THE RIGHT REASONS

The objective of this conference "The right trees in the right places for the right reasons" is to address tree species selection in Ireland and the commercial, ecological, climate change and social purposes these trees serve. We have chosen as wide a range of speakers as possible to address these issues. To put a structure on a complex theme, the Society of Irish Foresters divided the conference into two sessions:

1. The right trees and the right places – an inventory of what species we have and what's best for Ireland.
2. The right reasons – the role of multifunctional forestry; its wood and non-wood goods and services.

The Society has been promoting best silvicultural practice and forestry education since it was founded in 1942. The role of the forester has changed dramatically in the intervening years, but tree species selection remains at the core of its mission.

Foresters realise that apart from our low forest cover, the major difference between Irish and European forests is our reliance on non-native species. This is mainly due to a dearth of indigenous species. Ireland has only 20 native tree species compared with Britain's 35, while Europe has 454 native tree species. Only a small fraction of these species are planted as viable forest and woodland trees. In Ireland, you could count on one hand the number of native Irish tree species that provide productive woodland; oak and Scots pine, on suitable soils and cherry in mixture have proven characteristics. Alder and birch adapt well to a wide range of soils but have limited end uses. Sadly, that's it, now that ash and elm are no longer planted due to disease vulnerability. The remaining native species have undoubted ecological and heritage potential, but not commercial timber production.

All European indigenous spruce, larch, fir and pine species (with the exception of Scots pine) are non-native to Ireland. Broadleaves, including beech, sycamore, sweet chestnut, field maple, Norway maple and lime also failed to colonise Ireland naturally and were introduced by humans over the centuries. Fortunately, all these European species grow well in Ireland, while many are now naturalised here. Even better performances are being achieved by coniferous species that originated in western North America, where climatic conditions are not dissimilar to Ireland. Based on research trials, foresters turned to these species after the foundation of the State when Ireland had 1% forest cover and only the poorest of land was made available for afforestation.

What has emerged over the past century are mainly plantation forests comprising 62% conifers, 25% broadleaves, 11% open diverse areas and 2% temporarily unstocked (Table 1). About 21% of the forest area of Ireland comprises native species, which critics of Irish forestry maintain is far too low. Unlike Irish agriculture and horticulture, nativeness remains a controversial topic in forestry. Irish farmers,

| TABLE 1: COMPOSITION OF FOREST AREA IN IRELAND IN 2017 | | |
|---|---|---|
| **SPECIES** | **'000ha** | **%** |
| **CONIFERS** | | |
| Sitka spruce | 343.3 | 44.6 |
| Norway spruce | 25.8 | 3.4 |
| Scots pine | 7.7 | 1.0 |
| Other pine species | 64.9 | 8.4 |
| Larch species – Japanese, European and hybrid | 24.5 | 3.2 |
| Douglas fir | 10.4 | 1.3 |
| Other conifers | 3.1 | 0.4 |
| **Total conifers** | **479.7** | **62.3** |
| **BROADLEAVES** | | |
| Ash | 25.3 | 3.3 |
| Birch species – downy and silver | 47.3 | 6.1 |
| Oak species – sessile and pedunculate | 17.9 | 2.3 |
| Alder | 17.9 | 2.3 |
| Beech | 10.1 | 1.3 |
| Sycamore | 10.1 | 1.3 |
| Other broadleaves: | | |
| Native: mainly hazel, holly, willow spp. rowan and whitebeam | 62.0 | 8.1 |
| Non-native, including sweet chestnut, lime spp., elm spp., red oak and Norway maple. | 2.9 | 0.4 |
| **Total broadleaves** | **193.5** | **25.1** |
| **Total tree cover** | **673.2** | **87.4** |
| Forest open biodiverse areas* | 82.5 | 10.7 |
| Temporarily unstocked** | 14.4 | 1.9 |
| **TOTAL FOREST ESTATE** | **770.1** | **100** |
| *Forest roads, trails, firebreaks, riparian zones and other unplanted areas.<br>** Clearfelled, burned, diseased and windblown areas, awaiting reforestation. | | |
| Source: Adapted from *Ireland's Forestry Inventory* 2017, Department of Agriculture, Food and the Marine (2018) by D. Magner. | | |

| Species source | Native | Europe & naturalised | Exotic | Mixed |
|---|---|---|---|---|

horticulturists and gardeners rely almost exclusively on non-native livestock, crop, and plant species, because there is an absence of productive indigenous varieties. The view that we should limit forestry to indigenous species overlooks the limited range of these species and the land available that would support viable native forests. However, the desire to recreate this lost native resource remains strong. This is one aspect that the conference will discuss. Should we plant native species for ecological rather than commercial reasons, and who should plant them?

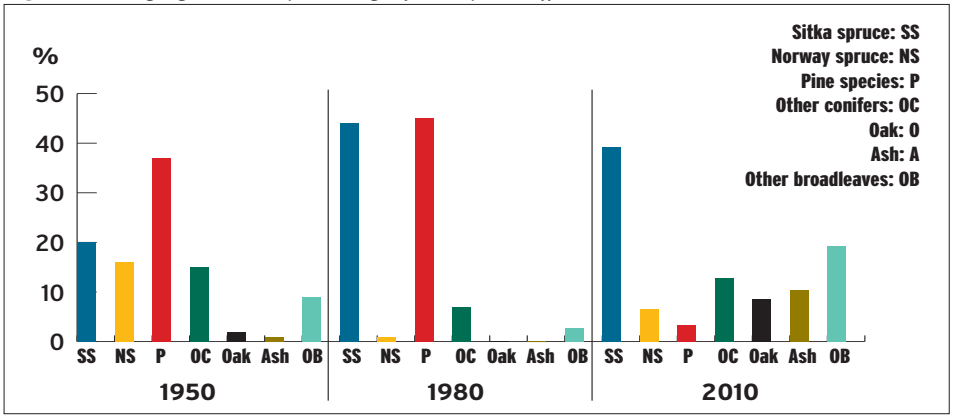
In their publication *Management Guidelines for Ireland's Native Woodlands*, John Cross and Kevin Collins acknowledge the role played by foresters and forest owners in the past in managing "for wood production in a manner compatible with biodiversity conservation" but they depart from this dual objective when they discuss conserving existing native woodlands and recreating the lost native

woodland resource. Here, they assert that the "the overriding objective regarding native woodland, is to manage for biodiversity and conservation". They avoid the objective of wood production which many private forest owners regard as too narrow a focus. There is however, a realism in Cross's and Collins's approach. They see the *raison d'être* of indigenous species as ecological, but farmers who are being asked to establish native woodlands as part of their farm enterprise ask, not unreasonably, that they be allowed to manage their enterprises to provide an economic and ecological dividend.

