FORESTRY & TIMBER NEWS

December 2021 Issue 108

IN THIS ISSUE:
COP26
WOOD SCIENCE

LEADING THE WAY TO GREEN RECOVERY

Confor
Promoting forestry and wood

TREETOP FORESTRY Ltd

Forestry | Sales | Parts | Servicing

We'd like to thank all our customers for their business throughout 2021 and we wish you all the best for 2022!

Delivering power & productivity when you need it most.

TIGERCAT LH822 / LOGMAX 7000 TWIN

UNIQUE SERVICES FOR THE FOREST INDUSTRY

treetopforestry.co.uk

Balmakewan Woodland, Laurencekirk, Kincardineshire AB30 1QX

Chris Quincey - Sales - 07392 087006

SOLE AGENTS FOR

LogMax® Tigercat®

CONTENTS

Wolman

Leading the Way in Wood Protection

Looking for a high performance wood preservative? Wolmanit® CX.

In the vessel or in the field, you can rely on Wolman.

Using unique German engineering, Nordic quality and technical experts we can give you peace of mind and consistently high performing treated products.

Use wood preservatives safely. Always read the label and product information before use.

Wolman Wood and Fire Protection GmbH, Dr.-Wolman-Str. 31–33, 76547 Sinzheim, Germany; www.wolman.de, info.wolman@wolman.de

A brand of MBCC GROUP

EDITORIAL

Trees in the spotlight

STUART GOODALL
CHIEF EXECUTIVE,
CONFOR

2021 will go down as an exceptional year, for many reasons. In the forestry world we've seen record rises in timber prices and record aspirations for tree planting. Forestry captured the global attention of COP26 for a few days and I've never seen so much interest in the media for many years.

Within all that there has been some good, some bad and a little ugliness.

Timber is beginning to realise its value, and if, as forecasters indicate, we won't simply see the rise in price for finished timber products given up in 2022, we will hopefully have secured a step-change that will help to bring more value to the whole supply chain. This is vital as there are 'growing pains' for our still young industry, in particular on skills and new entrants. And the continued need to increase productivity requires continued investment.

Giving evidence to the Westminster EFRA committee on 23rd November, forestry minister Zac Goldsmith spoke of increasing the UK's planting target to 50,000 hectares a year in line with the recommendations of the Committee on Climate Change. This clearly feels more than a little ambitious given the still dire performance of planting outside Scotland, but at least it should add impetus.

On the bad side, the minister still appears to struggle with productive, mixed forestry, and there appears to be a knowledge gap between planting broadleaves and producing high quality timber. As we know, planting a 'native woodland' is not the same as planting productive broadleaves. And while COP26 shone the light on trees, will the public understand the difference between tackling deforestation in the tropics and sustainable management of woodland in the UK when both involve cutting down trees?

The ugliness is the increasingly vociferous and aggressive lobby that is building up where new planting is increasing. I hear stories of intimidatory behaviour towards forestry professionals, of social media 'pile-ons' and people making sweeping and inaccurate statements to a media that loves the language, but not researching the facts behind what's being said.

With this and more in mind, I'll be putting (3 or 4) fingers to keyboard in the coming weeks to draft a 2022 business plan for the Confor Board to consider. If something is occupying your mind, do drop me an email.

Confor is a membership organisation that promotes sustainable forestry and wood-using businesses. Confor members receive *Forestry and Timber News* for free as part of their membership. For more information on membership, visit ***www.confor.org.uk/join-us***

Past issues and articles can be accessed online at ***www.confor.org.uk/news/ftn-magazine***

Non-member subscriptions:
£65/(£70 overseas)
Contact *stefanie.kaiser@confor.org.uk*

Forestry and Timber News is published by Countrywide Publications on behalf of Confor.

For advertising, contact
Laura Munnings 01502 725866
laura.munnings@micropress.co.uk
Printed by Micropress Printers Ltd

Stuart Goodall
Chief Executive
T: 0131 240 1416
E: stuartg@confor.org.uk

Andy Leitch
Deputy Chief Executive
M: 07881 510171
E: Andy.leitch@confor.org.uk

Stefanie Kaiser
Communications and editor FTN
M: 07538 918834
E: stefanie.kaiser@confor.org.uk

Eliza Hibbins-Cline
Membership officer
M: 07918 880285
E: eliza@confor.org.uk

Caroline Ayre
National manager for England
M: 07500 927482
E: caroline@confor.org.uk

Jamie Farquhar
National manager for Scotland
M: 07817 374906
E: jamie.farquhar@confor.org.uk

Anthony Geddes
National manager for Wales
T: 074 94079305
E: anthony@confor.org.uk

Confor head office and editorial office
59 George Street, Edinburgh EH2 2JG

0131 240 1410

info@confor.org.uk

www.confor.org.uk

For the latest news of forestry and wood sign up to #forestandwood on Twitter

CHANGING ATTITUDES 2.0

Stef Kaiser reports on the next phase of Confor's ongoing effort to change perceptions of the forestry and timber sector.

Confor has maintained its public relations activity, the Changing Attitudes campaign, for a decade now, alongside its lobbying work with politicians. Since 2017, Changing Attitudes is a recognised priority in the Confor business plan and in collaboration with key members, Confor has communicated a consistent and agreed set of industry key messages mainly through media channels, but also as part of our stakeholder engagement, events and social media presence.

These activities have proven effective and helped support the growing success of the sector.

In some ways, the sector is now becoming the victim of its own success, and in the year of COP26, forestry and timber have increasingly attracted the attention of the media. This has, for sure, created some very positive momentum for our industry; however, in the media and social media realm, it is controversy that sells, and commercial forestry has not been immune to criticism and inflammatory commentary from polarised lobbyists and influencers who want to limit productive planting and turn politicians against it.

The motivations and drivers include:

- **a desire to focus public policy and funding on broadleaf planting or rewilding**
- **a personal/institutional dislike of conifers/commercial forestry**
- **a wish to 'protect' agricultural land or game shooting**
- **resistance to planting/land use change locally**

The narratives that opponents deploy usually encompass out-dated and false perceptions, often a result of a lack of understanding of the bigger picture of sustainability in land use. The perpetuation of these myths combined with the failure of governments (notably the UK government) to counter them actively will have a deleterious impact on the development of the sector in the years ahead.

Who are the people we want to influence?

For our next step of the Changing Attitudes campaign, we will increase the focus of our PR efforts both in terms of messaging and audience.

For our sector to thrive and secure its potential, ultimately we need to influence the **policy-makers** who shape the policies and regulations that can either pave or stand in the way of efficient and sustainable tree planting and timber production.

In the case of **environmental organisations**, we believe that there are reasonable voices that we can work with to communicate the complementary benefits of productive forestry, native woodlands, jobs, carbon and nature.

We believe that, along side our lobbying efforts, it is through general media channels, in particular Tier 1 media (such as The Guardian, The BBC, Sky TV) that we can reach key audiences, whilst influencing the opinion of the general public at the same time.

Informing and gaining the support of the general public is a continuing objective, though changing perceptions and attitudes of a diverse group of 60+ million people will always be a challenge and possibly beyond the scope of the 2022 campaign.

RECENT MEDIA ENGAGEMENT

DAVID LEE, CONFOR MEDIA ADVISOR

Confor's main approach is to place regular proactive articles in the media and to react quickly and positively to media requests to comment, especially where productive forestry is criticised.

Recent proactive coverage includes promoting the positive paper on productive forestry by Dr Andrew Cameron *(read a summary on page 48 in this magazine)*.

In terms of reactive media engagement around COP26, recent coverage has included an article in The Observer and an interview, a Sky News feature and a post-COP26 commentary for The Herald's annual forestry supplement and The Scotsman.

Before COP26, a Scotsman feature article focused on another of Confor's key themes - the multiple benefits of modern forestry - while there was positive regional coverage of an MSP's visit to a Confor member, a vital part of our media work. We have also engaged closely with the farming media, especially in Scotland, and have regular articles published in *Scottish Farmer*.

A COLLABORATIVE PROCESS

DAVID GLAZE, CHANGE MANAGEMENT AND FACILITATION CONSULTANT

In collaboration with the Confor communications team and consultees from the membership, we have structured the development of a PR review and strategy around four key stages:

- **REVIEW:** Key message development – finessing and focusing existing industry messaging
- **PLAN:** Communications Delivery – strategy for media engagement and preparation of pre-emptive and tactical material
- **DO:** Stakeholder engagement – engagement with journalists, and, as part of business plan, with ENGOs
- **CHECK:** Monitoring Success – identify and monitor Key Performance Indicators

Changing attitudes: Campaign for 2022

This year, there has been a sense that "something must be done" to "reclaim the narrative" and tell the forestry and timber story more powerfully.

It is therefore proposed that the next stage of our 'changing attitudes' activity is an more structured and focused campaign to raise public and political awareness of the significant benefits of domestic timber production, softwood and hardwood.

A team of two specialist consultants, Susan Brownlow and David Glaze, have been hired to assist Confor's communications team with finessing media messaging, understanding desired behaviour change in key audiences, and designing and monitoring a focused PR plan for 2022.

The design and future implementation of the campaign is being overseen by a task and finish group of Members appointed by the Board, created in summer 2021.

The Task and Finish group identified the following key principles and priorities for developing a PR campaign:

- The need to define our target audiences, their current perceptions and needs
- PR and engagement that is both reactive and proactive
- Promoting positive messages in both commercial and sustainability terms
- Measuring the success of messages and communications

>>

OUR MEMBERS

1. In 2021, Members urged Confor to coordinate efforts to increase and focus the sector's media coverage.

CHANGING ATTITUDES TASK AND FINISH GROUP

2. Confor responded and created a task and finish group composed of members from across the country and supply chain

PR PROJECT TEAM CHANGING ATTITUDES 2022

3. Reporting to the task and finish group, Confor hired 2 expertant consultants to work with us to (1) review our messaging and audiences and (2) design a feasible PR action plan for 2022.

Changing Attitudes: core messaging for 2022

To raise awareness of the need for productive forestry, Confor is moving its messaging towards the booming demand for timber – short and longer term – and the need to secure a low-carbon material for net zero that also proved vital to combat the pandemic and to contribute to a green recovery.

This is a topic that we believe will resonate with politicians, and it also links with the carbon agenda and can cut through to the public (demand outstrips supply for timber and consumers are seeing prices rise for a shed, fence or deck) and be a message that will challenge 'green' groups to think more widely than a polarised 'productive versus rewilding' type debate.

The mid-range of estimates is that global demand is set to triple by the 2050s, and currently, 80% of the wood used in the UK is imported. There will be increasing global competition for wood and pressure is likely to increase on natural forests, the UK's response should be to take more responsibility for producing wood.

KEY MESSAGING FOR 2022

Working with the two consultants, it has been identified that our 2022 media activity should be centred around the following messaging:

- Productive planting can make a significant contribution to the UK's decarbonisation plans helping to support net zero
- Productive planting and woodland management can help improve and protect the UK's biodiversity
- Timber is an important renewable resource for the UK's building industry and as global demand increases the country needs to take more responsibility for wood production
- The cutting of trees from sustainably managed forests is quite different from deforestation
- There are significant commercial benefits to the UK by increasing & improving our commercial forestry industry

SHAPING A PR STRATEGY FOR 2022

SUSAN BROWNLOW,
WORDS FOR INDUSTRY PR

Public relations – or more commonly known as "PR" – is recognised as an important communications tool to help shape perceptions around the forestry industry. It's sometimes referred to as "press relations", as the media are essentially the first point of contact when communicating our messages to a broader audience.

With that in mind, Confor's PR programme for 2022 is going to have increased engagement with the journalists and broadcasters that can help us communicate the reasons why the UK should grow more wood: from trees being a key enabler of the country's ambition to reach net zero to making the UK more self-sufficient in this important natural resource (80% of our wood is imported). Not to mention the many commercial benefits and job opportunities expanding tree planting would bring.

We look forward to reporting back to you on our increased PR efforts next year.

THE DEFORESTATION BACKLASH: CHANGING SIMPLISTIC MEDIA NARRATIVES

STEFANIE KAISER,
CONFOR COMMUNICATIONS MANAGER

During COP26, the media space was on fire, with lots of very constructive discussions around the need for growing more timber. In addition, trees were further put in the limelight when leaders of over 100 countries signed an agreement to end deforestation by 2030. This should be a reason to celebrate, however, oversimplification of the issue by some media outlets and activists has led many to think that felling trees is equivalent to deforestation. This has caused a lot of concerns for certain members of our sector, in particular those at the interface with the general public. UK forest contractors have been exposed to the rage of activists.

As part of our 2022 PR strategy, we aim to prepare a set of pre-emptive messaging, in order to be prepared to respond both quickly and strategically when common misperceptions of forestry get airtime in the media. In addition, we will aim to run a strategic set of media articles during 2022, covering our focus messages.

In simple terms: why deforestation and felling trees is not the same

Deforestation means the net loss of forest, in particular of ecologically sound forest, which cannot be reforested in the same way. Felling trees is an activity, which can or not be linked to deforestation – it is not the cause of deforestation.

The true drivers of deforestation are decisions that are being made about permanent land use change - for example, the clearing of rainforest to create new farmland for beef or soy production, or the removal of mangroves to establish shrimp farms. Or to create forest plantations – which can still happen in less regulated countries and needs to be condemned. These land use changes have severe, negative impacts on the wider ecosystem.

On the other hand, felling trees in the context of sustainable forest management and wood production is not related to deforestation. In particular in temperate areas, trees that are felled for wood mostly grow in modern plantations and where one tree is felled, another one is planted. A bit like a wheat field, but with a much longer growing cycle. There is no permanent land use change from forest to non-forest.

In the UK, in particular, felling trees has nothing to do with deforestation and we actually desperately need to produce more wood as part of our plans to achieve #netzero.

Public Liability Insurance

New Start-Ups Welcome

- Public & Employers Liability
- Personal Accident Cover
- Tools/Plant Cover
- No Height Restrictions

Call an expert now...

01732 373864

www.tsins.co.uk

Open evenings and weekends

/tsins

Tree Surgeon and Forestry Insurance Services

STRENGTHENING THE CONFOR TEAM

MEMBERSHIP:
ELIZA HIBBINS-CLINE
This month, we welcomed our new membership officer, Eliza Hibbins-Cline, to our team. Eliza, who is based in Edinburgh, will be working closely with our Membership Manager Sarah Virgo, as the first point of call for all Confor members. She will also support on work with Confor's events, member communications and marketing.

Eliza read Media Arts at Plymouth University where she has then had roles in Marketing and Customer Service before joining us.

Eliza is a vegetarian, loves all animals...and the planet! She spends most of her spare time exploring the beautiful city of Edinburgh and is eager to get stuck into the world of forestry.

CARBON: EILIDH FORSTER
We are really pleased to confirm that we have secured the services of Eilidh Forster. Eilidh is currently a PhD researcher in Environmental Science and Forestry at Bangor University, with a deep commitment to maximise the contribution of forestry to a future net zero carbon economy.

Eilidh was awarded a competitively funded Doctoral Training Partnership scholarship to study the sustainability of a range of UK afforestation and wood use pathways by applying life cycle assessment to whole forestry-timber value chains. The interim research findings were published in 'Nature Communications', and have been presented at international conferences. They have been warmly welcomed and widely quoted in the forestry and timber sector.

Eilidh is working on a project to map carbon in the supply chain and to develop, with Confor Member businesses, a roadmap for reducing carbon by the industry – other industry sectors are already developing these and in Scotland already we have been told by ministers that they have a real interest in seeing the sector develop such a roadmap.

The roadmap will enable industry to take a leading role in identifying and prioritising carbon to present to governments across the UK on how we believe we can work together to achieve net zero and take ownership of that process. It is planned that the roadmap will be finalised by March 2022.

CONFOR DINNER: BOOK YOUR TICKETS NOW

1 March, 7pm (exact time tbc), Sheraton Grand Hotel and Spa, Festival Square, Edinburgh EH3 9SR

In 2022, we will reproduce the successful format of the 2020 event – look forward to a great evening of socialising and celebrating the achievements of our award winners.

Standard tickets are £95 (incl VAT), concessions for Under 35s are £50 (incl VAT).