For farmers who traditionally manage crops for a seasonal return, establishing a short – in forestry terms – 30 to 40 year rotation commercial crop is a brave undertaking even allowing for generous State support for the first 15 years. Establishing a 100-year plus oak forest demands a different and more sustainable partnership approach between the owner and the State where the ecological overrides the economic. This long-term collaboration is more akin to Edmund Burke's societal "contract" which "becomes a partnership not only between those who are living, but between those who are living, those who are dead and those who are to be born". That State-private partnership concept was put to the test, and found wanting by the State when ash dieback, caused by the deadly fungal pathogen *Hymenoscyphus fraxineus*,was introduced to Ireland in 2012. From the turn of this century, up until then, private forest owners – mainly farmers – planted an average of 30% of their holdings with native species. After ash dieback, they understandably reassessed their species selection programmes but 25% of all trees planted in recent years comprise native species albeit in a reduced afforestation programme.

Species selection has changed dramatically in Irish forests since the 1950s (Figure 1). Many once prominent species are no longer planted. such as larch and ash due to disease infection, while lodgepole pine has rarely featured since peatland afforestation ceased.

***Figure1:*** *Changing trends in percentage of tree species afforestation in 1950, 1980 and 2010.*




While forest owners and foresters will still choose productive species, land availability, disease vulnerability, climate change and biodiversity enhancement will become more influential in species selection. These issues are all part of sustainable forest management. This is why this conference ultimately has to address multipurpose forestry in its broadest sense and the crucial role foresters will play in this complex but highly rewarding national endeavour.

# National Forestry Conference 2021

## SESSION 1

*The right trees in the right places, chaired by Eanna Ni Lamhna*

Eanna Ni Lamhna, former President of An Taisce (2004-2009) is the current President of the Tree Council of Ireland. She is the author of several books including *Wild Dublin, Our Wild World* and *Wild Things at School*. A biologist and environmental consultant, she is a regular broadcaster on RTE radio and television. She lectures on sustainable development and writes the popular weekly feature "Eye on Nature" in *The Irish Times*.

## SESSION 2

*The right reasons, chaired by Dr. Matt Crowe*

Dr. Matt Crowe is Chairperson of the Project Woodland working group on shared national approach. He retired from the EPA in 2020, having served for 10 years as a Director and 15 years as a member of staff. Prior to joining the EPA, Matt spent five years working in Vancouver doing contract research. He holds a BSc and PhD in biochemistry from UCD.

## Conference rapporteurs:

Dr.Gerhardt Gallagher
Forestry Consultant and
former Senior Inspector,
Forest Service

Eugene Griffin
Former District Manager and Director,
Coillte

Des O'Toole
Marketing & Communications Director,
Forest Industries Ireland

Donal Magner
Forestry Editor
*Irish Farmers Journal*

John Redmond is a forestry inspector working with the Depart-ment of Agriculture, Food and the Marine. In his current role John has respons-ibility for the National Forest Inventory and the compilation of forest statistics. John is also involved in the production of the All-Ireland Roundwood Forecast

# WHAT WE HAVE: ASSESSMENT OF THE NATIONAL FOREST INVENTORY

Under the European Green Deal, the EU Forest Strategy outlines a pledge to plant at least three billion additional trees in the EU by 2030. National policy is also aimed at increasing forest cover and will play a significant role in delivering this target collectively across EU Member States. However, before looking to the future it is important to look at the composition of our existing forests.

In 2017 the area of forest was 770,020 hectares or 11% of the land area. Conifers occupy 71% of the stocked forest while broadleaves occupy 29%. Sitka spruce and lodgepole pine are the most common species, occupying 60.7% of the stocked forest.

A range of conifer species was planted in the 1930s and 1940s, including Norway spruce, Scots pine and larch, along with Sitka spruce and lodgepole pine. From the 1950s onwards confidence in Sitka spruce and lodgepole pine as commercial species grew, leading to increased planting up to the mid-90s. From 1970 to 1993, Sitka spruce and lodgepole pine accounted for 88% of the area afforested.

Broadleaves and diverse conifers received a significant boost due to the introduction of a new afforestation scheme in 1994, resulting in a wide range of different tree species being planted. However, the finding of diseases in Japanese larch (2010), and ash (2012) reduced the planting of these species over the last decade.

The Forestry Programme 2014–2020 has encouraged tree species diversity through increased supports for a range of different conifers and broadleaves, resulting in the percentage of broadleaves afforested increasing from 20% in 2016 to 34% in 2020. Native woodlands established as part of the afforestation scheme in 2020 represented 19% of the total area, including those established with support from the Woodland Environmental Fund.

In February 2021, DAFM announced Project Woodland, as an initiative to tackle issues in Irish forestry and develop a new forest strategy. Building a new forest strategy will require a collaborative approach from all of those with an interest in managing and establishing new forests. The work of Project Woodland will be central to the development of the next Forestry Programme where increasing species diversity and sustainable forest management will continue to be a common theme as our forests develop into the future.

**Comments on John Redmond's presentation by Eugene Griffin.**

John Redmond's presentation was divided into an overview of the National Forest Inventory (NFI) and afforestation in Ireland.

**NFI**

The NFI is undertaken every five years and covers species composition and forest classification including nativenenss, establishment type, development stage, growing stock and basal area, gross volume increment, fellings, crop health and forest carbon. The last inventory, carried out in 2017, showed that 11% of the land area was under forest. The most afforested counties are generally along the west coast i.e. Cork, Kerry, Clare while Leitrim has now become the county with the highest percentage of forest at 18.9% displacing Wicklow which up till then had held that position.

The level of planting was low prior to the 1950s but then increased greatly due to government policy. However, it remained predominantly public afforestation until the advent of the Western Package Scheme in the 1980s, when private planting began to increase significantly. The inventory now shows that the privately owned forest area is at 49% while public forests account for 51%. It is likely that the private forests will exceed the public at the next inventory. Conifers occupy 71% of stocked forest area while broadleaves occupy29%. Sitka spruce and lodgepole pine are the most common species occupying 60.7% of the stocked forest; Sitka spruce is dominant at 342,300 ha or 44.6% of the area. Approximately 40% of the national forest estate is planted on blanket and raised bogs. Growing stock now stands at 117 million cubic metres.

**Afforestation**

During the 1930s and 1940s a range of conifers were planted but from the 1950s foresters became more confident in planting Sitka spruce and lodgepole pine on peaty soils. Grant aid for private planting resulted in more broadleaves being planted and in many cases on better soil types. Of forests in the age category 31-40 years 70% occur on bogs while in the age category 1-10 years only 30% are on bogs.

Unfortunately because of the advent of larch disease in 2010 and ash dieback in 2012, both these species were removed from the planting programme which has reduced the amount of species diversification. Between 2009 and 2021 there were afforestation applications for 175,000 ha, of which 140,000 ha were approved but only 70,000 ha planted. The reasons for the low uptake in planting is a topic for further discussion especially among the farming community. This and other issues relating to afforestation will form part of the findings of Project Woodland and the new Forest Strategy.

Dr Niall Farrelly is Senior Research Forester with Teagasc Forestry Development Department specialising in research on forest productivity, management land use and resource analysis. Joint author of *Land Availability for Forestry*, his research programme focuses on how environmental factors, forest management practices, biological and management affect the productivity, composition and structure of forest ecosystems. His current research interests are assessing species options for the establishment of new forests that may increase resilience to the impacts of climate change.

# LAND AVAILABILITY IN ACHIEVING THE GOVERNMENT'S 8,000-HA ANNUAL PROGRAMME.

Increasingly the planting of forests is part of a wider global effort to mitigate the effects of climate change. Large programmes of forest planting such as the Bonn challenge, the trillion-tree initiative and large-scale afforestation projects in China are targeted at forest restoration and halting anthropogenic $CO_2$ emissions through carbon storage and capture in newly planted forests. Forests are the most efficient land use change measure which is eligible for up to 26mt $CO_2$ equivalent, eligible under the Paris Agreement.

While we have the lowest forest cover in Europe, the landscape is littered with reminders of a forested past including ancient tree and place names that remind us of the oak forests that once covered the landscape. The availability of land for afforestation is nothing new, early studies by Cameron in 1950 gave the impetus for the establishment of a functional planting programme, focused on commercial planting and social forestry each with a target of 200,000 hectares.

The acquisition of good land was hampered by an upper limit on the price which could be paid for land, a policy designed to limit the flow of agricultural land into forestry and thus forestry land was confined to marginal and sub-marginal soils. Bulfin's 1987 study reported that 1.5m ha of marginal land was suitable for forestry.

In 2015, Farrelly and Gallagher indicated that 3.75m ha of land were suitable for forestry. Of this, 1.3m ha of marginal land were considered more likely to be planted reflecting traditional planting patterns and the relative economic returns from farming on marginal land. A new study using a sample survey of 1,000 randomly assigned plots across Ireland suggests that the availability of land for forestry may be lower than previously thought.

Most of the suitable land is productive agricultural land (1.6m ha), with some 700,000ha marginal to economic agriculture. A further 700,000 ha are subject to environmental designations (Hen harrier, SAC, etc.) which may have more limited potential for native woodland creation, riparian woodland and close to nature forestry.

**Comments on Dr. Niall Farrelly's presentation by Donal Magner**

The presentation explored the importance of forestry both nationally and internationally. Global afforestation initiatives were discussed including the Bonn Challenge. This would upgrade 150m ha of the world's deforested and degraded land by 2020, and 350m ha by 2030. The presentation was divided into the following sections:

- Why should we plant?
- Historical perspective of forestry
- What should we plant?
- Where can we plant?

Afforestation is now part of a world-wide drive to increase forest cover while many countries are restoring degraded forests.

The presentation assessed the Teagasc Marginal Abatement Cost Curve (MACC), which showed that when the global price of carbon exceeds €50t, forestry will be regarded as a more efficient and cost effective way of reducing green house gas (GHG).

The presentation looked at potential species to match "soils in the limited use category". Available soils such as gleys and podzols are the main producers of productive non-native species with little opportunities for native species. Brown earths and grey brown podzolics have potential not only for high productive crops of spruce but would support native species including Scots pine, oak, alder, birch and cherry but also native naturalised species such as beech and sweet chestnut.

Dr. Farrelly assessed some earlier studies on land availability for afforestation. Historically, estimates of land availability range from 500,000 ha to 1,500,000 ha as being suitable for afforestation without impacting negatively on agricultural production.

The presentation referenced the Farrelly and Gallagher report on land availability (2015) , which identified a land pool of 1.3 m ha of grassland, that is marginal for agricultural production but suitable for forestry.

Based on preliminary results, a new detailed study currently underway, suggests that the availability of land for forestry may not be as high as previously believed. Dr. Farrelly contends that various regulatory conditions have intervened to reduce the potential land availability pool so further research is required. The question therefore of how much land is now available for the national afforestation programme remains an open one.

Stuart Goodall has over 30 years experience in the forestry sector, the first 17 with the Forestry Commission where his roles included briefing ministers and representing UK interests at European level. He joined Confor – the Confederation of Forest Industries – when it was established in 2004 as head of policy. He was appointed CEO in 2007 to lead the organisation which represents forestry, wood processing and related businesses throughout the UK.

# ACHIEVING A BALANCED AFFORESTATION PROGRAMME: BALANCING THE SCALES FOR PRODUCTIVE FORESTRY

Support to plant more trees has never been higher. Governments across the UK and elsewhere in Europe have made positive commitments to afforestation as a way to tackle the climate emergency.

People too are enthusiastic about tree planting initiatives and generally improving and protecting the natural environment, especially after the COVID pandemic made us re-evaluate the importance of green spaces. However, progress in terms of getting trees in the ground is patchy at best and many tree planting targets seem destined to fail, including in the UK.

Why is it so difficult to translate political and public support into delivery? In part, the answer lies in the many, different outcomes that afforestation is expected to deliver and disagreement over which are the most important, as well as negative, outdated views on planting trees for timber production.

This presentation explores how the principle of "the right tree in the right place for the right reasons" offers a solid basis to assess the benefits of forestry and can make an objective case for a balanced approach that includes both productive and native woodland creation. This comes at a time when demand for wood to decarbonise the economy is increasing and there is a need for new woodland to deliver biodiversity gains and provide wider socio-economic benefits. The different approaches to tree-planting across the UK will then be outlined with an assessment of progress so far.

**Comments on Stuart Goodall's presentation by Eugene Griffin.**

The principle of the presentation was that tree species should match the site and soil conditions and be planted for the right reasons. This then provides for a balanced and considered approach that includes both productive and native woodland creation.