HOW TO NOMINATE

To nominate someone, please provide the following information in an email to *Stefanie.Kaiser@confor.org.uk*:

- The name, role and organisation of the person you want to nominate
- The Award you want to nominate them for
- A personal statement describing why this person or company deserves to win the award (including links is fine); note that we are looking for people who show engagement beyond their professional role. Please really use this section to get across why you feel passionate about seeing this person win!
- Your name and contact details

More information and online booking here

SCAN ME

CONFOR AWARDS 2022

Nominate an exceptional individual or business before 15 January!

CHANGING ATTITUDES AWARD

Sponsored by **Scottish Woodlands**, this award will go to an individual or business promoting the forestry and wood sector in a positive and impactful way through personal engagement, campaigning or communication, social media or other ways.

INNOVATION & RESEARCH AWARD

Sponsored by **Forestry Commission & Forestry and Land Scotland**, this award will go to a business or individual delivering successful innovation and/or research which has clearly demonstrated greater efficiency or sustainability in the forestry and wood industry.

FUTURE FORESTRY LEADER AWARD

Sponsored by **James Jones and Sons**, this award will go to an individual with outstanding skills who has the potential to be a leader in the forestry and timber sector – someone showing initiative, passion and making a real difference.

THE FUTURE IS HAMPTON STEEL

BRITISH WIRE FENCING & METAL POST MANUFACTURER

ALL POSTS GUARANTEED FOR 30 YEARS

ONE OF THE MOST COMPREHENSIVE WIRE FENCING RANGES AVAILABLE

For a superior integrated solution to your fencing needs, combine the award-winning **Versalok**® intermediate metal post and clip system and **Hampton's Metal Strainers**, all covered by Hampton Steel's **30 year guarantee**, with any woven wire fencing pattern. Choose from Class A galvanise **Hampton Net**™ fixed knot fencing or **Sentinel**® hinge joint supplied in rolls of up to 500 metres.

Alternatively opt for our longer life green passivated **Hampton Net**™ **Green**, **Rylock**® **Green** or **Rylock**® **One** products. All these can be supplied with barbed wire, line wire and fencing staples in complementary coating options. Also available, **chainlink** fencing either class A galvanised or PVC coated with barbed or knuckled ends, fully galvanised **hexagonal wire netting** and **Gripple**® wire joining products.

The future of wire fencing is Hampton Steel.

HAMPTON®

+44 (0) 1933 234070 | sales@hamptonsteel.co.uk | www.hamptonsteel.co.uk

ON THE OTHER SIDE OF COP26

Maria Bellissimo reflects on the outcomes of the climate summit that was meant to be the turning point in the fight against climate change.

Between 1 and 13 November, Glasgow hosted the 26th UN Conference of Parties on Climate Change, aka COP26. The theme was "Keep 1.5 °C alive", referencing the science that states that the worst damage from climate change can be avoided by keeping global warming at or below 1.5 °C.

The two-week in-person summit, however, is only part of the story. In the year before it, the UK, as the host country, took the lead on increasing the global decarbonisation ambitions by setting itself new emission reduction targets and increasing funding commitments to support the shift towards decarbonisation in developing countries. Throughout 2021, COP26 President, British MP Alok Sharma, led negotiations with the countries involved, trying to spur big emitting countries into action and bridging the gaps between the positions on climate change of developed and developing countries.

WITH SO MANY COUNTRIES NOW INVOLVED AND SO MANY CONTRASTING INTERESTS REPRESENTED, IT SHOULDN'T BE A SURPRISE THAT PROGRESS HAS BEEN VERY SLOW.

With so much ongoing diplomacy between one summit and the next, many of the COP26 outcomes were already outlined even before the delegates arrived in Glasgow. Yet, the weeks before event were filled with dramatic headlines pushing the narrative that only a big, unforeseen, never-discussed-before announcement could be seen as a success.

Now that we are on the other side of COP26, we can attempt a moderate assessment of what happened in Glasgow.

Conference of Parties – The Background

It is important to set the scene for COP26 to understand its achievements and shortcomings. Since 1995, year of the first COP, the 197 countries that signed the United Nations Framework Convention on Climate Change have been meeting almost every year to discuss actions and form alliances to reduce the emissions of greenhouse gases.

The 1997 Kyoto Protocol is the foundation for these annual summits. It established the commitment to reduce greenhouse gases; crucially, it recognised that developed countries played a much larger role in creating the current situation and therefore they should lead the way in decarbonising their economies and support (through financial and technological aid) developing countries in doing the same. The 2015 Paris Agreement introduced the objectives to keep the rise in global temperatures below 2°C and preferably at or below 1.5°C.

THE OUTCOMES: WAS COP26 A SUCCESS OR A FAILURE?

Many post-COP26 reports have declared the summit a disappointment and that the 1.5C target is "in intensive care". Instead, there are many reasons why COP26 is a turning point in the fight against climate change; some outcomes even represent the biggest progress since 1997.

1 **The Glasgow Agreement recognises the negative impact of climate change.** No, this is not a joke. It's a game changer. At previous COPs there were successful efforts by many countries to cast doubt over the science demonstrating the negative impact of climate change, which inevitably questioned the credibility of the whole exercise. COP26 managed to get all countries to agree on this and the need to keep global warming at 1.5°C to avoid a natural catastrophe.

2 **Accelerating efforts to phase down the use of coal and inefficient fossil fuel subsidies.** Another point that many might think has been made before. However, the Glasgow Agreement is the first time that all COP countries agree on the need to reduce the use of coal and fossil fuels. This marks such a stark change of

direction that on the first post-COP26 day coal shares fell across all financial markets and OPEC complained that oil and gas were being targeted by the Agreement. This right here – influencing markets – is the most important effect COPs can aim for.

3 **Progress on forests, forestry and sustainable land use.** The Glasgow Leaders' Declaration on Forests and Land Use not only pledges efforts to stop deforestation, but also recognises the importance of sustainable forest and land management. This, together with the many applications of sustainable forests products that were showcased at COP26, could be a major turning point for the forestry and wood use sector. Our calls for bringing more woodland under management and the need for sustainably produced timber to decarbonise the economy now have stronger international recognition.

4 **Stronger rules and structures for carbon markets and emission offsets.** COP21 in Paris in 2015 agreed loose principles for countries to offset some of their emissions. The Glasgow Agreement has closed some of the loopholes that allowed for double accounting. It also introduces one common system for emission accounting that is based on published five-year frameworks for countries. This is another game changer as countries will no longer be allowed to use their own system to report progress on the emissions reduction pledges they make.

5 **Money for loss and damage.** This was one of the sore points going into COP26: the target of $100bn per year from developed countries to help developing and most affected countries with emission reducing and adaptation measures was not met. However, the Agreement includes a commitment from developed countries to increase substantially this amount by 2025; most importantly, it pledges to find a way forward on loss, damage and adaptation finance at COP27 and look at ways to deliver it beyond the high interest loans currently on offer.

Was COP26 perfect? Of course not. But it achieved some remarkable milestones that place the target of maintaining temperature rise at 1.5°C within reach. And the one thing all countries finally agreed on is that more urgent action on carbon emissions and unsustainable production systems is needed. Only a couple of weeks after the summit is over and the attention is already focused on what needs to be achieved at COP27.

COP26 was not perfect but much better than was expected. It has galvanised political leaders, businesses and people to plan the next step. And it has sent many strong signals about the direction of travel:

MARKETS ARE ALREADY TAKING NOTICE AND, AS INDIVIDUAL COUNTRIES' POLICIES BECOME BETTER DEFINED, THERE WILL BE A FURTHER DRIVE TOWARDS SUSTAINABILITY.

After all, the most important thing to remember about tackling climate change is that it is a work in progress with no end point. It requires a very significant shift in how we life our lives, how we produce and consume; all things that do not happen overnight and take a lot of planning and, above all, collaboration among people, governments and business to find sustainable solutions that work for all without harming the economy.

And as we know very well, the forestry and wood use sector can play a very important role in this.

UN CLIMATE CHANGE CONFERENCE UK 2021
IN PARTNERSHIP WITH ITALY

COP26

REPORT FROM WOOD FOR GOOD

Attracting around 90,000 visitors to Glasgow, the 26th gathering of the 197 member nations of the UN Framework Convention on Climate Change (UNFCCC) took place from 31 October to 12 November. Sarah Virgo reports on key discussions and events around forestry and wood.

Timber and trees at COP26

There were several key hubs of activity at COP26 that housed events and exhibitions related to the timber and forestry sector. I attended a selection of the events and exhibitions that took place during the two weeks. Ahead of COP26, Wood for Good pulled together an interactive map of all the activity and exhibitions involving wood. The map also showed where existing timber buildings were situated in and around the Glasgow area, so that visitors to the city would know when they were passing a low-carbon home!

I was not lucky enough to obtain a pass to the elusive COP26 Blue Zone, but I did enjoy spending time over the two weeks visiting the public Green Zone area and fringe events in and outside of Glasgow.

Inside the Blue Zone, there were several exhibitors that featured timber structures in their stands and discussed the benefits of wood in construction and sustainable forestry practices including the Eden Project, a bamboo gridshell and a variety of events from organisations such as the Timber Trade Federation, Stora Enso and the Nordic Council.

The Green Zone also featured some timber structures and exhibitions, I particularly loved the interactive WWF greenery-filled space. Many of the spaces featured chipboard and wooden panels, which got me wondering: Did these exhibitors make a conscious choice to use a naturally low-carbon, renewable material or was it just what was available to them?

In addition to the official Blue and Green zones, there were a range of 'fringe' hubs around Glasgow including the Sustainable Landing Hub, which featured the COP26 House, the New York Times Climate Hub which housed a beautiful forest-filled art exhibit; and the Construction Scotland Innovation Centre (CSIC) in South Lanarkshire which was the host of a variety of day conferences, talks and tours.

KEY MESSAGE

HOW FORESTRY FIGHTS CLIMATE CHANGE

Trees are a natural carbon capture and storage facility, sequestering harmful CO_2 from the atmosphere and storing it as carbon in its wood. Sustainable forestry practices and the wood products produced contribute to a growing carbon store in increased tree planting, whilst displacing emissions from other CO_2-intensive materials by replacing them with wood products, and storing carbon captured by trees in wood products for their lifetime.

EVENT HIGHLIGHTS

Wood for Good conference

Wood for Good sponsored an action-packed day conference at the CSIC in South Lanarkshire on 2 November. It was the perfect way to kick off COP26 - we heard from a range of engaging speakers on forestry and timber construction, spoke to visitors from around the world about forestry and timber in their own nations, and had a factory tour of the CSIC's best projects and innovations.

One of the highlights for me was hearing about the link between the built environment and forestry. In the setting of the CSIC, with all of its beautiful timber buildings and demonstrators, it felt fitting to hear from Scott Francisco of Cities4Forests and Confor's own Deputy CEO, Andy >>

Leitch, about how we can and should bring forestry into our discussions about using more timber as a material.

Architects Climate Action network
Another event highlight for me was a series of talks hosted by the Architects Climate Action Network (ACAN) at Many Studios in East Glasgow. Including speakers from Waugh Thistleton, Drmm architects and Strathclyde University, it was great to see so many designers and architects passionately discuss the importance of embodied carbon, and timber's role in a more sustainable built environment.

TIMBER STRUCTURES GALORE

CSIC impresses with sustainable timber buildings
In addition to hosting several wonderful events, the CSIC venue itself was a brilliant and thought-provoking space - if you have the opportunity to visit it in Blantyre, South Lanarkshire, grasp that opportunity with both hands! The factory featured lots of different projects showcasing sustainable solutions for the built environment including several timber structures including a timber classroom, tiny home and more. Pictured below is the impressive SNRG project – a house entirely made from Scottish timber products. The demonstrator illustrates just how durable and beautiful home-grown timber products are – and that the potential is there within the UK to do more with our forest products.

COP26 House
Situated in one of the fringe event areas - the Sustainable Landing Hub – was the 'COP26 House'. This house, designed by Roderick James Architects comes from the Beyond Zero Homes team – a consortium of over 20 different organisations. The house is made entirely from Scottish grown timber, and on practical completion accounted for around 24,000kg of embodied carbon, and storing more than double that at around 53,000kg of biogenic carbon.

Installation at Glasgow Central
Meanwhile, in Glasgow Central station, a statue made entirely from Scottish timber welcomed visitors into the city with a message of hope, whilst showcasing a truly sustainable material.

COP 26: VIEWS FROM ACROSS THE INDUSTRY

We asked some of those who attended COP26 in person for their views on how they felt the Conference experience went for the sector.

ANDY LEITCH CONFOR

"I was involved in COP26 in a number of ways, wearing both my Confor and Wood for Good hats, and certainly found some of my experience inspiring. Along with Sarah Virgo, I was involved in the steering group of the global collaboration of timber trade associations that published the global manifesto for timber. We also took part in a Scottish built environment network that was focussing on, amongst other things, promoting carbon saving opportunities in the construction industry supply chain. I also presented on the UK wood resources and supply chains during the Wood for Good conference which generated a lot of post-conference discussion with construction related professionals."

Q: What was your highlight of COP26?
My main highlight was when I walked into the Construction Scotland Innovation Centre and saw the factory packed with various prototype structures, most of them showcasing homegrown timber, including the GenZero initiative being led by the Department of Education which aimed at designing wood rich educational buildings such as classrooms and sports halls.

Q: What was your biggest moment of frustration?
Probably when the UK government revoked (very late on) our option to build a large CLT structure in the green zone as part of the messaging of the global timber collaboration initiative.

Q: What do you think the biggest challenge is facing the wood industry in a net-zero future?
I see a fantastic opportunity for the UK wood supply chain - COP26, the Net Zero Strategy and other climate change related reports have identified that using more long life sustainable sourced wood products can store more carbon and substitute higher embodied carbon construction materials. The key to success will be the wood supply working closely together and engaging positively and proactively with key players in the construction supply chain to help them overcome any issues and barriers that may hinder the adoption of more wood-based products and systems in UK construction.

PAUL BRANNEN CEI-BOIS

"I attended the COP on two separate occasions, once each week, primarily to promote our global wood manifesto 'Growing our low carbon future: time for timber' produced by the European wood sector, including Confor and Wood for Good, along with colleagues in New Zealand, Australia, the USA and Canada.

PLEDGES, MANIFESTOS AND POLICY TAKEAWAYS

- **Timber Manifesto**

On 28 October, a global alliance of timber bodies and organisations including Wood for Good and Confor launched a global manifesto for timber, Growing our low-carbon future: Time for Timber. The manifesto calls on policymakers around the world to recognise the vital role of timber construction and forestry in the fight against climate change. It outlines key policy recommendations for decision-makers and leaders.

- **Tropical Timber Accord**

In the Blue Zone, the TTF called for action from the international timber industry to ensure strong legal governance in tropical forests with the launch of the Tropical Timber Accord. The document calls for leaders to create a framework for development of a new international rules-based approach for the global tropical forest sector.

- **Net Zero Whole Life Carbon Roadmap**

The UK Green Building Council launched their Net Zero Whole Life Carbon Roadmap which covers the entire building life cycle and – crucially – recognises the importance of embodied carbon, an area where timber can really make a difference for the built environment.

Q: What was your highlight of COP26?
It was great to have a high-speed curry and a pint with Jad Daley, President and CEO of American Forests. We identified a shared enthusiasm for scaling up and fast on the contribution forestry and wood can make to helping address climate breakdown. Constructive impatience!

Q: What was your biggest moment of frustration?
I was disappointed that the COP President Alok Sharma didn't refer our wood manifesto 'Growing our low carbon future: time for timber' in his summing up.

Q: What do you think the biggest challenge is facing the wood industry in a net-zero future?
We face three interconnected key challenges:

- Too few politicians and decision makers have yet to grasp that we can now build big and tall in timber and that as a result wood can be used to build in urban settings not just in the suburbs and rural areas.
- When we explain the new construction possibilities of mass timber they then, understandably, ask "Is there enough timber?" While we may think the answer is "Yes" it's not that simple. We need wood to play its maximum role in decarbonising the built environment in both new build and renovation but as to how much wood that 'maximum role' would need no one seems to know hence, if truth be told, we don't know if we have enough sustainable wood. This doesn't help our argument.
- Ambition – are we, the wood industry, ambitious enough? Or are we content to see a regular and steady growth when the climate crisis actually demands rapid and massive growth in the wood sector? Are we going to step up or fall short? Our children and grandchildren are watching.