Social media has, in many instances, spread untruths and misconceptions about the factual situation regarding forestry in general. Therefore it is more essential than ever for the forestry sector to counteract those, through explaining the reasons for planting and the various benefits accruing based on the latest scientific research findings; a much stronger focus on public and political consultation is needed.

Popular opinion if black and white – conifers good, broadleaves bad. There is a belief that broadleaves are better than conifers for carbon storage whereas recent research has shown that conifers, because of their faster growth rates, store carbon faster than the longer broadleaf rotations and therefore conifers are more desirable in meeting current timeframe for carbon reduction targets.

Surveys have been conducted in England, Wales, Scotland and Northern Ireland on the public's perception regarding the benefits of forestry. These showed that there was a general approval that more trees should be planted. The Scottish public has a strong appreciation of the multiple and various benefits accruing from forests and this is reflected in Scotland having achieved annual planting targets of 11,000ha, whereas last year in England, Wales and Northern Ireland only 2,100ha, 290 ha and 280ha were planted respectively. In Scotland the view is that forestry has tangible benefits for farmers in diversifying incomes and providing off-farm employment while other benefits are acknowledged including shelter for livestock, reducing water runoff and minimising flood damage.

As part of our green recovery and requirements to tackle climate change it is essential that more productive and native woodlands be planted. Increased use of wood as an alternative to steel and concrete is urgently needed. The UK imports much of its timber requirements so increased planting and a level of harvesting from unmanaged native woodlands is required.

Marina Conway graduated from UCD with a degree in forestry in 1996 and a masters in Agricultural Science by Research in 2006. Marina worked with Western Forestry Co-op for 10 years before emigrating to New Zealand where she worked in the Emissions Trading Scheme. She returned to take over as CEO of Western Forestry Co-op where she works on a wide range of projects including afforestation, harvesting, sustainable forest management, climate change, forest carbon and wind farm consultancy.

# THE RIGHT TREES – NATIVE AND INTRODUCED

The right trees – native and introduced, is a topic that can be as broad as it is long. One can ask, right for whom? As a nation we want more trees planted which is endorsed in Government policy, and we need and want farmers to plant more trees, but how do we define the right tree in the right place for them?

For a forester and landowner who must generate a livelihood, the term "right" can differ from someone whose focus is habitat and biodiversity, or the general public who sometimes say they want a different type of forest, or maybe it's a different type of forest management.

How do we define "right" to those who view commercial timber production as not a forest when we as foresters know we need wood to build our homes, to make furniture, to produce renewable energy and to build a viable forest industry that creates jobs in downstream industries as well as providing a sustainable living for farmers? Do we import timber from elsewhere where the legislation and regulation may not be as robust or where natural forests are under threat? The reality is we need to farm trees to produce wood, but the perception is "yes but not conifers".

It must be acknowledged that the forestry model in Ireland has changed a lot in recent years. Now, minimum areas of broadleaves and created habitats must be part of any new planting proposal in order to balance commercial conifer production.

Interest in planting native woodlands has increased, mainly due to green investment but has the potential to be so much more if incentives to do so were more balanced with those for commercial foresry. The social and environmental good that native, broadleaf and mixed forests provide is acknowledged but not as well rewarded. We need farmers to re-engage with forestry. CAP 2023 is an opportunity to encourage more woodland creation which should not be missed.

The right trees, both native and introduced can form part of balanced farm woodlands, commercial tree production both broadleaves and conifer can work in tandem, as long as the balance is right for the landowner.

The high yielding conifers are often the workhorse of the forest that subsidise the broadleaf areas, as is the case in some community woodlands where the recreation, amenity and management of the woodland is funded through the conifers.

**Comments on Marina Conway's presentation by Donal Magner**

As a forester Marina Conway approaches each planting project – afforestation or reforestation – with the objective to grow the right trees in the right places. This requires realistically and objectively examining soil type, site conditions, elevation and exposure. These dictate the species choice and what is environmentally and ecologically appropriate in establishing a forest or woodland. Foresters ultimately must decide on the right trees in consultation with their clients, which for Western Forestry Co-op are mainly farmers.

She described the journey a farmer and forester make when they decide on the forestry option. This journey includes meeting strict criteria and standards when applying for a forestry licence. This is followed by consultation – statutory and public – screening for appropriate assessment and meeting environmental requirements for afforestation before a licence is granted.

She understands the strict environmental standards but her presentation implied that the many intricate steps in this journey could be simplified; to make it easier to buy into forestry especially for farmers.

"We need farmers to re-engage with forestry and CAP 2023 is an opportunity that should not be missed to encourage more woodland creation," she said. "The right trees, both native and introduced can form part of balanced farm woodlands and commercial tree production. Both broadleaf and conifer can work in tandem, as long as the balance is right for the farmer."

Her clients are mainly farmers so she is well positioned to answer the question: "Why do farmers plant?" The answer includes income generation, better use of low productivity land, shelter for livestock and crops, fuel security, water and soil protection, habitat creation, carbon sequestration and carbon trading.

She also posed the question "Why do farmers not plant?" as the planting programme has fallen from 6,500ha to 2,400ha during the past five years. Again there is no single answer. She cited competing attractive agri-schemes, lack of a tree culture, licence delays and red tape, long-time crop rotations and replanting obligation.

Her philosophy in creating new forests and restoring ancient forests is compatible with Sir David Attenborough, whom she quoted to end her presentation.

Pádraic Fogarty is an ecologist and author of 'Whittled Away – Ireland's Vanishing Nature' (2017). He is the campaign officer with the Irish Wildlife Trust (IWT) and editor of 'Irish Wildlife' magazine. He represents the IWT on Project Woodland, an initiative by the Department of Agriculture, Food and the Marine to assess forestry in Ireland including the achievement of a viable afforestation programme.

# RESTORING IRELAND'S FOREST ECOSYSTEM – GETTING MANY MORE OF THE RIGHT TREES IN THE RIGHT PLACES

Ireland is one of the most deforested countries on earth. At about 1% of land cover, the very low level of old/ancient (sometimes called 'old growth') forest is comparable with many Western European countries. However these countries, such as Norway, Spain or France, now have substantial areas of natural or semi-natural forest with recovering populations of large predators and forest ecosystems driven by natural processes. This has largely been achieved through natural regeneration of forests, something that has not only produced large numbers of trees, but communities of plants and animals including fungi, insects, birds and non-tree forest plants.

The creation of a new forest strategy for Ireland in the coming 12 months provides a once in a generation opportunity to reimagine the place for trees in our landscape. The overriding issue must be addressing the climate and biodiversity emergency and this will mean developing a strategy that is inherently regenerative, adaptive and resilient. If we are to achieve this level of ambition we must adopt an ecosystem mindset to trees, i.e. working with nature.

The restoration of Ireland's native forest ecosystem should include the creation of forests with no commercial extraction but where nature can develop and evolve. This will start with identifying the locations of existing native forest, addressing conservation issues such as invasive species and over-grazing, using these areas as foci for expansion and, ultimately, joining up these areas. Expanding native forests along riparian corridors will add value in terms of flood mitigation and water quality, while reforesting uplands provides scale so long as this is done while complementing peatland restoration. Natural regeneration should be the preferred option for forest expansion, essentially allowing nature to decide what the right tree should be and where the right place should be. Tree planting can assist in this process.

Commercial forestry operations must move from limiting environmental impacts, to actively complementing the restoration of the forest ecosystem. This must mean a move to diverse, multi-species stands that protect soil and water, that have a diverse age profile and which acknowledge the value of dead wood, continuous cover and natural regeneration.

**Comments on Padraic Fogarty's presentation by Dr. Gerhardt Gallagher**

The emphasis was on restoring Irish forest systems. With new information providing new perspectives, forest ecosystems are important mechanism for biodiversity and climate change solutions. He proposed an ecosystem rather than a commercial forestry approach. This requires the inclusion of all the components including insects, birds and mammals as well as soils and fungi. In this regard he referenced the vegetation map by John Cross. This showed that natural vegetation could dominate the whole landscape with the exception of a few western peats. This was a good image to keep in mind during discussion. A NPWS report from 2011 was referenced which outlined threats which forestry posed to a number of habitats and species, peats, water, and the freshwater pearl mussel.

The duality in Ireland, nature versus commerce was discussed; the latter related to climate collapse and species extinction. He cited the EU Forest Strategy for 2030 including its reference to climate change and its negative effect on European forests "particularly but not only in areas with mono-specific and even-aged forest stands".

The degeneration of Europe's forests was described with slides and the collapse of healthy forest systems through tree diseases e.g. elm, larch, ash, oak (potentially),and horse chestnut was influencing Europe's Forest Strategy with regard to climate, specifically against clearfelling and monocultures. There should be different ideas on forest systems – even mixtures may not be good enough.

The author agrees with Europe's views on monocultures and believes conifers should be phased out. Forestry should work more with nature than against it and include all diversity, aspects, age, species and deadwood. He said the following three issues needed to be dealt with:

- Restock old native forests
- Address legacy planting – rewilding
- Transfer commercial forestry to native systems

Perhaps time did not allow, but how the transfer of commercial forestry to native systems and how these would be managed was not assessed in detail. The climate change and societal impacts of such a transfer are worthy of further discussion.

Dr. Declan Little is the Ecological Lead with Coillte Nature, a unit within Coillte which is dedicated to not-for-profit projects of scale focused on biodiversity enhancement, ecological restoration and climate mitigation. He is responsible for identifying projects, developing proposals, and overseeing the implementation from a technical /scientific perspective. Previously he worked as project manager for Woodlands of Ireland.

# INFLUENCE OF SOILS AND FLORA ON TREE SPECIES SELECTION

Soils are a key factor in decision making when planning woodland establishment. It is essential that soil type and associated features, such as texture, moisture and density are assessed in advance of establishment to ensure the correct species mix is selected. In recent years with the widespread application of the Forest Service Native Woodland Scheme (NWS) the importance of soil assessment is critical due to the establishment of native woodland communities comprising a range of major and minor native tree and shrub species.

Under NWS Establishment there are five native woodland scenarios that represent five native woodland communities. The basis of selection is primarily onsite soil and vegetation identification. In practice, native woodland establishment tries to mimic what would occur through natural regeneration from pioneer woodland through to climax woodland.

On the poorer, marginal upland wet acid podzol soils, pioneer woodland comprising birch, alder, willow, rowan and holly are recommended while on fertile, brown earths in lowland locations, pedunculate oak, cherry, Scots pine, hazel, whitethorn, guelder rose and spindle are the norm. On less acid and exposed upland areas a sessile oak, birch, holly woodland type is the preferred option while at footslopes in these locations, hazel is added to the species mix and is a major component. Saturated gley soils, especially those adjoining rivers, streams, lakes and in drumlin landscapes are established with wet native woodlands comprising alder, birch and willow. These are often protective riparian buffer woodlands that intercept nutrients and sediments from elsewhere in the catchment.

Native woodland establishment is also being assessed on the industrial cutaway raised bogs in the Midlands region but only in areas that cannot be reflooded to reinstate bog formation processes and/or to create wetlands. These high and dry areas are often colonised through natural regeneration comprising mainly birch, willow and pine. Here trials are underway to assess establishment of native tree and shrub species through planting and seeding on peats of varying depths. Early results indicate that only peats of less than 70-100 cm are most suitable for native woodland establishment.

Similarly, pioneer native and mixed woodlands are appropriate in specific locations, especially on slopes where plantation conifer forests are being removed to restore blanket bogs in western coastal counties.

**Comments on Dr. Declan Little's presentation by Dr. Gerhardt Gallagher**
This paper addressed the biodiversity element of native species but also focused on wood from indigenous hardwoods. Dr. Declan Little emphasised soil ecology and the following influencing factors including geology, soil, climate, topography and human impacts.

Looking at a soil profile over 1,000 years, he said it is synonymous with vegetation succession. He discussed the soil layers to be considered from the top layers (A1 and A2) to the subsoil B and the underlying rock. He showed an example of a Co. Donegal soil profile from top to bottom; bare rock at the bottom, soils and vegetation above this leading to peat at the top, also showing pasture, the human influence and land reverting once more to woodland.

More detailed scenarios were described with illustrated examples and tables as being suitable for native woodland which qualify for the Department's Native Woodland Scheme (NWS) such as:

- Brown earths, lowland calcareous and base rich soils, suitable for oak, hazel and hawthorn.
- Old oak woodlands.
- Drumlins, river valleys and wet rush, suitable for alder, ash and willow.
- Rushy fields with heavy wet gley soils, common in drumlin belts and suitable for alder planting in groups to counter wind risk.
- Grazed improved upland, mineral soil and modified blanket bog and wet heaths with grasses.