DAVID HOPKINS TIMBER DEVELOPMENT UK (TDUK)

"Representing TDUK's work for a more responsible global timber trading environment, and advocating for increased use of timber products worldwide to support carbon storage, we held four separate panel discussions in the Blue Zone during the first week of COP.

What was your highlight of COP26?
Can I say the whisky was the highlight? Actually, having not participated in a COP since 2009 it was excellent to see how far global timber and forests, governance and the built environment have come up the international political climate agenda. Our work attracted the support of industry and ministers from around the world. It is frustrating however that the language coming out of COP seems as non-specific and non-binding as when we went in. As an industry we will continue to do the right thing, and encourage the policy-makers to catch up.

What do you think the biggest challenge is facing the wood industry in a net-zero future?
Putting aside, if it is possible, Brexit, and the pandemic, demand for timber has never been higher. Collectively, the timber industry has been doing something right, and with our work on the World of Wood Festival, the Time for Timber manifesto and the Tropical Timber Accord, we have taken that collective effort to an international level. There should be no 'biggest challenge' for the wood industry in a net-zero future; a net-zero future requires a larger and stronger accountable global forestry and timber sector. We just need to make sure everyone else knows it.

It is hard to judge whether COP26 will prove a turning point in the years to come, however, it should be viewed as a positive start for those of us committed to sustainable forestry and low-carbon construction.

A YEAR LIKE NO OTHER

The second wave of COVID, another lockdown, Brexit, COP26, elections, new policies...2021 was a busy year! We round up some of the major changes and events here

Brexit

Brexit came into effect on 1 January 2021. For our sector, the changes have spanned several topics. The use of pallets and wooden packaging for goods moving between the UK and EU is now regulated by international standards. New UK plant passports were also introduced for use within the UK. New requirements on language and salary are now in place for recruiting non-UK workers, while hiring seasonal workers is subject to a very restrictive scheme. As can be expected when change on this scale takes place, there are still some teething problems, and some regulations are still in the process of being fine-tuned. Confor always work closely with the UK Government to represent the views of members and the complications they face.

COVID pandemic

COVID continued to grab headlines and resources throughout 2021. The year started with a second national lockdown, and it looks like it will conclude with serious concerns about rising cases. Forestry and wood processing were able to continue working through both lockdowns and Confor was able to secure recognition of wood as an essential product. It is highly unlikely that we will see a third full lockdown, but governments across the UK are calling for people to stay alert and mindful of the risks of COVID. The health and safety measures introduced over 18 months ago are likely to stay with us well into 2022. At Confor we will continue supporting our members through this challenge. Get in touch if you have any questions or concerns.

Elections in Wales and Scotland

In May, Wales and Scotland headed to the polls to elect new governments and parliaments. As it happens, in both cases, the government remained the same (Labour won in Wales, the SNP in Scotland) but without an outright majority, which has led to collaboration agreements with smaller parties. In late August, the SNP agreed a coalition deal with the Scottish Green Party, with the two Greens' co-leaders appointed to ministerial positions involving responsibilities on net zero, nature and the green economy. In Wales, Labour only reached a collaboration agreement with Plaid Cymru in late November; there are no Plaid Cymru ministers but they have agreed policies in the main policy areas (COVID recovery, net zero agenda, the economy). For the sector, the elections resulted in some changes. Mairi McAllan is forestry minister and Mairi Gougeon leads on Rural Affairs; at this time, they are continuing on the path set by their predecessor Fergus Ewing to support the forestry and wood processing sector. In Wales, a new Net Zero super-ministry has been created, led by Julie James and Lee Waters; they are working closely with the sector to explore potential for growth and linking it to sustainable housebuilding efforts.

Photo credit: Tomorrows Forests

England Tree Action Plan

In May, the British Government published its long-awaited Action Plan. While the Plan itself didn't include a target for tree planting in England, the Secretary of State George Eustice indicated that around 7,000ha of new woodland every year will be required to set England on the path to achieving its net zero commitment. England only planted around 2,000ha in 2020-21, so this will clearly be a big challenge. Perhaps more important than targets, is the attitude set out in the Plan: it recognises that there is a place for all kinds of trees and that softwood will increasingly play a very important part in decarbonising the economy while creating great employment opportunities across the whole country. Of course, there is still a lot that needs to be discussed and finalised, but this sends a strongly positive signal to the sector. Confor continues to work with DEFRA ministers and officials to input the views of the whole sector, which is resulting in encouraging progress. In November, the English Forestry and Wood-based Industries Leadership Group was inaugurated; it will provide a forum for discussion and collaboration between the forestry and wood use sector and policy-makers.

continued on p21

continued from p19

Forestry Workforce Research

With many positive signals for the future of forestry, there has been a growing focus on the sector's workforce, present and future. As many members will have experienced, it can be difficult to find the people with the right skills, whether it is for forest management, nurseries or processors. The report on the Forestry Workforce in England and Wales that was published in August provides very useful information about what the sector needs in terms of education and in-work training to make the most of the growth that will take place as a result of the drive for more tree planting, harvesting and wood processing. Skills and workforce development will certainly be a key issue for Confor and the sector in 2022 and beyond.

The road to Net Zero

In October and November, the British Government published three documents that start to set out its roadmap to decarbonise all sectors of the UK economy in accordance with the 2050 net zero target. These are the Net Zero Strategy, the Greenhouse Gas Removals Methods Assessment and the Biomass Policy Statement. In these documents there are strong signals that Government wants to work with the forestry and wood processing sector to drive long-life wood uses, such as in construction. Confor will be working with the Government to ensure that UK-grown wood is used sustainably and that future guidelines support all parts of the sector.

English Forestry and Wood-based Industries Leadership Group

Confor hosted the inaugural meeting of the ILG on the 9 November. The purpose of the ILG is to create an industry led public/private sector forum that focuses on the opportunities for economic growth from England's wood supply chain. There was great interest from the public sector with senior reps from FC, FE and Defra attending, as well as leading industry representatives. The ILG agreed a series of actions including the development of an industry strategy/action plan that will highlight how the wood supply chain in England can contribute to the delivery of key government strategies whilst creating economic growth. This will be taken forward in the first instance by a small working group.

Consultations

2021 was a busy year for consultations. The response to climate change has been a very common topic: Confor provided evidence to consultations in Scotland and Northern Ireland. The team also responded to a consultation on Greenhouse Gas Removals led by the Department for Business (BEIS) and one on biomass for energy organised by the Welsh Government. Another big topic for 2021 was the post-Brexit system of rural support: Confor responded to consultations on future funding for farming and tree planting in England (more specifically on the new Environmental Land Management scheme), Wales and Scotland; England Manager Caroline Ayre gave evidence to the EFRA committee on tree planting and ELMs. We also took part in the consultations on the review of the UK Forestry Standard and the UK Woodland Assurance Standard, as well as on the regulation of genetic technologies that have implications on tree breeding and grey squirrel control. Most recently, we have been working on the response to the consultation on drafting a new Plant Biosecurity Strategy for the UK. Our responses can be found here *https://www.confor.org.uk/resources/consultations/.*

Looking ahead

2022 is already shaping up to be a very busy year, with many opportunities to promote the forestry and wood processing sector even further. We look forward to continuing to work with all members towards a successful new year.

THANK YOU!


Sarah Virgo

A huge thank you to all of our members for your patience with us through a busy renewals period. We are still in the midst of processing official certificates and membership cards for those who have requested them. *sarah@confor.org.uk*

NEW MEMBERS

A big welcome to our newest Confor members: **Yeo Valley Farms; Ro Osborne; Joe D-Groot; Max Adams; Wildsense; Christopher Bond; Connor Thornton; Benjamin Howells.**

SELLING MEMORIES AT **BENMORE ESTATE**

Estate owner Tim Radford has shaped a profitable eco-business based on the vision of harnessing natural assets – the rain, the sea and the forest. **Stef Kaiser** meets him on the Isle of Mull.

Spanning over 14,000 hectares of wilderness, Benmore Estate on the Isle of Mull benefits from a diversity in natural assets – from shores to glens, old oak woodlands and commercial forests, hills and lowlands. And Tim Radford and his committed team have shown how to turn the land into a vibrant, profitable business based on what nature has to offer.

Benmore estate owner Tim Radford

Building a diversified rural business model

When Tim bought the estate 20 years ago, it was unmaintained and didn't generate any significant income streams. "I used to come here as a child, but the estate had been run down and didn't offer more than a sporting playground for the rich. I saw a wonderful opportunity to breathe new life into the estate and convert it into a vibrant and profitable rural business."

At the time, Mull's popularity as a nature and wildlife tourist destination had started to increase, but there was very limited housing stock, so the obvious first step was to invest in over 20 derelict properties to make them marketable to visitors. Tim and his team then quickly built a whole package of activities around the cottages and main house: walking, stalking, wildlife watching, fishing, boating and sailing and so forth.

"We quickly realised the value of our holiday proposition: stunning nature, Scottish heritage, outdoor activities, disconnecting from modern life, freedom for the whole family, contemporary accommodation and a team providing a sense of vibrant community.

This year, Benmore Estate has seen its busiest year with an estimated turnover of about £3million.

The next strand in Tim's business strategy was centered around maritime activities and the flagship boat The Benmore Lady. However, water was to play an even bigger role in the overall business model. Rain is plentiful on Mull and the Benmore team saw it as an opportunity to harness rather than an inconvenience. In 2013, the estate's own hydroelectricty plant went live, capturing the water coming off Ben More and feeding it into the grid. Today, it generates around 25% of the estate's income.

Exploring additional business opportunities beyond hospitality and sporting, the team started building relationships with the local fish farming community, renegotiating leases and diversifying into film production, catering and raising additional income from location fees and services for crews.

There was one significant estate asset that remained unharnessed. It was time to integrate trees into the business model.

Making forestry work on the estate

Forestry was the last activity to be integrated into Tim's business model, simply because nobody had any prior experience with it. The estate came with over 300 hectares of natural but unmanaged oak forest, with no commercial but high amenity value. Three years ago, Land and Forest Scotland offered Tim and his team five commercial blocks that had been planted in the 1980's and were soon coming to harvest. With the financial prospect of thousands of hectares of Sitka spruce waiting to be brought to market and advice from forestry partner, Highfield Forestry, a plan emerged to plant the biggest new forest in Scotland over the next 50 years. The monoculture blocks would be felled over the next 10 years and the entire landscape be redesigned.

After clearfelling the mature Sitka blocks, native woodland would then run all the way down to the Glen, creating a much more connected ecosystem. The commercial crops will be planted on better drained land, away from the river and near access routes.

The revitalisation of the riperian zone will bring the now bare Glen back to its former glory, with the planned planting of

Extraction routes had to be built to access the commercial woodland blocks

In the 1980ies, commercial blocks of sitka had been planted in a less than ideal location, in between the riperian zone and areas of native oak woodlands - landscape design and connectivity were not major considerations back then.

over 1.2 million trees. A substantial part of the species mix will be oak with 270,000 trees planted and connected to existing oak woodlands surrounding the glen. Native Downey Birch will be the second planting priority, acting as a nurse tree to help the forest to grow.

When establishing the commercial blocks little attention was paid to logistics of future timber extraction, with no access roads. Tim needed to channel substantial investment into transport infrastructure for all five blocks.

Redesigning the woodland ecosystem along the Glen.

"OUR BUSINESS MODEL IS NOT RELIANT ON GRANTS. AS AN ESTATE, WE ARE FINANCIALLY SELF-SUFFICIENT AND FREE TO SHAPE OUR VISION."

The first phase, which will give access to three of the five commercial blocks, will be finished by Christmas. In a further two to three years, another 6km of roads will connect to the remaining two blocks. "It was a major engineering project to get the road to where the timber is. We had to put two bridges across the river, at a huge cost", says estate manager at Benmore Estate Ltd, Julian Gorst.

The first block of timber crop, now accessible, will be felled in two phases with an interval of five years in between. The timber output is expected to be around 50,000 tons. In total, costs for the Woodland Creation project will be nearly £10 million over the next 10 years which will part funded by the abstraction of the commercial blocks.

A vision of sustainable, effective land use

At Benmore, their vision is to maximise what the land can accommodate – native woodlands, productive forestry, open land for activities, land for farming, with all land uses matched to the locations that are most suitable for them.

As part of a wider business model and vision, even trade-offs between land uses can be assimilated. For example, stalking is the biggest sporting activity on the estate, but as deer eat young trees, sporting and woodland creation typically don't sit well together.

"Our new scheme will have to include 55km of new fencing and will displace a considerable number of deer. Scottish Forestry will insist that we do a compensatory cull and while we can, to some extent, link the culling requirement to our sporting activities, the financial gain is not significant, as we still have to pay four full-time stalkers."

Efficient land use also encompasses using local resources locally. The estate has invested in two machines to make fire logs and kindling wood to supply fireplaces in the cottages. And next year they will intend to sell the surplus locally. The next step might be an on-site timber yard to supply wood products to Mull's residential market.

WILDLAND CAIRNGORMS WINS NATURE OF SCOTLAND AWARD

Confor proudly sponsored the Forest and Woodland Award for the second year and congratulates the winner

RSPB Scotland's Nature of Scotland Awards, co-sponsored by NatureScot, has been running for 10 years, celebrating the people and projects across the country making a difference for nature and the environment. The Awards consist of categories from Food & Farming to Youth & Education, and Forestry and Woodland, championing community groups, businesses and individuals working in conservation at any scale.

The Forest and Woodland Award

With trees covering 19% of Scotland, these habitats are vital for recreation, economy, tourism, and the air we breathe. Confor proudly sponsored this category for the second year running. The award celebrates our sustainable forestry and woodland champions.

This year, the Nature of Scotland Awards were delighted to recognise Wildland Cairngorms as the winners of the Forest and Woodland Award, for their native forest restoration at landscape-scale project in Glen Feshie. Fittingly, each winner is presented with a trophy made from native Scots pine, sustainably sourced from RSPB Scotland's Abernethy nature reserve and designed by Bryony Knox.

Stuart Goodall, Confor chief executive, said: "Congratulations to Wildland Cairngorms as worthy winners of this year's highly competitive Forest and Woodland Award. In this year of COP26 it's been great to see so many high-quality projects being put forward that showcase forestry and nature working together in harmony."

Other shortlisted projects

Other projects shortlisted for the Forest and Woodland category this year included Bowshiel Farm; a brilliant example of how ancient woodland can be restored and managed sustainably, whilst also producing timber, charcoal, foraged foods and sequester carbon. And Barrhill Woods, a community who have taken on management of a beautiful woodland in south-west Scotland and are developing it to its fullest potential. They have created an outdoor classroom and red squirrel hide, begun native planting and developed a wood-lot management plan. All-ability access to the woods has been improved.

Natural regeneration Glen Feshie, Cairngorms National Park,Scotland

www.shutterstock.com/Ellen Thornell

CATEGORY WINNER: WILDLAND CAIRNGORMS

Owner Anders Holsch Povlsen purchased Glen Feshie in 2006, and within a year had commenced the ambitious and spectacular native woodland recovery project, with a 200-year vision to expand the forest to its former natural splendour; to let nature heal, grow and thrive. The subsequent transformation of Glen Feshie from a heavily grazed pinewood remnant to a seemingly unstoppable march of young pine, birch, alder, bird cherry, juniper, willow and rowan is exciting and inspiring. Wildland has grown beyond Glen Feshie, now encompassing Killiehuntly and Glentromie, totalling 32,000ha of contiguous forest, moorland and high-blanket bog all amidst a controlled deer population, without deer fencing. Since 2007, Wildland Limited have achieved 2279ha of natural regeneration of native woodland. In areas remote from seed sources, they have planted six million trees covering 1000ha.

The vision addresses the twin crises of biodiversity loss and the climate emergency. It repairs and extends existing high-value habitats, sequesters carbon, and establishes robustness against climate change – all within the catchment of the River Spey. Management is already reducing soil erosion, catchment runoff, and flood-risk; it improves water quality and cools rivers, benefitting migratory fish. It is delivering nature-based solutions at a vast scale. Across moorlands formerly burnt for grouse management or grazed by deer, trees are rapidly regenerating. No capercaillie had been seen in Glen Feshie since 2000, until two males were seen in 2007. In 2021, 11 lekking males were counted. The recovery of birds of prey has also been remarkable, notably golden eagles and hen harriers. Wildland Limited is major partner in the Cairngorms Connect partnership, encompassing some 60,000 hectares of the Cairngorm massif of which Wildland Limited covers over 50%.