This paper provided a good overview of the soils appropriate for native woodlands and kept to its brief. There was not much reference to whether such plantings might have a protective role. Also there might have been some references to opportunities foregone in the latest obsession with rewetting and rewilding i.e. the intermediate $CO_2$ sequestering on cutaways not just those incapable of re wetting (many cut over sites are on areas of natural drainage though damming existing drains would stop outflow). The elephant in the room on rewilded land especially in the west is rhododendron which although it may store some carbon, sequestration could be more beneficially achieved under forest and without the threat to neighbouring habitats.

Dr. Elaine McGoff works as Natural Environment Officer with An Taisce, which is a prescribed consultee under the Forestry Regulations. In her role Dr.McGoff reviews hundreds of forestry licence applications per year, and as such is very familiar with the ecological issues at play. She has a PhD in Freshwater Ecology from Trinity College Dublin, and an Advanced Diploma in Planning and Environmental Law from King's Inn. She is a Steering Committee Member of the Environmental Pillar, Director of the Sustainable Water Network and member of the Water Forum.

# TOWARDS AN ECOLOGICALLY SENSITIVE FORESTRY MODEL

Ireland has one of the lowest levels of forest cover in the EU, but one of the highest levels of plantation forestry. Under the Irish Forestry Programme a target has been set to increase Ireland's forest cover area from its current level of approximately 10% to 18%.

There can be no doubt that Ireland needs to increase its woodland cover, but it is vital that environmental synergies be realised, and that planting for carbon sequestration to achieve our climate goals does not undermine biodiversity or water quality protection.

Ireland currently lacks a strategic landscape scale approach to forestry, with planting often happening on less productive marginal land. This frequently puts afforestation in direct conflict with nature conservation.

There is a need to move away from the ad hoc nature of the current private afforestation approach and fit future afforestation within a strategic land use plan, with biodiversity and water quality protection as central tenets of that plan.

Whether increases in forestry prove to be environmentally positive depends on a range of factors- with the foundation being the right tree, in the right place, under the right management. This talk will examine some of the problems with our current approach, and the measures which could pave the way to achieving an ecologically sensitive forestry model with multiple environmental benefits for Ireland.

**Comments on Dr. Elaine McGoff 's presentation by Des O'Toole**

Dr. Elaine McGoff raised many challenges facing contemporary Irish forestry in response to the increasing demands on our forests to address societal, environmental and economic priorities. Her paper emphasised that biodiversity is the cornerstone of the environment on which humans depend for life and it provides functioning ecosystems that supply oxygen, clean air and water and provide natural habitats for wildlife.

In response to society's changing needs, we now need a new forestry model that will sustainably balance the multiple benefits of forestry. This encompasses not only the focus on productivity and supply of fibre but also on delivering climate and biodiversity benefits for society.

Ireland has one of the lowest levels of forest cover in the EU, but one of the highest levels of plantation forestry and while we have one of the highest rates of changes in forest expansion, Dr. McGoff maintains this is not an ecological good news story.

We need more semi-natural and native woodlands and diversity of trees and age classes. There is a role for continuous cover forestry which allows the production of commercial timber while retaining a forest cover at all times to help minimise the ecological pressures we now face. There should be recognition for ecosystem services and not just on the traditional narrow focus of productivity. We also need land-use planning and sensitivity mapping to help decision makers make the right afforestation choice for their land. This could be a very powerful tool but we need the data all in one place.

We should strive to be a world leader in this space but it is not a one size fits all. While we need to select the right trees, in some areas it might be advisable not to plant trees – native or introduced – at all she maintained, referring to freshwater pearl mussel catchments.

Our legally binding climate and biodiversity commitments must underpin the forestry model of the future and ensure optimum land use; the right tree in the right place for the right reasons. The decisions we make today will build a sustainable future for forestry in Ireland.

John Desmond is the Managing Director of Cygnum, one of Ireland's largest manufacturers of timber frame buildings. John is a UCD Forestry graduate. He spent his early working years in the sawmilling industry until 1997 when he co-founded Cygnum in Macroom, Co. Cork. Cygnum supplies the house building and commercial building markets in both Ireland and the UK.

# WOOD IN THE COMMUNITY – TIMBER FRAME CONSTRUCTION FROM LOCAL FORESTS

Timber frame is a great example of the growth in demand for wood in construction. This presentation will introduce Ireland's growing timber frame construction industry, outline the increased volume of wood required in timber frame houses and the opportunity this presents for Irish wood.

Now accounting for circa 40% of all new low-rise housing in Ireland, and growing, timber frame is recognised as a key part of the solution to Ireland's housing crisis. It is an 'offsite' form of construction that offers many advantages over conventional methods not least of which is its sustainability credentials.

An average three bedroomed semi-detached house built in timber frame uses approximately 12.5m$^3$ more timber than the same house built in masonry. The increase in materials arises in OSB for wall sheeting (c2m$^3$) and Canadian Lumber Standard (CLS) for wall studding (c9m$^3$). Whilst most of the oriented strandboard (OSB) used in Ireland is produced by Smartply in Waterford using Irish wood, most of the CLS is imported.

Because of the level of automation in timber frame and the requirement for a very high level of dimensional accuracy in offsite construction, CLS needs to be graded to C16, machined to mm accuracy and free from drying defects. A small number of Irish sawmills produce CLS from native timber but the vast majority of CLS used in Ireland comes from Sweden, Finland, and Germany.

Traditionally, Irish grown timber was not seen as ideal for CLS. The scale of the market did not make it very attractive, and an infrastructure developed around imported CLS. However, the quality of product leaving Irish mills in terms of kiln drying, machining, and grading has improved immeasurably. The timber frame market has grown significantly and now has the potential to provide a valuable outlet to increasing high quality output from local timber processors.

Cygnum has been involved in many award-winning projects in the UK where sustainability is paramount. In many of these projects we have seen a procurement approach where local bodies state that the use of locally sourced wood is preferable. To evidence the suitability of locally sourced wood for timber frame, the presentation will include a number of slides on the award-winning Burry Port school building, supplied by Cygnum in 2015. The local council's project brief included a preference for locally sourced timber and as a result all the CLS material used was sourced from a mill processing Welsh timber.

**Comments on John Desmond's presentation by Des O'Toole**

John Desmond outlined a very positive outlook for timber frame construction in Ireland. We are in the centre of a housing crisis and there is now an imperative to decarbonise our built environment by increasing the use of low carbon sustainable building materials.

Using timber contributes to reducing $CO_2$ levels in the atmosphere through long term storage of carbon in the wood products themselves and by substitution for more energy intensive construction materials. Timber is the only sustainable choice with lower embodied energy than mainstream construction material.

This underlying demand for new homes and apartments when combined with skills shortages in traditional wet trades presents a unique opportunity for domestic off-site construction and for Irish timber to capture market share. Market share in the common developer market is now 40% with significant potential to grow.

The benefits of speed of erection combined with the quality associated with prefabrication in a factory controlled environment ensures extreme dimensional tolerances can be achieved. Timber frame is now better insulated and uses many innovative engineered wood products such as glulam, CLT — some of which like Smartply OSB are manufactured here in Ireland and support local industries and jobs.

With our domestic fibre supply increasing, a key enabler for the economic development of the forest products sector will be ensuring home-grown timber is utilised for joists, studs and trusses in the growing timber frame market. It is encouraging to see that the major investments made by our sawmills in state-of-the-art production and drying technology are now beginning to increase preference for homegrown timber among the timber frame manufacturers.

More needs to be done to support the education and training of our design engineers to enable them to correctly specify timber for these applications. It is great to see Cygnum leading the way and the example from Wales shows local timber can be sourced and specified to meet the building standards required.

Brendan Lacey is the chairman of the Irish Timber Growers Association and Managing Director of Irish Forestry Unit Trust FM Ltd. He graduated with an honours degree in Forestry from UCD in 1984 and has worked in the areas of Forest Management, Forest Economics, Forest Finance and Investment Management.

# TREES AS A SUSTAINABLE INVESTMENT

This paper outlines the challenges and opportunities of forestry investment and sustainable forest management. What constitutes sustainability is not always constant. There are evolutionary aspects to sustainable investing over time. Environmental, Social and Governance (ESG) are evolving issues in investing and substantially driven in recent years by the climate change mitigation agenda. The different elements within ESG often receive different levels of emphasis depending on location and what are the 'hot topics' of the day. New EU regulations and directives are aimed at providing a consistent framework throughout the EU.

Forestry now has multiple objectives. As new requirements are placed on both forestry and investment in general the question arises as to who pays for non monetary benefits from forestry investment. To achieve the benefits around carbon sequestration and ecosystem services requires a level of trade-off. For example, long term retention of timber for carbon has an economic cost to the forest owner. Increasing the biodiversity value within a forest may limit the ability to supply long term carbon retaining forest products for use as a sustainable building material.

The long term nature of forestry investment can raise issues around governance. Governance can range from issues as demonstrated by recent court cases such as fraud convictions but also extend to investment discipline and analysis. Forest and land prices have been increasing at the same time as regulations have been decreasing the timber production capacity of the forest area. Increasing the biodiversity area by 10 or 15% decreases the ability to produce timber for the sawmilling sector by that amount, but this is not always reflected in the market price for forests and land.

In some cases people may simply be happier with a lower return or have an expectation of another revenue stream to compensate. The current interest rate environment might make lower returns seem attractive but if rates rise, as they inevitably will over a 30 to 40-year lifespan of a production forest, then it can have a very significant impact in later years. If the right compensation structure exists for non timber benefits, it will help promote further tree planting. If not it will lead further to the type of fall the afforestation programme has experienced in recent years.

**Comments on Brendan Lacey's presentation by Des O'Toole**

Brendan Lacey outlined how forestry is still an attractive sustainable investment proposition and one of the most secure commodities in today's markets despite a number of constraints. A proven low risk asset class, it remains tangible, safe and growing while also being tax efficient. Forests remain a staple element of investment portfolios and offer diversity and reliability and income at various stages of the growth cycle through the harvested wood products produced. These are Irish investments in Irish assets with the returns circulated locally.

Most pension funds invest in equities and bonds but these can have higher risk and volatility or may not return a great dividend. Forestry is classified as medium return and is usually adopted as part of a portfolio diversification strategy. It is about keeping ahead of inflation.

The non-timber benefits are now becoming more important as we transition to a low carbon economy and pensions and investments are no different. Environment, Social and Governance are now at the fore. Income can be derived from carbon sequestration and there are income generating opportunities in other countries through carbon trading schemes.

Other ecosystem and non-wood services like biodiversity, recreation and forest food don't provide compensation to the land owner for keeping areas under forest. This needs to be looked at as return on investment is required to underpin the activity of planting and managing the forest crop.

Economic sustainability is needed to support non-wood benefits. Are there opportunities to reward these non-timber benefits through for example mitigation banking or carbon trading? These are issues worth considering as forestry has the best potential for climate change mitigation.

Sustainability principles – originally sustained yield forestry – have been embedded in how we manage our forests for decades and our forestry model is always evolving. Today's management systems may not be best practice tomorrow. We need to evolve and learn as more data becomes available.

Dr. Dave Styles is a lecturer in Environmental Engineering at University of Limerick and a member of the Bernal Institute. He has a PhD from Trinity College Dublin. Outside of academia, he has worked in the European Commission and EPA. He specialises in advanced life cycle assessment of the bioeconomy, with an emphasis on understanding inter-system sustainability.

# THE ROLE OF FORESTRY IN ACHIEVING NET ZERO CARBON EMISSIONS BY 2050

The likelihood of "emission overshoot" plus ongoing emissions from difficult-to-abate sectors such as aviation, cement production and agriculture, will necessitate significant carbon dioxide ($CO_2$) removal (CDR) over the coming decades in order to achieve climate neutrality.

The only proven scalable CDR options currently available globally are soil improvement (particularly on degraded soils) and forestry. Ireland faces a particular challenge in striving for climate neutrality owing to land use being a net emission source, reflecting low forest cover (11% land area) and circa 9 Mt $CO_2$ emitted annually from organic soils and peat bogs. Furthermore, annual emissions of circa 20 Mt $CO_2$ eq. from a bovine-dominated agriculture sector will be difficult to abate without reducing production.

Although methane emissions are likely to be set a separate target, $CO_2$ and nitrous oxide ($N_2O$) emissions from agriculture will all need to be offset in order to achieve national climate neutrality. Each kg of $N_2O$ emitted requires removal of 260-300 kg of $CO_2$ from the atmosphere to neutralise. It is clear that to have any chance of complying with the Paris Agreement, transformative change is required.

We show that climate neutrality across the agriculture, forestry and other land use (AFOLU) sector alone is likely to require sustained average afforestation rates somewhere between 13,000 and 33,000 per year, depending on the level of ambition in mitigation of Agriculture, Forestry and Other Land Use (AFOLU) emission sources. Recent work has shown that commercial forestry has an important role to play via fast tree growth, harvested wood product carbon storage, future bioenergy with carbon captures & storage (CCS), and product substitution from cascading wood value chains.