Anders Holch Povlsen, Owner of Wildland Limited said: "I am delighted that the work of the Wildland Team to restore woodlands at Glen Feshie, and in the wider Wildland Cairngorms estates, has been so generously recognised by this Nature of Scotland Forest and Woodland Award. With the opportunity to manage land also comes great responsibility. Our restoration aim at Wildland, is to leave a genuinely valued legacy of a better place for the wildlife, the landscape and people of the Scottish Highlands. To achieve this, has taken huge dedication: from long and thoughtful deliberation at the outset, to the relentless effort of our deer managers, and to the quiet expertise of our advisers, this has been a great team achievement."

Free Husqvarna 562xp chainsaw

with every new Hypro 300, 450 or 755 processor

Husqvarna®

+44 2838 330011
info@oakleafforestry.com
35a Derryall Road, Portadown, Co. Armagh BT62 1PL

Oakleaf
FORESTRY.COM

VIMEK®
MERICRUSHER
DIFFERENT FOR A REASON
SAMPO ROSENLEW
KESLA

INTERNATIONAL

Seán Lenihan, Kestrel Forestry Consultants Ltd

Ireland Report

Seán provides a bi-annual update from the Republic of Ireland

GREEN PARTY AND FORESTRY

The Green Party have been part of a three-party governing coalition since February 2020 and their influence on government policy especially in relation to the environment, and climate change is all-encompassing.

Many commentators believe that the other two parties, Fianna Fáil and Fine Gael, are more or less allowing them to set, drive and implement the green agenda and policy. This has caused conflict with mainstream agriculture, especially the dairy sector among others, but also with the forest industry who have limited confidence in, and expectations of the Junior Minister for forestry Pippa Hackett, who is a Green Party senator. Since becoming a Minister she has constantly referred to a " a new vision for Irish forestry and the "right trees in the right place", and while never actually articulating that, her new vision implies broadleaves only; many of us in the industry believe that conifers, especially Sitka spruce, don't play a prominent part in her vision – to say the least.

The launch of the Green Party Close to Nature new forest policy in early October 2021 would have confirmed the industry fears with a video condemning commercial coniferous forestry and advocating the planting of diverse, native woodlands instead.

Ironically, one month later the Minister and her colleagues launched a new initiative called Think Timber – advocating the increased usage of timber in the construction industry and a reduction in timber exports to facilitate this. The Minister was quoted as saying:

"There are clearly massive opportunities to significantly increase the quantity of timber used in houses and to consider building taller buildings using engineered wood products such as cross laminated timber. So, I am calling on our architects and our builders to 'think timber'. We are planning major increases in house-building. I believe we need to make sure our timber industry plays a big part in it."

It certainly generated amusement within the industry and prompted the the obvious question:

Which timber the Green Party want architects to specify and buiders to use – is it hazel, alder, holly or even birch?

www.kestrelforestry.ie

SEEFA Protest at Government Buildings, Dublin – November 2021

NEW FORESTRY ASSOCIATION LAUNCHED TO "SAVE IRISH FORESTRY"

In response to the ongoing impasse in Irish Forestry due to the licensing systems for Afforestation and Felling, and rightly or wrongly the percieved intransigence of the government to present any meaningful solution, it was practically inevitable that a new industry organisation would emerge. The new Forestry Association was launched this autumn, and has proceeded to make its presence felt in a relatively short time. The Social, Economic, Environmental Forestry Association (SEEFA) is the brainchild of a diverse group working in the Irish forestry private sector including consultants, forestry companies and nurseries which came together in October 2021 to establish the new organisation. Unlike the other forestry representative organisation Irish Forest Industries which has been in existence since 2010, SEEFA have pioneered a completely different approach and strategy to further their objectives.

Whereas Irish Forestry Industries, which are a part of IBEC Ireland largest business lobby/representative group, follow and have followed the traditional methods of meetings, submissions etc to government and occasional newspaper articles, SEEFA's more direct and aggressive approach has definitely garnered more publicity and comment since it's inception and

continued on p28

continued from p27
has brought the plight of the Irish forestry industry to the forefront of national news. Through social media, protests outside of key politicians offices, radio interviews etc and a very effective campaign slogan SAVE IRISH FORESTRY, the major issues which threaten the very future the Irish forest industry have been highlighted in a very significant way. This initial campaign culminated in a protest organised outside government buildings in Dublin on 3 November which made national headlines and featured in the main evening news on RTE Television.

In addition, SEEFA have been challenging the often inflated government figures which are churned out almost weekly concerning the number of felling and planting licenses being issued. By closely monitoring the actual Forest Service figures and consulting with their members they have managed to call out the government regularly.

It remains to be seen how effective SEEFA will be, but in their first two months they have arguably achieved more than Irish Forest Industries have in the previous 10 years in terms of publicity, public awareness of the crisis in Irish forestry, and engagement with key politicians.

SEEFA vision and objectives

"We would like to see a sustainable forestry sector emerge in Ireland that can achieve commercial, climate and biodiversity goals. We want to see a reduction in the volume of imported timber, and improvements to the current licensing system which are holding back the potential of the industry."

SEEFA have prioritised four aims or objectives to pursue this vision:

1. INFORM
To inform the public on forestry in the environmental, political and regulatory arenas.

2. SUSTAINABILITY
To ensure the sustainability of the private forest sector, benefiting rural employment and local economies.

3. REALISE POTENTIAL
To ensure the DAFM (Department of Agriculture, Food and the Marine) maximises the full potential of private forests to mitigate climate change and enhance biodiversity.

4. STEWARDSHIP
To ensure the DAFM maximises the full potential of private forests to mitigate climate change and enhance biodiversity.

Timber Transport Forum Conference
March 25th 2022

PROGRAMME

9:30 Registration and Refreshments

10:00 Welcome
Alistair Speedie
Chair, Timber Transport Forum

10:10 The Great Northern Forest Project
Richard Wearmouth
Deputy Leader, Northumberland County Council

10:45 Future Trucks
John Comer
Product Manager, Volvo Trucks UK

11:20 Break

11:35 Borderlands Growth Deal
John Paterson
Director, Egger Forestry Products

12:10 Remember Road Transport
Martin Reid
Policy Director (Scotland and Northern Ireland),
Road Haulage Association

12:45 FISA Update
Mike Bridge
Chair, FISA Learning & Behavioural Working Group

13:00 Lunch

13:45 Managing In-Forest Infrastructure
Mick Bottomley
Head of Marketing and Sales, Forestry and Land Scotland

14:20 Making Consultation Work
Neil Murray
Conservator, South Scotland Conservancy, Scottish Forestry

14:55 Responsible Land Ownership
Emma Cooper
Head of Land Rights & Responsibilities, Scottish Land Commission

15:30 Decarbonising Timber Haulage
Neil Stoddart
Chair, FISA Forest Haulage Working Group and Director, Creel Consulting Ltd

16:05 Closing
Alistair Speedie
Chair, Timber Transport Forum

16:20 End

Spot the difference

Correction to Suzuki Ignis review, FTN October 2021.

Here you see the Suzuki Ignis 4x4 in all its glory *(top left)*. This photo should have appeared in the last issue (page 66) however we used our special covid powers and turned it into a similarly red car in a forest, specifically an Abarth 595 Tourismo *(below left)*. Our apologies to Suzuki, Eamonn Wall and any readers who wondered what was going on. How many of you noticed?"

What does 2022 look like for the forestry sector?

Senior associate **Ramsay Hall**, senior solicitor **Tony Convery**, managing associate **Kate Donachie** and practice development lawyer **Julie Keir** from Brodies LLP provide an overview of what's ahead for the sector in 2022

2022 is almost upon us, so many businesses and organisations operating in the forestry sector will be looking to, and planning for, what's coming in the year ahead.

From upcoming changes in employment law through to risks and hazards created or compounded by a shortage of workers, a key theme for the sector in the months ahead is looking after its people and ensuring they have a suitable, safe environment to work in.

Below is a run-through of some of the main areas where changes or challenges are expected.

REGULATORY RISKS FROM LABOUR SHORTAGES

The forestry sector has always faced a range of regulatory risks, including fatalities, health & safety and environmental. The current worker shortage, which looks set to continue into 2022, creates a new, additional risk.

Unlike in other rural sectors, agencies that supply forestry workers do not need to register with the Gangmaster & Labour Abuse Authority, the UK organisation created to protect vulnerable and exploited workers. This means that there is no straightforward way for forestry businesses to verify the identity of labour suppliers or to confirm that those suppliers are complying with their legal obligations, including in relation to modern slavery and human trafficking. It is therefore important for those who are procuring forestry workers to carry out due diligence on labour suppliers prior to engaging their services.

In addition, where a forestry business assumes responsibility for paying workers supplied by someone else and/or for arranging their living arrangements, it is important that the business itself takes care to comply with minimum wage and adequate living condition requirements.

Failure in this area poses significant risk, not only to a business' reputation, but also because of the potential for investigation and prosecution for regulatory breaches. Now is the time for responsible forestry businesses to review their regulatory compliance measures.

HEALTH & SAFETY CONSIDERATIONS

Although the immediate impacts of labour shortages are perhaps easily appreciated, the longer-term cost of neglecting health & safety measures can be overlooked. A key challenge for the forestry industry in the coming year will be ensuring that health &

ALTHOUGH THE IMMEDIATE IMPACTS OF LABOUR SHORTAGES ARE PERHAPS EASILY APPRECIATED, THE LONGER-TERM COST OF NEGLECTING HEALTH & SAFETY MEASURES CAN BE OVERLOOKED

safety standards are maintained notwithstanding the pressures on the workforce.

• **Understaffing:** Understaffing can lead to health & safety safeguards being overridden, for example the requirement for double manning or the need for lookouts and banksmen. Another casualty can be maintenance of equipment, the effects of which might not be felt for some time, but which can be difficult to reverse.

• **Overworking/excessivehours:** Businesses should be mindful of the risks that accompany increased working hours. This is particularly apparent in forestry where staff are required to operate dangerous machinery and where the potential for accidents and injuries caused by human fatigue is high.

Alongside the increased risk of accidents and injuries, there can also be an impact on more general wellbeing where understaffing and overworking become a chronic problem, with studies carried out by the World Health Organization and the International Labour Organization showing links between overworking and increased risk of physical illnesses such as heart disease and stroke. The impact of long hours on mental health is also well recognised.

• **New and inexperienced staff:** Even if we can expect labour shortages to ease in the new year, recruitment brings its own risks and challenges. New staff are likely to be inexperienced or unfamiliar with the operation and, at the same time, there may be less resource for effective training and supervision.

Recognising the impact of the labour shortage on health & safety is the important first step in managing these risks, thereafter, taking action now to protect workers, while challenging, should put operations on the best foot for the future.

EMPLOYING PEOPLE FROM WITHIN THE UK AND OVERSEAS

As well as the continued impact of the pandemic on the way we work, some important employment changes are due to come into force via the next Employment Bill.

• **COVID-19:** Employers will need to continue to comply with government guidance and workplace risk assessments; decide what approach to take on vaccination; deal with anyone refusing to return to work; and, where relevant, implement new hybrid working practices.

• **Pay and tax:** From April 2022, annual increases in the national minimum wage and statutory rates will take effect (the national living wage is set to rise to £9.50 per hour); and a 1.25% rise in National Insurance contributions for employees and employers liable for Class 1 NICs, and the self-employed liable for Class 4 NICs, will apply.

• **Immigration:** New immigration routes will be available from 2022 including an expanded youth mobility scheme; and new 'high potential' and 'scale-up' visas. The UK Government also intends to introduce a new digital right to work solution when the COVID-19 right to work adjustments (which allow scanned documents and video calls) end on 5 April 2022.

• **Flexible working:** A consultation is currently taking place on 'making flexible working the default'. The proposals include making the right to request flexible working a 'day one' right; and requiring employers to suggest alternatives if they intend to refuse a request.

• **Working patterns:** Workers without a fixed working pattern will be given a right to request a more predictable work pattern after 26 weeks' service.

• **Sexual harassment:** There is going to be a new duty on employers to take 'all reasonable steps' to prevent sexual harassment in the workplace, backed up by a statutory code of practice.

• **Time off:** The government plans to introduce a right to one week's unpaid carer's leave per year; and statutory entitlement to up to 12 weeks' paid neonatal leave.

MARKET REPORT

Harry Stevens, Timber Buying Director at Tilhill

Standing timber values

Harry addresses an important question: How does your standing timber, when it is cut down, turn into money in your bank and therefore increase the value of forest properties?

If we work back from the finished product at the point of it leaving the sawmill, the highest value product produced from standing timber is construction timber.

Construction timber has, over the past few years, seen very strong price inflation, almost doubling in value. This has been driven both by internal UK factors and, more significantly, external issues. The differential between kiln dried graded and treated timber, for a long time similar in value, is now worth 20% to 25% more than fencing (posts, rails, feather-edge boarding) which in turn is worth 20% to 25% more than palletwood.

Swedish timber driving market for construction timber

The market for construction timber in the UK is largely driven by imported timber which accounts for two thirds of the market, with Sweden being the principal operator. Historically, Swedish construction timber has been the benchmark product in the market which all other sellers reference, and home grown tends to sit slightly lower with a differential that can be anywhere between -£10 to -£50 per cubic metre and can be even greater.

So, what has been happening with the Swedish market over the past 18 months or so?

As economies open up around the world, demand for fencing (at home in GB) and then construction (both home and worldwide) went off the scale with prices rapidly following. Notably, in the US a shortage sent the future price of sawn timber up threefold, drawing in boats from Sweden which in turn demanded a similar price within Europe.

Sawlog prices driving standing timber prices

In better quality clearfells, sawlogs can make up as much as 85% of the parcel though this is unusual with two thirds being the mark of a good quality parcel. Additionally, the buyer is looking for a parcel with a high proportion of longer length logs with a decent top diameter. Ideally, the parcel would be capable of making all 4.9m logs with a top diameter of 24 to 30cm. I can but dream!

In our mythical parcel, probably somewhere in south Scotland, the revenue from the sawlog is going to return over 90% of the value to the grower. Even in a poorer quality parcel which is 50% log, 75% of the value comes from the sawlog element.

Photo credit: Tilhill

This differential between sawlog and small roundwood values has become much more apparent over the past five years. Small roundwood prices have been driven up strongly over the past decade or even longer by government subsidy of biofuel, to the point where, in some extreme cases, small roundwood users were able to pay more than sawmills. The past few years, however, have seen the biofuel market reach its high-water mark as almost all biofuel projects have now been fully commissioned and indeed some have failed and disappeared or been refinanced.

Consequently, we see a market that has returned to the historical norm where sawlog values drive standing timber prices, and this is very likely to continue.

Where is the construction market heading?

Having established that a parcel chock full of lots of lovely sawlogs is what we want, and that the value is closely correlated with the construction market, how do we see the construction market moving in the medium term and therefore the standing timber price?

The recent period has seen several commentaries on the market that predict a strong construction market for 2022 and 2023 with buoyant demand within the UK whilst, at the same time, the wider indicators in the advanced economies of the world suggest a similar position. Therefore, it is likely that we will continue to see a strong market for standing timber.

The question of will we continue to see the current high prices paid for sawn timber or will the market settle is unclear. My own view is that we will see the market settle, but that some of the higher prices are now baked in. Therefore, we will continue to see historically high standing prices paid, though perhaps not quite the very top of the market seen over the past six months.

WHERE IS OLIVER COMBE?

You might be wondering what happened to your usual Timber Market report by Oliver Combe in this issue? Olly sends his apologies. He is extremely busy with his Christmas Trees business and will be back in February!

Land prices continue to rise

Simon Hart FICFor, FRICS and Olly Thompson BSc For, MICFor of John Clegg & Co

Plantation and forest land prices continue to move ahead at pace. Evidence from the John Clegg & Co/ Tilhill Forest Market Report shows plantation prices up by some 20% over the last year, and land for afforestation up by a staggering 50%. The total plantation market exceeded £200 million with the average price of woodlands sold at a record £19,300 per hectare.

SCOTLAND

As plantation prices continue to surge, the value of teenage, second rotation, spruce dominated woods is of particular note. We mentioned three of these, located in the Borders area, in our last article. All sold for well over their guides with two, including Ramsaygrain (745ha with 620ha stocked, average age 13 and exceptionally high yield class), selling for in the region of £45,000/ stocked hectare. These prices are revealing, as they seem to exceed current standing timber values at clear fell. Two things must be going on; firstly, buyers are factoring in real rises in timber price and secondly, the underlying land value is significant.

The market is looking very closely at crop performance, particularly yield class. There is a good correlation with price and high yield class, well established and roaded crops. Quality is rewarded and the clear message to owners and managers is to invest in active management to maximise

quality. At these prices, every year lost (eg by a delayed weeding or excessive deer browsing) effectively costs £500/ha.

As ever, location is also important. For example, Ballybrennan, spruce dominated and eight years old is near Campbeltown, some distance from markets and with a lower yield class than the south Scotland properties mentioned above. This sold for an estimated £12,000/stocked hectare, highlighting the impact of location and yield class.

New to the market is Bogrie in SW Scotland, another example of a high-quality second rotation woodland. It has an average age of 13 years and is guided at £6.75 million or some £31,000/stocked hectare. Recent evidence suggests this will be exceeded.

These high teenage plantation values also support very high underlying land prices for the top quality sites in well located areas.

Prices of land suitable for afforestation continue to rise and we see two key drivers; improved forest economics and carbon. Land ideal for spruce afforestation is now changing hands for £10-15,000/plantable hectare. The key metrics are anticipated yield class and location. These prices are justified by forest economics alone, although some are trying to add carbon money to the equation. This latter point is an interesting area of debate with the "additionality" test in the Woodland Carbon Code under review. With ever-increasing values being attributed to carbon, landowners should ensure they are well advised.

A new feature of the market is the prices being paid for land that is only suitable for native woodland afforestation. The buyers who are leading this market are largely motivated by the carbon story. New types of purchasers are coming in such as the Brewdog beer company and Standard Life. Peatland restoration can also be part of the pricing. In the past, deer, stags and grouse numbers valued this land; now it's tonnes of carbon. Prices for such land is now exceeding £5000 per hectare. There are mutterings of "corporate land grabs" and it will be interesting to see how this debate evolves in this new rush for carbon.

ENGLAND AND WALES

Whilst the large-scale commercial market is in Scotland, properties do come to the market south of the border, predominantly in Wales. Our analysis in the Forest Market Report shows the market split of commercial forestry plantations; 76% Scotland, 22% Wales and 2% England. The right property in the right location in Wales can fetch values close to or even exceeding those found in Scotland. Mentioned in our pervious article, Cefn Llwyd, was brought to the market in early 2021 and completed late August. A portfolio of six lots split over 1200 hectares and dominated by large areas of mature Sitka spruce and Douglas fir dating back to the 1950s and 1960s. Some areas had previously been managed under various CCF systems, but sporadic windthrow has led to a greater use of clear fells and restocking with benefits of using improved planting stock. The guide price of £15 million was nearly doubled at a total selling price of around £26 million. Even including some 200ha of moorland, this sold at almost £33,000 per stocked hectare.

Lletty Piod is a compact yet high quality commercial property in Powys. Sharing an access through NRW landholding, the 60.3 hectare forest is an interesting mixture of 2020 improved Sitka and Norway spruce and 1980 first rotation Sitka spruce. The good quality restocking and presentation of the property has been highlighted with offers heavily exceeding the guide price of £1.3 million towards a stocked hectare value hot on the heels of Ramsaygrain. Most likely the increase in land prices as mentioned above, will have pushed these offers upwards.

AFFORESTATION IN WALES IS WOEFULLY BEHIND THAT OF SCOTLAND. IN THE YEAR TO 31 MARCH 2021 OF THE 13,290 HECTARES PLANTED IN THE UK, WALES ONLY ACCOUNTED FOR 2.2%.

Afforestation in Wales is woefully behind that of Scotland. In the year to 31 March 2021 of the 13,290 hectares planted in the UK, Wales only accounted for 2.2%. There are many factors behind this figure, but lack of available land (both for sale and land deemed suitable for planting), political drive to meet targets and social reluctance for land use change all play their part. However,Frongoch Farm in Carmarthenshire completed in late summer 2021. A trio of lots ranging from poor hill ground to good quality grazing, including some SSSI, have completed for a range of £3700-£13,600 per gross hectare. With lack of stock coming to the market, it is difficult to draw any firm conclusions, but prices seem to be sitting behind those of Scotland, possibly due to less favourable planting grants and investors' concerns over the composition of schemes once approval is eventually secured. Either way the market is certainly less developed than that in Scotland.

The market of mixed woodlands in England is also showing an increase in prices paid per gross acre/hectare. In the year 2020/21 total transactions were in excess of £6.25 million with an average price of £15,240 per hectare (£6,170 per acre), up 12% on the previous twelve months. However, average prices do mask a huge variation in values – the range in prices being paid in England during 2021 was £2000 to £11,400 per acre.

Examples of notable sales in 2021 include Heath End and Rumerhedge Woods in Oxfordshire – a 200-acre mixture of mature beech and oak with pockets of Norway spruce and Douglas fir – which completed for in excess of £10,000 per acre. This was an interesting sale given it was larger in scale than the bulk of transactions and the high value achieved also challenges perceived wisdom that properties with high public access will have a reduced selling price. However, given its location, it is unsurprising that interest was high. As with large commercial properties in Scotland, location is key to both gathering interest and obtaining higher prices. The English Marches, the South West, the Home Counties and the Chilterns are all hotspots. In these areas, even smaller (sub 20ha) mixed or broadleaved woodlands will often achieve in excess of £22,000 - £29,000 per hectare (£9000-£12,000 per acre). On the flip side similar woodlands in east or north east of England will struggle to make half of those figures further south. Sold earlier in 2021, Loftus Wood in N Yorkshire is a pretty and small broadleaved wood only a few miles from the North Yorkshire coast. After limited interest it sold for £6100 per hectare (£2,470 per acre).

Interestingly while demand remains very strong overall, sellers are often reluctant to market their woodlands. There is often great emotional attachment, arguably higher than with many commercial properties, and it can seem that sales are often seen as a last resort.

In summary, there continues to be significant funds seeking plantation and land investments, with new players continually entering the market. Demand for amenity woods is also strong. The upwards pressure on prices is likely to continue.

For more information
simon.hart@johnclegg.co.uk
oliver.thompson@johnclegg.co.uk

Forest Industries Education Fund

In 2021, over £10,000 have been awarded through the fund. Fiona Angier uses the example of some of this year's award recipients to raise awareness of this great funding opportunity for members wanting to further develop their skills

This year will be a year remembered for many different reasons. Some recent Education Fund award recipients will hopefully remember it as the year they undertook some new training and progressed their career in forestry.

The Trustees have received applications from current forestry students keen to gain their initial chainsaw operator, woodchipper and brushcutter qualifications; forestry groundworkers wanting to broaden their qualifications to extend their skills and work options; and arboriculture workers improving their skills. Here I highlight just a few.

As an industry we are embarking on one of the most exciting times for forestry in decades, being well-trained, well-informed and confident to appropriately apply new ideas and techniques in response to challenges around e.g. raising the forest nursery stock needed for the future, the efficacy of woodland creation, the ability to implement exemplary continuous cover forestry, and enhanced utilisation of wood products, would contribute not just to significant personal achievement but also to the future success and progress of our industry. Next year we already have a couple of small companies applying for funding to upskill staff within their teams.

APPLY FOR FUNDING

The trustees welcome applications not just from new entrants to the industry but also from members at all stages in their careers. So, if you are looking to upskill, attend a conference or other educational activity and funding is a challenge, please have a look at the Forest Industries Education and Provident Fund page in the Resources section of the Confor website. We could be helping you or employees in your company next.

CONTACT

www.confor.org.uk/resources/forest-industries-education-provident-fund/

LIAM ATKINS SCALES UP HIS TREE FELLING SKILLS

Liam Atkins recently gained an award to enable him to upskill to felling and processing trees above 380mm. Having started work during the chestnut coppice season he gained small saw experience but needed to upskill to work with larger trees.

"I cannot begin to state how much this award has helped me progress in my career as a forestry professional, it has provided skill development with an industry veteran but it has also given me the opportunity to fell some very large Douglas fir trees and really refine my directional felling skills as well as my confidence".

GRANT MURDOCH LEARNS TREE DISMANTLING TECHNIQUES TO IMPROVE BUSINESS SAFETY

Grant Murdoch, who has set up his own tree services business, is keen to promote best and safe practice in what can be a high-risk environment and undertook an Arboriculture dismantling techniques course.

"This has been the best course I have been on to date. Although it felt like being back in a physics classroom, working out forces through pulleys and being able to calculate the strength of the system required, it was a great learning experience. Being able to put everything I learned into practice throughout the week and consolidate it in a safe environment gave me a lot more confidence in my climbing and dismantling techniques. Since passing the assessment I have put these new skills and experience into practice. It is going to have a positive impact on my career allowing me to work more professionally and maintain a safer working environment."

OPERATOR TICKETS FOR REUBEN ORMEROD AND DANIEL GREENALL

Gaining operator tickets is key to progressing your career. Reuben Ormerod and Daniel Greenall, both at Newton Rigg acquired their chainsaw maintenance and operator, woodchipper and brushcutter tickets "allowing me to get my foot in the door of the industry and start gaining some real experience".

Both are continuing their studies and sharing their knowledge with friends and family "noticing the diversity in trees has boosted my appreciation for the countryside". On gaining his felling of small trees (380mm) Daniel added "learning about the different cuts and tension and compression was fascinating".

ARBORICULTURE TRAINING FOR LAURA GOBLE

Laura Goble is starting out as a tree surgeon and attended a Basic Climbing and Aerial Rescue course.

"At the start of the week-long course, we looked at various pieces of legislation and best practice that govern how the industry operates. This was followed by an afternoon of learning how to install ropes into a tree, which made me realise how much more practice I need with a throw-bag. Nevertheless, as the week progressed, my aim improved and I also learnt how to safely access and move about in a tree using two anchor points, especially when walking out on a limb, as well as how to use climbing spikes and rescue techniques for a casualty stuck in the canopy."

Managing for quality in silviculture

Jez Ralph of Timber Strategies encourages reader to think wood science when growing trees for timber.

As we move towards more complex silvicultural systems (at least in many lowland areas) where we take more notice of individual trees it gives us a chance to consider quality as well as quantity in our standing resource.

Continuous cover forestry (CCF), agroforestry, urban forestry and even small farm woodlands present huge opportunities to expand what we think of as "conventional" forestry. These systems potentially enable us to look more closely at what we have. With increased management time comes increased need to garner as much value from individual stems as possible. This won't likely come from forcing sales into volume/commodity markets but will come from managing for quality. It's not for everyone, it isn't the answer for all forestry, but it is a potentially large and generally untapped area of development.

To do this we, as an industry, as individual owners and managers, need to understand quality by stepping outside the forest gate and looking back in. From the point of view of timber users, R&D scientists and future generations, what does quality mean, and how do we adapt our silviculture to suit it?

Macro scale quality

Understanding the anatomy of a tree and the anatomy of useable timber helps to understand how silviculture can make or break the end quality and value of timber.

As an example, let's take the proportion of juvenile core to heartwood in a tree. Juvenile core is the soft, bendy, early wood that allows saplings and tree tips to respond to environmental stress such as wind or snow loading. It works extremely well up to a certain point at which time the tree needs to become a stiffer solid column. It is the heartwood the tree generates to become stiff that is of interest to us, that will maximise the good, gradeable timber within the tree. Ideally we want to minimise juvenile core and maximise heartwood and we can go some way to doing this through how we plant and how we thin to get stems over the juvenile core stage as quickly as possible.

Whilst we understand this, new silvicultural systems allow us the intimacy of knowledge in a forest to see where this is going to work, perhaps where it isn't. New extreme examples, such the Myawaki Method of planting that has roots (sorry!) in environmental urban forestry, maybe deserve more attention as a silvicultural method for quality timber?

Then let's consider knottiness. Most timber users, especially for structural purposes, hate knots. Knot-free timber will always be at a premium, if nothing else it reduces the need for cross-cutting and finger jointing at timber-engineering plants. It will also, along with ring-width, significantly increase the grade timber could attain. Reducing knottiness is a matter of species selection, genetics, planting spacing and thinning. It's complex but can be significantly enhanced by the oh-so out-of-fashion and oh-so rewarding practice of high-pruning. To carry a pruning saw on a walk-through small woodland or CCF stand is no great burden but has the potential to create knot free timber in selected trees from an early age (note: bad pruning can be as counter-productive as good-pruning can be productive, think of it as a craft worth learning).

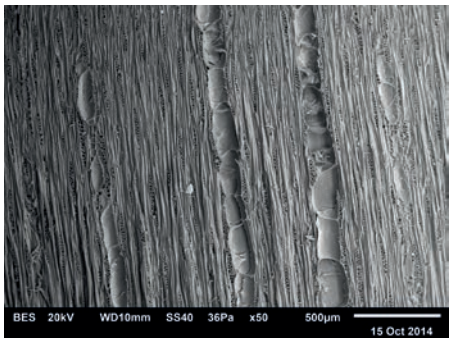
I could go on and on about increasing target diameters but let's leave that here hanging for a big debate sometime.

Photo credit: Timber Strategies

Micro Scale Quality

On a macro scale we can see the effects our silvicultural interventions have but what happens on a micro scale is more difficult to see and understand but no less important. The work of many scientists, not least at the Centre for Timber Engineering and other UK research groups, is enabling us to match factors such as density, durability and stiffness through micro-fibril angle to how we grow trees.

Again, new systems such as small coupe fellings or small-woodland management may offer the chance to experiment without pushing the whole forest into a particular system for a desired outcome. They offset risk and may offer high reward. Stiffness is a good example of this. If we can grow stiffer timber we can increase the potential structural grade a tree can reach, enhancing the value. As with the macro scale, species selection and environment helps but we can bring



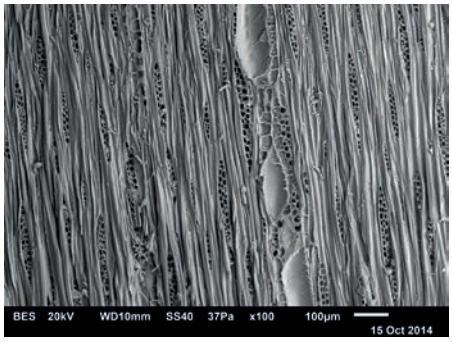


Photo credit: Plymouth University/Timber Strategies

our thinning practices to bear as well. A study on Douglas fir in England showed that we get greater stiffness the further away from the juvenile core we go. Growing what has conventionally been considered "oversized" gives us a greater volume of timber of better quality.

The same is true of density, we can alter thinning practices to influence density but should also be aware that the anatomy of a tree changes within itself. Knowing how the lower sawlog will likely differ in density or stiffness to higher-up sawlogs could help us breakout stacks for road-side sales in a more considered way.

As we move to a position of timber once again potentially becoming the new material of choice for society we should be able to match silviculture to user needs not just for construction timber but also for bioenergy and the great untapped potential of bio-resins and chemicals.

Having said all of this it's not just the forestry sector that can move to a more nuanced approach to silviculture. Those using wood also need to move to a more nuanced approach material sourcing. In my mind at least the primary objective in forestry has to move from material supply in this rotation to ensuring healthy forests for future generations and rotations. Our understanding of wood properties may help us move away from monocultural systems but also allow users to get the properties they need in a material without a focus on a particular species or a particular age class. This won't be appropriate everywhere but it is certainly true that large areas and woodlands we conventionally think of as non-timber producing could benefit from both growers and users understanding wod properties better.

Photo credit: Valerie Bennet, High Pruning at Hooke Park

Reaching Net-Zero performance using low embodied carbon wood fibre insulation

Dr Julio Bros-Williamson, Chancellor's Fellow in Net-Zero Buildings at the School of Engineering at Edinburgh University, makes the point for channeling more homegrown wood fibre into building insulation products – and reduce the embodied carbon and improve energy performance in the built environment.