There is an urgent need to ramp up rates of conservation and commercial forestry to deliver sufficient CDR by 2050 in order to avoid future massive fines and reputation damage, and/or chaotic contraction of agricultural production at national level – and to realise emerging opportunities for the bioeconomy and ecosystem service delivery. Such transformation will not be easy, requiring coordination across land-based and industrial stakeholders. An important starting point could be the development of an ambitious multi-sectoral 2050 "vision" for sustainable forestry and wood value chains.

**Comments on Dr. David Style's presentation by Eugene Griffin**

A broad scientific outline was presented of the many challenges and urgent actions needed in order to achieve targets as set out in the Paris Climate Agreement. Possible opportunities were also outlined. The major gasses listed were $CH_4$, $N_2O$ and $CO_2$. With regard to $N_2O$ it requires between 260-300 kg of sequestered carbon to neutralise 1 kg of $N_2O$.

There would appear to be an inevitability in destocking animal numbers in general and then the question is to what this land can best be used for in the context of climate change mitigation. Another issue is the level of $CO_2$ emissions from drained organic soils.

There is a strong expectation that increased afforestation will deliver significant $CO_2$ sequestration in order to achieve overall targets but the problems are that afforestation rates have been dismal in recent years and $CO_2$ fixing is low in the early years of crop establishment.

If serious advances are to be achieved then a major and radical ramping up of tree planting to a sustained program of between 13,000 and 33,000 ha per year is required; it is imperative that farmers are heavily incentivised to plant sections of their farms.

The increasing use of wood in construction can also mitigate climate change by displacing concrete, steel and plastic currently used; stored carbon remains sequestered in harvested sawlog for 45-70 years, while in wood panel products it can remain for around 35–60 years.

Increased forested lands will also contribute to the level of ecosystem services available to an increasing population. Moreover, wood for bioenergy can displace coal, oil and gas. New bio-based materials are being developed, which will use the increasing volumes of wood cellulose being made available.

Jo O'Hara is a consultant, professional forester and an ICF approved coach. She was formerly the CEO of Scottish Forestry, a UK Forestry Commissioner and Scotland's Chief Forester, having worked at all levels in UK forestry. – from supervising forestry squads to developing corporate strategy for public sector businesses to advising ministers. She is vice-chair of Changeworks and is a trustee and council member for the Institute of Chartered Foresters. Current consultancy clients include the Irish Government, a large scale community development project in Scotland, the European Forestry Institute and a private equity fund. She is a strong advocate for sustainable resource use, multi-dimensional land management, and the further development of the bio-economy.

# THE REALITY OF MULTI-FUNCTIONAL FORESTRY

The term 'multi-functional forestry' is well embedded internationally in the definition of sustainable forestry. It is used both implicitly and explicitly to recognise the many impacts of forests and their management, and to emphasise the need to manage them.

All forests have multiple impacts, some desirable, some less so: good forest management aims to increase the overall positive impacts on society, the environment and the economy.

The recently published European Forestry Strategy encapsulates the concept and aims to provide a framework for achieving balance, focussing in particular on bio-economy and ecosystem impacts.

The Strategy will be an important foundation of future forestry practice across Europe (recognising the lack of EU legislative competence in forestry), particularly in the context of CAP reform, the Green Deal and any future changes to environmental directives.

Recent challenges to Irish forestry practices have resulted in a fundamental questioning of the functions of trees, forests and woodlands across the country, and what the right mix should be. In particular, the global environmental and climate crises have escalated the level of the debate, highlighting the different value-systems held by different stakeholders. This has resulted in stasis when action is so clearly needed in a country with one of the lowest rates of woodland cover in Europe, very little native woodland and with a modern, highly productive and efficient forest products sector.

This presentation will explore how this right mix might be achieved, and the essential role of the professional forester at the centre of this question: constructing the bridge from aspirations to delivery on the ground; growing flourishing and sustainable forests and woodland to provide clear benefits and mitigating the risk of negative impacts.

**Comments on Jo O'Hara's presentation by Eugene Griffin**

This presentation demonstrated that all forests have multi-functional roles and different forest types deliver different functions and outcomes. Jo O'Hara discussed multi-functional forestry in an Irish context and achieving the right mix of functions. She also discussed the role of the professional forester in delivering these functions.

She quoted from the United Nation's and EU's definition of sustainable forest management. While the EU's version was more explicit in detail, both aims were broadly similar with emphasis on the economic, social and environmental values of sustainable multi-functional forestry.

Six different types of forest landscape restoration and ecosystem management types were discussed and how tried and trusted systems might no longer be relevant such as in Germany where sustainable forest management had been practised for centuries using the native species Norway spruce. Due to severe droughts between 2018 and 2020, caused by climate change, and subsequent infestation and tree death caused by the bark beetle, forest species selection must now abandon Norway spruce in parts of Germany. This will require a change to traditionally held values of sustainable management.

In an Irish context the many functions required of a forest are supplying wood to a vibrant forest industrial base, maintenance of water quality and regulating water run-off/flood risk, supporting and enhancing biodiversity, and providing recreation. What must be accepted by all parties in the ongoing forestry debate is that any one particular forest type cannot fulfil every person's expectations. There needs to be an understanding that each forest type delivers different results. There is no one perfect answer that provides solutions for all expectations because:

- All forests are multi-functional – sustainable forest management has to recognise and balance these functions.
- The values of different functions are subjective, location specific and time-dependent.
- There is no perpetual right answer – but there are good solutions.
- Delivery needs modern forestry professionals.

The presentation placed strong emphasis on the role of the professional forester who needs to be knowledgeable on silvicultural, and up to date with all regulatory, financial and ecological issues.

# CONFERENCE ORGANISER


## The Society of Irish Foresters

The Society of Irish Foresters is an all-island organisation which was founded in September 1942. Its main aims are to spread knowledge of forestry and to improve professional standards in the Irish forestry industry. To that end the Society publishes an annual scientific journal, organises four field days, two public lectures, conferences and an international study tour each year.

The Society regularly makes submissions to government on policy initiatives which are likely to impact on the forestry industry and it is represented on several interdepartmental working parties. Our Continuous Professional Development (CDP) programme provides an opportunity for members to engage in the lifelong acquisition of knowledge and skills. The Society currently has over 700 members, most of whom are professional foresters who work across the whole spectrum of Ireland's forestry industry. There are five categories of membership: technical, retired technical, associate, student and honorary.

Further information
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Society of Irish Foresters

An Roinn Talmhaíochta,
Bia agus Mara
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