With the increasing drive towards the scrutiny of carbon emissions from buildings, a large focus has been on how operational energy can be reduced and delivered by renewable energy sources. Less so has been the understanding and options to reduce the carbon intensity of the building structures, referred to as the embodied energy and carbon, applied during the extraction, processing and manufacture, transportation and assembly of building materials and their installed technology (HVAC, appliances, etc.). This presents the next challenge faced by the built environment and construction industries, particularly if we are to deliver fully decarbonised or net-zero compliant buildings. At a UK level, it is considered that by 2025, 34% of emissions from the built environment will be as embodied carbon in the built environment, whilst 66% will come from operational sources of energy use.

Wood fibre insulation – good for climate, good for buildings

One product considered as being low embodied carbon is wood fibre insulation providing good thermal and good hygroscopic characteristics. Wood fibre insulation products including cellulose insulation have higher moisture capacity compared for instance with mineral wool insulation. In a timber panel, this can have overall positive effects as long as the adjoining materials are also vapour-open and can limit condensation build-up. Studies using hygrothermal simulations for wood frame construction in Nordic climates found that the risk for mould growth was lower when using cellulose fibre insulation, instead of mineral wool.

The manufacturing process of wood fibre insulation is dependent on the density of the product and use with a 50-60 Kg/m^3 density for loose batts and rigid boards approximately at 200 Kg/m^3. Two processes techniques are used, a wet and dry method. The dry process tends to be homogeneous in composition with thicknesses up to 240mm. It provides an improved product with dimensional accuracy and increased tensile strength. The wet process tends to require 40% more energy in its production and also requires more additives and adhesives than dry-processed products. This brings opportunities with existing manufacturing setups in Scotland and the UK such as the OSB, chipboard or MDF with pre-existing sawmill supply chains and similar technology and manufacturing processes.

Of emissions from the built environment in the UK will come from embodied carbon.

Embodied carbon = emissions from production of materials and technology being used in buildings (in this case).

Potential for using homegrown timber for wood fibre insulation products

Through a recently funded project by Forestry Scotland, researchers from the University of Edinburgh and Napier University have begun to investigate the potential of having homegrown wood fibre insulation, produced and manufactured in the UK, specifically in Scotland. The project is set to conduct a parametric analysis of all the available wood fibre insulation products in the UK produced and imported from

continued on p43

continued from p41

the EU. Arguably, when considering the thermal resistance of insulation materials, synthetic materials can be more efficient, however, wood fibre insulation has a better overall performance including its capacity to store heat and manage water vapour permeability allowing for moisture buffering and lower intervals of moisture saturation. Other benefits include the minimal volatile organic compounds (VOC's) off-gassing during its production and lifeline bringing added health benefits to indoor conditions of buildings. This project hopes to provide further knowledge of the material and to look at ways in which wood fibre can be produced in Scotland from homegrown timber.

Measuring embodied energy and carbon in insulation products

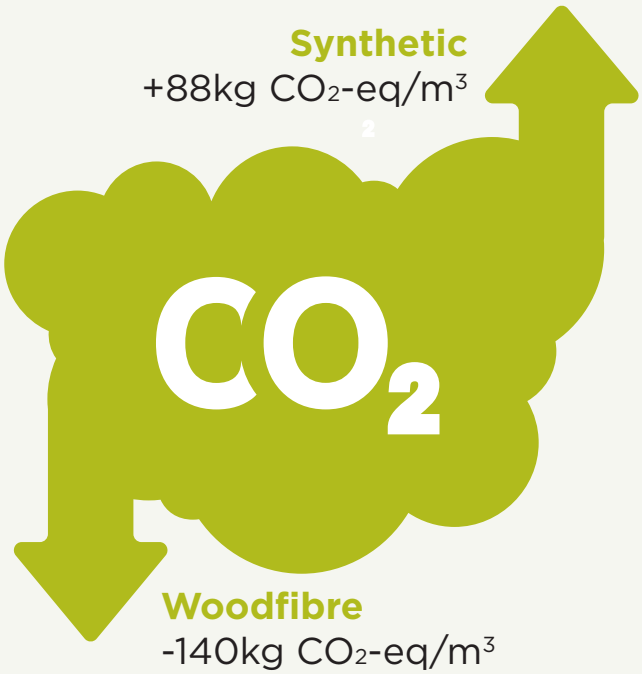
Two measures are used to understand a materials environmental impact; the embodied energy used to produce the material and the global warming potential (GWP) considering the carbon required to produce the product and its benefits in terms of sequestration of carbon. Differences arise in transport, for example, travel from forest to sawmill. Similarly, the energy source (renewable/non-renewable) the sawmill or other manufacturing setting uses will influence the consumed energy and final GWP. Life Cycle assessment stages A1 (extraction of raw material), A2 (transport for production) and A3(manufacturing process) only account for the production stage and not the transport from the manufacturer to the site. For example, significant GWP is accounted for if the product is being shipped from mainland Europe to Scotland.

In terms of the production (A1-A3) embodied energy of currently available synthetic insulation materials, the average figure is 1650 MJ/m^3, with PIR insulation using up to 3500 MJ/m^3 whilst Rockwool mineral wool insulation using the lowest at 485 MJ/m^3. Wood fibre insulation materials imported from mainland Europe show larger amounts of embodied energy, especially in highly compressed rigid boards. The average amount is 4650 MJ/m^3 with the highest amount 8700 MJ/m^3 and the lowest 770 MJ/m^3 from less dense wood fibre products. However, it's the GWP that has an impact, natural materials such as wood fibre lock and sequestrate carbon whereas synthetic products have a direct impact through the raw material origin. Wood fibre products have an average GWP of -140 kgCO_2-eq/m^3 compared with synthetic products +88 kgCO_2-eq/m^3.

UK market uptake of wood fibre insulation

The Scottish Forestry report, available in early 2022 has explored various ways of quantifying the UK market uptake of wood fibre insulation through industry surveys, however, statistical evidence of the market uptake is not readily available. Through different market reports, the UK insulation market is worth an estimated £1.7 billion with an expected 16% fall in market values produced by COVID-19 in 2020. It is expected to recover in 2021 by a 6% increase and 9% in 2022 from pre-pandemic levels. However, a split between synthetic and natural insulation products is not available. Various forums and distributors of natural insulation products estimate a UK market to be worth between £4 and £6 million representing between 0.2% and 0.35% of the total insulation market. By contrast, as stated by the Alliance for Sustainable Building Products (ASBP) natural insulation materials in the EU represent between 5-10% market penetration. Past statistical analysis has shown that the UK represents a fifth of the total EU insulation sales. It is estimated that EU sales of natural insulation range between €250 and €300 million meaning the UK market can be worth approximately €55 million or just over £45 million, indicating room for growth on the uptake of natural insulation products.[1]

This research grant by Forestry Scotland is part of a series of funded projects and a Phase II project seeks to create samples of wood fibre insulation with different local species of wood. It hopes to provide knowledge of differences in performance and requirements for a local production and manufacturing facility.



Natural materials such as wood fibre lock and sequestrate carbon whereas synthetic products have a direct impact through the raw material origin.

PRODUCTION OF WOOD FIBRE INSULATION

To produce the fibres for wood fibre insulation the most common practice is the wood mechanical refining process also known as thermo-mechanical pulping (TMP). This process uses heat and mechanical energy to encourage the fibres to break apart or create cleaves between the fibres at specific areas of the middle lamella where it is lignin-rich. The process softens organic polymers (lignin) within the fibres using temperatures between 170ÐC and 190ÐC and a humidity level between 60% to 120%. The TMP process separates the fine broken fibres (tow) by having fewer shives of non-separated fibres from sections of wood such as wood chips commonly used to create MDF boards and newspaper pulp.

References

1. Newman, G. (2013). Wood Fibre Insulation in the UK 'The last big un- tapped market in Europe' A report for the Natural Fibre Insulation Netwo

Deadline for treated wood quality accreditation on the horizon

From July 2022 every wood treatment operation managed by or supplying members of the Timber Trade Federation must be quality assured by an independent third-party. As the deadline approaches, UK based wood treaters are likely to turn to the Wood Protection Association's 'Benchmark' quality scheme.

The WPA Benchmark quality scheme provides independent confirmation that wood products have been treated correctly in accordance with BS 8417, the British Standard for preservative impregnated wood, and the WPA Code of Practice for Industrial Wood Preservation 2021.

Whilst BS 8417 specifies the minimum levels of preservative penetration and retention for every application where wood is used, it does not provide recommendations on how to achieve these critical levels of protection. In this respect it points to the WPA Code of Practice for the essential process guidance.

The WPA Benchmark quality scheme operates on the principle that wood treated in accordance with the WPA Code will achieve the minimum penetration and retention requirements for the end use and service life set in BS8417.

"Benchmark broke new ground when it was launched ten years ago but it is now tried and tested with a proven track record." says Gordon Ewbank, WPA CEO, who believes that the decision taken in 2020 by TTF members to require third-party verification of treated wood will be a major driver to change the way such products are marketed in the UK, building supply chain and buyer confidence and growing demand.

How WPA Benchmark works

WPA Benchmark verifies the quality of an individual treated wood product such as a fence post, decking joist or building component. The scheme provides independent confirmation for both sellers and buyers that a wood product is compliant with the standards set in BS 8417.

Wood treaters looking to join WPA Benchmark must be able to demonstrate that a consistent relationship known as the 'Safe Relationship' exists between penetration and retention requirements and the more easily measurable aspects of the treatment process, such as preservative concentration and pressure cycle. They must then be able to show that they can control these various aspects in subsequent treatment activities. Verification that a treatment safe relationship is in place for every product requiring WPA Benchmark certification is assessed by an independent auditor. Depending on the data provided by the treater this is carried out either remotely or at the treatment site.

Once a treater achieves accreditation the continued certification of their products is subject to an annual surveillance audit. Depending on the compliance history of a treater this too can be a remote audit to reduce costs.

Contact More details of the scheme and costs can be found in WPA/TTF Guidance Note TW07 WPA Benchmark QAS Executive Summary, available to download free of charge from www.thewpa.org.uk. Further information contact: Gordon Ewbank 07887 632471.

Supplying a treated wood product like this with a third-party quality accreditation will build buyer confidence and lead to growth in demand

Benchmark APPROVED TREATER WPA

APPROVED PRODUCTS

Those lines for which the production process has been subject to audit and for which the required penetration and retention of preservative has been assured by direct testing or by safe relationship testing. Approved Products will normally be defined by end use/Use Class, species and service life as a minimum. The scope of Products approved will be recorded on a company's Benchmark accreditation certificate and should be clearly stated in/on company marketing materials, online or in paper form.

Benchmark APPROVED PRODUCT WPA

APPROVED TREATER

Those companies operating a treatment plant or plants that have been subject to audit and shown capable of producing Approved Products under the terms of the Benchmark scheme. Not all materials produced by an Approved Treater will necessarily be Approved Products, depending on the scope of products submitted for audit.

The WPA has expanded its team of independent auditors to help meet demand for treaters seeking accreditation to WPA Benchmark before the deadline of July next year. Gordon Ewbank emphasises that process of accreditation does not happen quickly and can take a number of weeks if the required data is not available or is incomplete.

Why wood producing forests can help us address the climate and nature emergencies

Dr Andrew Cameron of Aberdeen University reviews evidence that expanding productive forests creates cost effective carbon sinks and reduces environmental damage to natural forests through timber extraction offsetting.

While productive forests are effective carbon sinks, produce timber on a sustainable basis, and provide a wide range of social and environmental benefits (eg Sejo and Botkin 1997, Pawson 2013, Barua et al. 2014, Confor 2020), there has been increased hostility towards production forestry in Scotland and elsewhere in Britain from environmental organisations (eg Crane 2020) and media commentators (eg Barkham 2020) with much of the criticism directed at the use of non-native species and forest expansion oriented towards commercial production.

Policy decisions associated with forest expansion are increasingly influenced by the paradigms of 're-wilding' (minimal/no human intervention unless at the early restoration stage leaving an area to nature as opposed to more active management) and 'nativeness' (use of species that arrived due to natural processes with no human intervention) with the general presumption that there will be limited if any timber production. However, greenhouse gas mitigation potential of forests depends on productivity and the capacity to lock up carbon in the harvested wood. When accounting for both forest growth and use of the wood, *productive forests support up to 269% more greenhouse gas mitigation potential than newly planted broadleaf conservation forests* (Forster et al. 2021). High productivity has the greatest influence on greenhouse gas mitigation (Doelman et al. 2020, Forster et al. 2021) and is consistent with other studies indicating that expansion of the forest area using fast-growing species is the most cost-effective way to sequester carbon (Stern 2007, Nijnik 2010). Productive species achieve maximum absorption of incoming solar radiation and therefore carbon capture potential at canopy closure, which for average yielding Sitka spruce (14 $m^3ha^{-1}year^{-1}$) is approximately between 12 and 16 years old from planting (Jarvis and Linder 2007). At harvesting, soil carbon stocks (and a considerable amount of nutrients) can be replenished if most of the residues (e.g. branches, offcuts, tree stumps) are retained on site (Jarvis and Linder 2007).

"PRODUCTIVE FORESTS SUPPORT UP TO 269% MORE GREENHOUSE GAS MITIGATION POTENTIAL THAN NEWLY PLANTED BROADLEAF CONSERVATION FORESTS."

Use of wood products in Britain has increased by almost 25% over the last decade and this has seen a subsequent rise in imports (Forestry Statistics 2020). Increasing demand is partly driven by environmental pressures to replace polluting or non-sustainable materials such as plastics with wood products. Sawn timber for construction uses less energy in its production than cement (5x), glass (14x), steel (24x), brick (35x), and aluminium (126x) (Koch 1992, Buchanan and Levine 1999). The thermal insulation properties of wood are better than concrete (5x), brick (10x), and steel (350x). A reduction in carbon emissions by substituting timber for masonry and concrete in building construction is around 20% and 60% respectively (Spear et al. 2019). Scotland is well ahead of the rest of the UK in timber frame construction with over 80% of new houses built using this method (STA 2018).

Scotland has roughly 1.5 million hectares of productive and non-productive forest representing 19% of its land area (EU average 38%) producing over six million m^3 of wood annually. Nevertheless, Scotland remains an importer of wood products and the UK is the world's second biggest importer of wood products importing 81% of its requirements costing £8.3 billion (data for 2019). A significant proportion of imported wood comes from Scandinavia and Central Europe; however, many European countries are revising down their production forecasts due to climate induced dam-

continued on p48

continued from p47

age (particularly drought stress and insect attack) raising concerns over where future imports will come from and whether production is sustainable. It is incumbent on developed nations as the biggest users of wood products to increase domestic wood production and to reduce the need for imports. This would indirectly facilitate the reduction in damage and loss of the world's natural forests (a significant contributor to greenhouse gas (GHG) emissions) through timber extraction offsetting (ie) increasing timber output from productive forests to replace/offset production from natural forests).

One third of global industrial timber comes from productive plantation forests, yet they comprise only 3% of the total global forest area (FAO 2020). While plantation forests continue to expand, this is not at a level sufficient to keep pace with global timber demand, which will have more than doubled by 2050. Productive plantation forests, based on current levels of expansion, are predicted to supply *less than one quarter of world demand by the middle of this century* with the shortfall increasingly sourced from natural and semi-natural forests (Indufor 2012). If developed countries do not expand production, this will almost certainly result in increased production elsewhere in the world to meet demand that in turn will push up prices increasing illegal logging particularly in tropical and semi-tropical regions that are unable to sustain increased production targets due to unsustainable timber extraction (Barua et al. 2014, Leskinen et al. 2018).

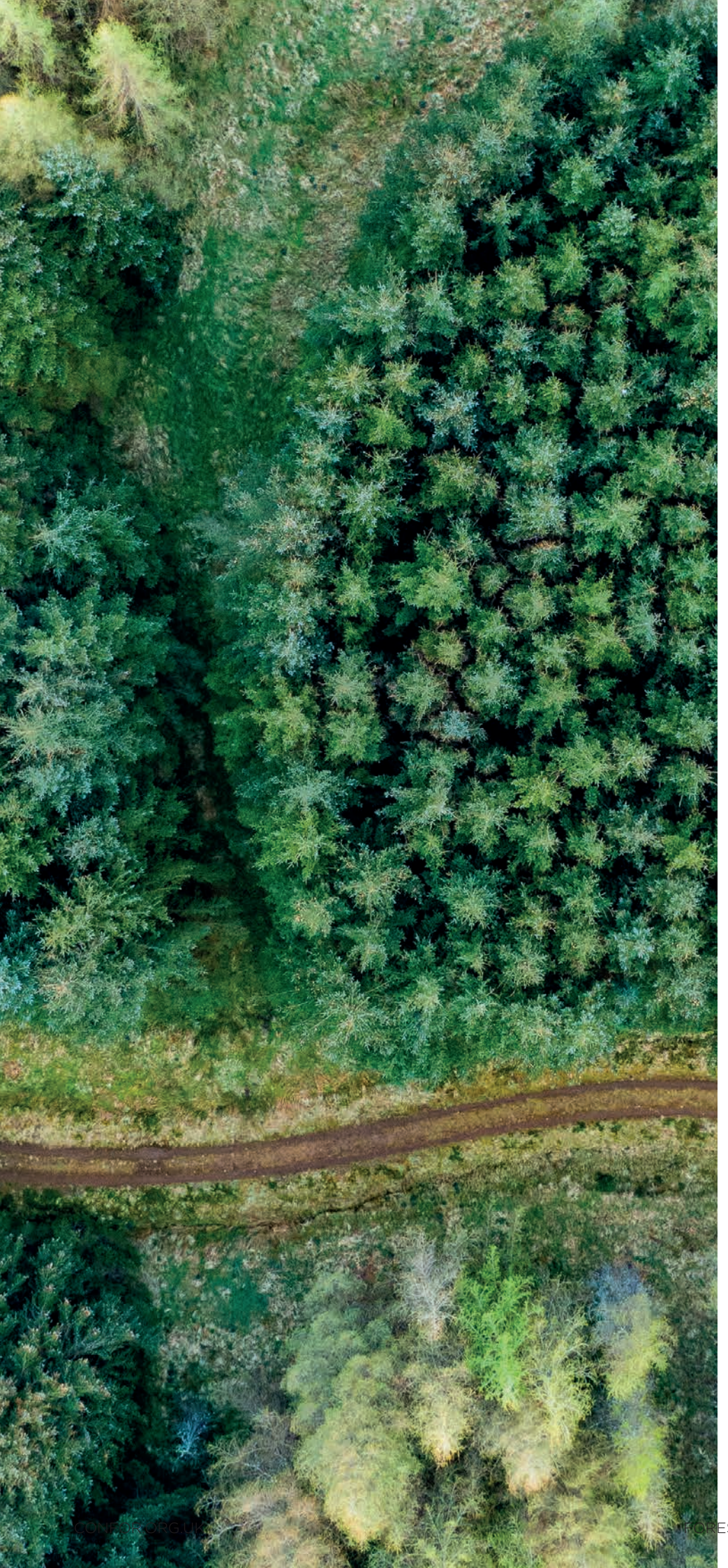
"PRODUCING TIMBER AT THE CURRENT LEVEL OF DEMAND WOULD LIKELY EXCEED ALL THE WORLD'S REMAINING NATURAL FORESTS TO SUPPLY. PRODUCTIVE COMBINE HIGH PRODUCTIVITY AND FOCUSED ACTIVITY IN RELATIVELY SMALL AREAS LEAVING A SMALLER ENVIRONMENTAL FOOTPRINT."

Natural forests produce relatively low volumes of usable timber ranging from about 1-3$m^3ha^{-1}year^{-1}$ (Sedjo and Botkin 1997) with the result that large areas of forest need to be logged to achieve an economic timber output resulting in serious environmental damage in extracting the timber (Barua et al. 2014). Productive forests on the other hand combine high productivity and focused activity in relatively small areas leaving a smaller 'environmental footprint'. With annual global use of industrial timber estimated at around six billion cubic metres, a volume that would require 2-6 billion hectares of natural forest to achieve (global area of natural forest roughly 3.75 billion hectares - FAO 2020b), *producing timber at the current level of demand would likely exceed all the world's remaining natural forests to supply*. By contrast, productive forests readily produce at least ten and up to 20$m^3ha^{-1}year^{-1}$ (higher yields are not uncommon) (Sedjo and Botkin 1997), and this would require only *0.3 to 0.6 billion hectares of productive forest to meet the entire current global use of industrial timber, a fraction of what would be needed from natural forests.* This would also allow most of remaining natural forests to be devoted to wildlife protection and habitat conservation (Sedjo and Botkin 1997).

SAWN TIMBER FOR CONSTRUCTION USES LESS ENERGY IN ITS PRODUCTION THAN

CEMENT (5x)
GLASS (14x)
STEEL (24x)
BRICK (35x)
ALUMINIUM (126x)

A key criticism of productive forestry is the use of non-native species even although numerous studies have demonstrated that forests of non-native trees can be as biodiverse as forests of native species (eg Humphrey et al. 2000, Sax et al. 2004, Smith et al. 2008, Quine and Humphrey 2010, Irwin et al. 2014). The immediacy of climate change has renewed the debate on appropriate tree species to use in productive forests, with potential susceptibility to more severe climatic events and novel pests and diseases. Given their long lifecycles, trees planted at the present time will still be alive in a future environment that is likely to be more challenging than at present and has highlighted the need for a greater range of more resilient species to be used and the establishment of species mixtures (eg Pretzsch 2009, Mason and Connolly 2013, Cameron 2015, Isbell et al. 2015, Pretzsch et al. 2017). While native species have an advantage of a long history of inherited adaptation to their environment, they can be more vulnerable to environmental damage than introduced species (Battipaglia et al. 2009). For example, in Britain ash dieback (*Hymenoscyphus fraxineus*), acute oak decline (several biotic factors), oak processionary moth (*Thaumetopoea processio-*



nea), Asian longhorn beetle (*Anoplophora glabripennis*), and *Xylella fastidiosa* are affecting native broadleaved species.

Maintaining current species composition of native woodlands may no longer be possible because some native species of flora and fauna may not survive due to the inability to adapt quickly enough to the rapidly changing environment.

This is not a reason to stop the restoration and expansion of endangered native woodlands in Scotland and elsewhere; however, it must be recognised that *dealing with the imminent environmental crisis associated with climate change will require new thinking regarding future afforestation*. Use of non-native species well adapted to the forest site is an important part of adaptive forest management given an uncertain future climate and concerns over future threats to forest trees from pests and diseases (eg Spathelf 1997; Johann 2006).

While the Scottish Government is committed to expand the forest area from 15,000 to 18,000 hectares of new tree planting each year by 2025 with the aim of increasing forest cover to 21% of the land area by 2032, the already alarming impact of a changing climate suggests that a more ambitious annual target of *productive forest* of at least 30,000 hectares is needed with the aim of afforesting at least one third of the land area closer to the European average. Opportunities for productive tree planting must be supported at every level with a simple robust application process. Planting grants should be scaled with carbon capture potential to encourage tree planting with the optimum mitigation value.

References

Barkham P (2020) Trees on commercial UK plantations 'not helping climate crisis'. *The Guardian*, Tuesday 10 March 2020.

Barua S K, Lehtonen P and Pahkasalo T (2014) Plantation vision: potentials, challenges and policy options for global industrial forest plantation development. *International Forestry Review 16*: 117-127.

Cameron AD (2015) Building resilience into Sitka spruce (*Picea sitchensis* [Bong.] Carr.) forests in Scotland in response to the threat of climate change. Forests 6: 398-415.

Crane E (2020) Woodlands for climate and nature: A review of woodland planting and management approaches in the UK for climate change mitigation and biodiversity conservation. Report to the RSPB.

FAO (2020) *Global Forest Resources Assessment*. Food & Agricultural Organisation of the United Nations, Rome.

Forster EJ, Healey JR, Dymond C, Styles D (2021) Commercial afforestation can deliver effective climate change mitigation under multiple decarbonisation pathways. Nature Communications 12: 3831. https://doi.org/10.1038/s41467-021-24084-x

Irwin S, Pedley SM, Coote L, Dietzsche AC, Wilson MW, Oxbrough A, Sweeney O, Moore KM, Martin R, Kelly DL, Mitchell FJG, Kelly TC, O'Halloran J (2014) The value of plantation forest for plant, invertebrate and bird diversity and the potential for cross-taxon surrogacy. *Biodiversity and Conservation* 23: 694-714.

Jarvis PG, Linder S (2007). Forests remove carbon dioxide for the atmosphere: spruce forest tales! In Forestry and Climate Change, Freer-Smith PH, Broadmeadow MSJ, Lynch JM (Eds), CABI, Wallingford.

Sedjo R, Botkin D (1997) Using forest plantations to spare natural forests. *Environment* 39: 14-20, 30.

Stern N (2007) *The economics of climate change: The Stern Review*. Cambridge University Press, Cambridge.

Are carbon accounting rules for biomass fit for purpose?

In this report, **Richard Tipper** of Ecometrica offers an accessible yet detailed picture of the biomass carbon accounting frameworks and their applications in UK and Europe, recommended for those interested in the sustainable use of bioenergy.

The use of biomass for energy is an important component of forest management. Historically, this has been the case and it is likely to be part of sustainable forest management into the future.

Sustainable bioenergy is one of the alternatives to fossil fuels in the shift towards a zero-carbon economy. Properly managed, biomass can be part of a sustainable, low carbon energy mix and healthy forest landscapes.

However, the development of bioenergy systems at scale has frequently been challenged in terms of its carbon benefits and externalities.

This report offers a comprehensive review of the carbon accounting methods currently in use for bioenergy. It draws on Ecometrica's extensive track-record to explore evolving best practice in assessing emissions and impacts linked to the production and consumption of wood-based bioenergy and – in particular – biomass from forests, rather than material from agriculture, waste or short-rotation coppices.

International carbon accounting rules, where carbon removals and emissions are accounted for in the land sector, are well established and can be effective. These accounting rules provide a stable and internationally agreed foundation for the carbon accounting of biomass to ensure it delivers climate benefits.

This report aims to improve understanding of the carbon accounting frameworks and sustainability criteria applied to biomass used for energy in the UK and Europe and identify areas for improvement.

The report concludes that the best way forward would be to build on existing UN and IPCC approved methods for forests and harvested products to ensure bioenergy delivers carbon benefits, rather than reinvent differentiated accounting frameworks for forest biomass.

SOME RECOMMENDATIONS

- Monitoring of wood-product markets to ensure the use of bioenergy complements the production of long-lived products, and does not cause the diversion of materials;
- Development of an improved understanding of the potential carbon impacts of changes to bioenergy policies;
- Work by the bioenergy sector with a broad range of stakeholders to develop a common understanding of the role bioenergy plays in forest management and ecosystem protection, not simply decarbonisation of the energy sector;
- Strengthen policies and standards that encourage forest carbon management with an emphasis on soil carbon conservation;
- Development of holistic policies across forestry and forest product sectors to support optimised carbon management, while ensuring the multiple non-carbon benefits of forests, including biodiversity and local communities are not compromised.

Are carbon accounting rules for biomass fit for purpose?
Biomass Carbon Accounting Report written by Richard Tipper Ecometrica October 2021. Download the report here: *https://ecometrica.com/carbon-accounting-rules-for-biomass-energy/*

SCAN ME

FREQUENTLY ASKED QUESTION

Would forests continue to accumulate carbon if they were left unharvested?

This depends on the type of forest and other factors such as soil, climate and elevation. There is evidence that many natural or semi-natural forests in the tropics and temperate regions could, if harvesting and thinning ceased, continue to sequester carbon in the soils over millennia, particularly in areas of high rainfall, where soil respiration is lower than the annual inputs from litter and deadwood. In these forests, the tree component of the ecosystem can be considered like a pump of carbon from the atmosphere into the soil8. However, many forests, in particular plantations and stands that have been planted with a view to wood production, are limited in terms of their sequestration potential as once they exceed certain heights or when they accumulate large loads of deadwood, they become prone to fire, windthrow and diseases.

In most production forest situations, managing for optimal carbon storage entails extraction of biomass (thinning) to reduce overcrowding, fuel load and focal points of disease or pests.

If forest harvesting was stopped in these production forests, they would continue to accumulate carbon for a while, but this would be followed by events resulting in large releases of CO_2 from fires or oxidation of deadwood. Restricting the harvesting of existing production forests would also have a negative impact on the business case for establishment of new commercial woodland.

The auditor's guide to managing biodiversity in woodlands

Stephen Tong, of Tilhill gives advice on how to develop the biodiversity section of an UKWAS compliant management plan

While the detail of the standard is regularly revised, there has been a consistent theme regarding the management of biodiversity in woodlands. The first requirement is to correctly identify what you have. The manager then has to produce and implement a plan which will protect and/or enhance the quality of what is already present (and of accepted value), take steps to create biodiversity where it is judged to be lacking and identify areas for biodiversity management that meet the minimum requirements of the standard.

This article is partly a retrospective, considering what has been achieved in certificated woodlands, and partly an aid for practitioners who are putting plans together for certification or preparing for the next audit. We will not dwell too much on the specifics of the current standard as the next version will be with us all too soon.

Managing Existing Biodiversity

- **Identify what is present**

This is where the process can start to go wrong, even in the case of designated site types, which it should be possible to pick up from the mapping information available on the internet. The information that is available can be confusing and is sometimes contradictory.

What is rather more difficult is identifying the biodiversity value of undesignated sites. In this regard, there is no substitute for knowledge and experience. You have to start from a thorough knowledge of your woodland and then apply your experience to say what is important. The variety of sites that have higher biodiversity value is considerable and they are not always obvious (think rare ferns in a quarry or minute bryophytes on a coniferous tree trunk). It is unlikely that there will be existing knowledge externally and an ecological survey may be required to supplement the manager's input. Even that will not pick up everything, particularly if the important feature is seasonal or transitory.

- **Assess what is present**

Once you have decided what is present, you have to evaluate its relative importance and condition. This is not as difficult as it sounds, because there is plenty of help out there and no shortage of opinion on the importance of differing types of biodiversity and what sort of condition your site is in. There is also quite a lot of common sense involved in the assessment of condition. Once you know what makes a site special, you can form an opinion on whether those special characteristics are in a strong and stable condition, or not.

- **Go beyond assessing – act on management**

The next part of managing existing biodiversity involves action and this, unfortunately, is where things go most awry, even though non-compliance is a road frequently paved with good intentions.

A surprisingly large number of forest managers come to a halt after they have identified the areas to be managed for biodiversity and set down appropriate prescriptions in their management plan. After this, good intentions are frustrated by

lack of time, distractions, lack of funding or changes of manager, to name but a few. Too many forests arrive at their recertification audits with little or no evidence of effective biodiversity management.
Other managers seem to have taken a view that identifying a biodiversity-rich area and putting it on a map confers some sort of magical protection upon it and nothing further is required. By far the most common problem, in this respect, is colonisation of sites by bracken, rhododendron or conifer regeneration, all of which may be acting to diminish or eradicate the biodiversity value of the site.

• Monitor the process
We have to monitor the condition of biodiversity sites and the effectiveness of the management prescriptions that have (hopefully) been employed to protect them. Everyone who has experience of the UKWAS audit process will be aware of how often the monitoring part can be problematic.

Creating Additional Biodiversity

As our detractors are quick to point out, there is many a first rotation conifer forest, planted on land that has been used for hill sheep grazing, which is distinctly lacking in biodiversity. In these cases, the forest manager has to find (at present) 15% of the Woodland Management Unit where management for conservation and biodiversity enhancement is the primary objective.

It has to be said that creating new areas for biodiversity is often a great deal more straightforward than the successful management of sites that already have it. Follow through the forest design process and you are likely to end up with sufficient open ground, broadleaves, retentions and diverse conifer to meet the requirement. Once selected, new sites then need to be managed and monitored in the same way as existing biodiversity sites.

Where there are problems, in this type of forest, they most commonly result from a reluctance on the part of the owner or manager to sacrifice productivity. Colonisation by bracken, etc. can also be just as much of a problem for new sites as it is on existing ones.

Some things to watch out for

There are some common difficulties that I have encountered which are worthy of consideration when preparing the biodiversity sections of a management plan. I would rate my top 4 as follows:

• Overambition
There is a tendency to include everything of interest in the areas to be managed with biodiversity enhancement as the primary objective. While designated sites and defined high conservation value areas need to be included, elsewhere it can be better to define the minimum required area and concentrate on the sites which will benefit most from biodiversity-related interventions. The issue with overambition applies equally to the management prescriptions. Commit to the essentials and earn extra UKWAS plaudits for doing a bit more if you are able to.

• Monitoring Prescriptions
This is another area where you can always do more than you have put in your plan, but problems will arise if you do less. Once you have prepared a monitoring schedule that covers the essentials, in a manner that is achievable, take a copy and put it somewhere it will not languish in darkness until you are preparing for the next recertification audit.

• Inactivity
Biodiversity management is rarely urgent and may struggle to make it to the top of a manager's work schedule. By doing some of the work early in the certification cycle you will be certain of having something to demonstrate compliance when the next audit comes around.

• Inflexibility
Where biodiversity is concerned, there is a tendency to think that areas and prescriptions must remain static for the plan period. It is fine to change things about if a higher value area is found, or the management needs to change.

Has UKWAS Iimproved biodiversity management?

It is gratifying to be able to affirm that UKWAS has undoubtedly improved the management of biodiversity in woodlands. UKWAS has led to better appraisal of the resource under management and increased the knowledge of forest managers. In many cases, this has led to foresters and owners becoming more enthusiastic about their biodiversity and taking additional measures to improve it. At the very least, UKWAS involves a system of audits and external verification which ensures that the requirements of the standard are being met. Managers' enthusiasm for UKWAS remains very mixed, but it undoubtedly provides a framework which can be supportive and helpful to practitioners who are keen on good management of biodiversity.

Paul Vidgen
Forest Machines Ltd

Forest Keep, Watersplash Lane, Ascot, Berkshire, SL5 7QP

Tel: **01344 873499** *Email:* **info@pvfm.co.uk** *Web:* **www.pvfm.co.uk**

Sole UK importers and dealers for; AHWI/Prinoth, Naturatec, Bruks Chippers, Trevi Benne Forestry Attachments, UOT Scarifiers & Mounders, King Kong Carbide Tools

Dealers for; BerCon Log Splitters, FTG Baltic Trailers and Cranes.

Harvesters – the cutting edge

In the last few editions of Forestry and Timber News we have looked at a variety of alternative machines, be that low impact forwarders or unfamiliar harvester brands. These unfamiliar harvester brands very often occupy niche roles within our industry. However, this month we will have a look at the mainstream harvester manufacturers. The bread and butter machines of the UK harvesting industry. The machines that you will most likely see driving off a low loader on your site.

By now, most readers will be familiar with the harvester concept – a machine which fells, delimbs, measures and crosscuts trees. There have been some emerging trends in recent years, for example a shift in preference towards eight-wheeled machines; a shift in preference towards grapple action harvester heads; development of software to become more user friendly and to extract more information from the machine.

However, perhaps the one area which all manufacturers have focused their attention on has been operator comfort. Items such as John Deere's IBC software; Ponsse releasing the Scorpion in a change from their traditional design; the redesign of the Komatsu cabs are all designed to make the operator more comfortable and to reduce operator fatigue. After all, tired operators are more likely to make mistakes and to generally be less productive. All manufacturers mentioned in this month's article now produce machines with rotating cabins – so the operator is always looking at the business end of the harvester without having to strain themselves to see the head.

As always, please check with the dealers to see what is available! Happy harvesting!

PONSSE

Ponsse currently produce seven different harvesters with several variations within the range. In six wheel configuration there are the Beaver and Ergo Models; in eight wheels there are the Fox; Cobra; Scorpion; Scorpion King; Ergo and Bear. With the exception of the Scorpion and Scorpion King models, the rest of the range is of the traditional Ponsse design whereby the cab and engine are mounted on the rear frame and the crane on the front. All models are powered by Mercedes Benz engines.

The Beaver and the Fox are at the smaller end of the Ponsse range and feature 200 horsepower engines. They are designed for use with either the H5 or H6 harvesting heads with felling capacities of 530 and 600mm respectively. The C44+ parallel crane fitted to these models is available as 10 or 11m reach. Typical weights are 17700kg for the Beaver and 20,200kg for the Fox.

A relative newcomer to the Ponsse range, the Cobra is a mid-sized harvester and weighs in at 20,900kg. The Cobra can be equipped with a choice of either the C44+ parallel crane or C5 telescopic crane, available with crane lengths between 8.6m and 11m. The 280hp engine can be put to use powering either an H5; H6 or H7 harvester head with felling capacity up to 650mm.

At the upper end of the range are the well known Ergo and Bear models. The Ergo can be equipped with the C44+ or C5 crane with either H6, H7 or H8 harvester heads, whilst the Bear features the C55 (parallel) or C6 (telescopic) cranes and is suitable for use with the H7 or H8 harvester heads. Crane reach between 8.6m and 11m is available on the 21,500kg Ergo, and between 8.6 and 11m on the 24,500kg Bear. Power outputs of 274 and 320hp are achieved.

Lastly, we have the Ponsse Scorpion and Scorpion King. In a break from the traditional Ponsse design, these models feature levelling and rotating cabins. With the cabin mounted to the crane, the operator is afforded unobstructed views of the harvester head. Both machines are equipped with the C50 parallel motion crane, and can be equipped with the H5 or H6 harvester heads (the Scorpion King can also be fitted with the H7 head) and are powered by 280hp engines. Typical weights are 22,700kg and 23,200 kg respectively.

>>

JOHN DEERE

The current John Deere G series range of forestry machines features four models, the 1070G; 1170G; 1270G and the 1470G. All are available as six-wheeled machines. In addition, the 1170G and 1270G are also available as 8 wheelers. All feature levelling and rotating cabins. The John Deere engines are fitted to the rear frames, whilst the crane and cabs are fitted to the front frame.

At the small end of the range the 1070G weighs in at 16,000kg and features boom reach of between 8.6 and 10.8m. Powered by a 180hp engine, the 1070G can be equipped with either the H412; H423 or H424 harvester heads featuring felling capacities of 440mm; 500mm and 620mm respectively.

Introduced during the previous E series, and designed to fill the gap between the 1070 and 1270, the 1170 has become a popular choice in UK harvesting. Suitable for both thinnings and smaller clear fell material the 1170 has proven to be a capable performer. Featuring a 200hp engine, the 1170G is equipped with the CH6 crane with reach options of 10 or 11.3m from which the H212; H423 or H424 harvester heads can be hung. The 1170G weighs in at 17,800kg in 6-wheeled configuration or 19,500kg for the 8-wheeled version.

At the upper end of the range, the 1270G and 1470G are well known to the UK market. With both machines powered by a 268Hp engine, they weigh in at 20,650kg for the 6-wheeled 1270G and 22,900kg for both the 8-wheeled 1270 and the 1470G! The 1270G is equipped with a CH7 boom with maximum reach between 8.6 and 11.7m whilst the 1470 features a CH9 boom with similar maximum reaches. The big difference here being the lifting and slewing torque figures, with the 1470 being superior in both categories. The 1270 can be equipped with the H423; H424;H425 (710mm maximum felling diameter) harvester heads as well as the H480C (710mm) and H270 (650mm) heads. The 1470G can be fitted with the H270; H290; H480c and H415harvesting heads.

KOMATSU

With six machines in the current Komatsu harvester range there is bound to be something for all needs. Featuring four six wheeled machines and two eight wheeled machines, the range consists of the 901; the 911; the 931 and 951 in 6 wheeled configuration and the 901xc and 931xc in 8-wheeled configuration. The Komatsu range follows the tried and tested design whereby the engine is mounted on the rear frame, and the cab and side mounted crane are fitted to the front frame. The cab is mounted to the crane base so levels and rotates as the crane does. Power comes from the AGCO range of engines, and all cranes are parallel action. Harvester heads come from the C or S range.

At the small end of the scale the 901 and 901xc are aimed at a smaller tree size and can be equipped with the S82; S92 and C93; C124 (901xc) harvester heads featuring felling capacities of 580mm; 630mm and 600mm; 650mm respectively. Crane reaches of 10-11m are available. The 901 weighs in at 17,600kg whilst the xc model is 20,200kg. Both feature 227hp engines.

The mid ranged 911 is synonymous with timber harvesting in the UK in much the same way as the Ponsse Ergo and John >>

TIGERCAT

Deere 1270 are. The 911 features a 231hp engine and a crane reach of 10-11m for the 200H or 8.7-11m for the 230H model and depends on the harvester head fitted. The 911 can be fitted with C93; C144 (750mm max felling diameter); S92; S132 (720mm) harvester heads. The 911 typically weighs 17,610kg.

The 931 sits between the 911 and 951 models, and is available in six-wheeled or eight-wheeled (931xc) variants. The xc version weighs in at 21,900kg whilst the 6 wheeler weighs in at 19,880kg. Both are powered by 254HP engines. Recommended harvester heads to be fitted include the C93; C124; C144; and the S92; S132.

At the top end of the range the 951 is designed for clear fells and features a 286hp engine and the 270H crane provides a maximum reach of 8.7 or 10.3m. The 951 weighs in at 22,790kg and is recommended for use with the C124; C144; C164 (830mm max felling diameter); S132and S172 (750mm) harvester heads.

TIGERCAT

Whilst many, myself included, may automatically think of the tracked Tigercat harvesters we should also remember that there also two wheeled harvesters in the range, the 1185 and 1165 both in 8 wheeled formats. As for tracked harvesters, there are three models the 822D; the 845E and the 855E all available as either H models (rigid) or LH models (levelling) e.g. the H845E and the LH845E. The Tigercat range have become renowned for their heavy duty build quality and have acquired a cult following in the UK.

The smallest of the range, the H822D is powered by a 282hp engine and weighs in at 28,350kg without a harvesting head. The LH version is slightly heavier at 33,800kg. Crane reach of 9.1m is available on the ER boom or 11.2m on the ER boom with telescopic extension. The H845E and LH845E weigh in at 26,760kg 34,925kg respectively and feature similar engine outputs and crane reaches. Both are recommended for use with the 570 and 575 harvesting heads, although other heads can be fitted. In the UK Logmax harvesting heads are typically fitted and seem to be a good combination, whilst there are also examples of Ponsse heads being fitted too. The largest machine in the tracked range, the H855E (27,600kg) and the LH855E (35,600g) feature 282hp engines and a crane reach of up to 11.9m when fitted with a telescopic ER boom.

When it comes to wheeled harvesters, both the 1165 and the 1185 follow a similar concept. Featuring eight wheels; a rear mounted engine; a levelling and rotating crane/cab combination and the legendary Tigercat engineering. The 1165 is referred to as mid-sized harvester and weighs in at 22,900kg; 282hp and a crane reach between 9.1 and 11m depending on which option is selected. Lastly, the 1185. 34,000kg with 308hp available and a reach of up to 11m again depending on the options. Like the tracked harvesters, the wheeled machines can be fitted with a selection of harvester heads.

ROTTNE

Blue machines are not new to the UK market, however the recent appointment of a new UK dealer has brought renewed interest in the brand which celebrated its 65th year of production in 2020. Featuring three machines in the range, the 4 wheeled H8D and the H11D and H21D which are available as either six or eight wheeled machines. Whilst all three utilise the same layout with engine to the rear frame, and cab and crane to the front, only the H11D and H21D feature levelling and rotating cabs. All three utilise John Deere engines.

The H8D, a four-wheeled machine weighing in at 10,200Kg features a pendulum arm system to move the wheels to keep the chassis sitting level. Crane reach of 7m is available, and would normally support the EGS406 harvester head with a felling capacity of 430mm. Alternative heads such as the Logmax 3000T are also available to suit this small thinnings machine. Engine output is 168hp.

The H11D is a mid range machine and produces approximately 220hp. It weighs approximately 17,400kg and 18,900kg in 6- and 8-wheeled configurations, respectively. The Rottne EGS596 harvester head with a felling diameter of up to 720mm is recommended whilst alternatives from the Logmax and SP ranges can also be fitted. Maximum boom reach of either 10.3m or 11.3m is available.

The H21D weighs in at 24,200kg in six wheeled form and 26,700kg for the eight wheeled version. Both versions feature an 11m crane reach, with the Rottne EGS706 (max felling diameter 810mm) being recommended whilst the Logmax 6000 and 7000 heads are also suitable. The H21D is powered by a 305hp engine making it one of the most powerful machines on the market.






Alternatives to using glyphosate and propyzamide for grass weed control in forests

Dr Ian H. Willoughby,
Forest Research

Although many grass and herbaceous species are natural components of woodland creation sites or restocking coupes, they aren't necessarily good neighbours for newly planted trees. Grasses tend to be the worst offenders, probably due to their extensive, fibrous root systems, which allow them to compete strongly with trees, particularly for moisture and nutrients, and sometimes also for light.

A weed-free start for growing trees

The critical period during which this competition from weeds causes the most severe harm to tree growth and survival is for the first year after planting or regeneration, and often for a further 2-4 years after that. Within each year, the early part of each growing season – from late March to the end of June in lowland England, somewhat later the further north or higher up you are – is the most important period of time to avoid weed competition, if possible. A key element of good silvicultural practice for the successful establishment of trees in the UK is therefore to maintain a weed free spot with a minimum diameter of 1.2 metres around each tree from April to the end of June, for at least the first 3-5 years after planting.

Can we go chemical free?

Perhaps the best low or no-chemical approach is to combine good site preparation with planting trees much closer together (10,000 stems per hectare or more), so they more rapidly shade out competing vegetation, mimicking what happens with successful natural regeneration. Planting at these sorts of densities is often prohibitively expensive, but as an alternative, for some species and site types, recent Forest Research work has shown that direct seeding can be a viable, cost-effective option (Willoughby et al., 2004b; 2019).

However, none of these techniques are a panacea by themselves, and usually they have to be combined with other methods in an integrated (IPM) approach. Even then, unfortunately, in some cases there isn't currently a non-chemical approach that is simultaneously effective, practical, not harmful to the environment, and not excessive costly.

Where there isn't a viable non-chemical approach, herbicides provide another option. Propyzamide and glyphosate have been widely used since the 1970s to control grass weeds in agriculture and forestry. If applied correctly, by trained operators, following the instructions in the product label and pesticides Codes of Practice (DEFRA, 2006; Scottish Government, 2007), they can be a safe, economic and effective method of grass weed control, but in recent years there have been concerns raised over their continued use.

Investigations into toxicity of glyphosate and propyzamide products

Six years ago, the respected International Agency for Research on Cancer (IARC) published a review which concluded that the herbicide glyphosate was genotoxic and would probably cause cancer in humans (IARC, 2015). After this, the European Food Safety Authority (EFSA) and European Union member states carried out their own thorough risk assessment and peer review of the toxicity of glyphosate, which looked at all available data, including both the IARC report, and additional studies not available at the time the IARC made their assessment. On the basis of this more comprehensive review, the European Food Safety Authority concluded that glyphosate is unlikely to be genotoxic or to pose a carcinogenic threat to humans (EFSA, 2015).

However, the IARC report looked at both the active substance glyphosate and products formulated from it, grouping all formulations together regardless of their composition, whereas the European Union assessment considered only glyphosate as an active ingredient, because formulations are considered separately at the member-state level. This distinction is important because although some studies suggest that certain glyphosate-based product formulations may be genotoxic, others that look solely at the active substance glyphosate do not show this effect. The European Food Safety Authority consider it likely, therefore, that the genotoxic effects observed in some glyphosate-based formulations are related to the other constituents (ie the co-formulants) rather than the active ingredient (EFSA, 2017).

In the UK, potentially carcinogenic tallow amine co-formulants have now been banned, and the Chemicals Regulation Division of the Health and Safety Executive (HSE), whose primary role is to ensure human and environmental safety, currently continue to classify some glyphosate products as non-hazardous. Despite the European Food Safety Authority findings, an updated Forest Stewardship Council pesticides policy (FSC, 2019) classified the active ingredient glyphosate as 'highly hazardous - restricted', meaning that non 'highly hazardous' products should be used in preference, and that research must take place into alternatives.

For propyzamide, a European Commission review in 2007 concluded that the active ingredient posed no unacceptable risk for humans or the wider environment and could therefore continue to be used (European Commission, 2007). However, products containing propyzamide now need to be re-registered with the HSE in the UK, and the outcome of this process is not certain.

FC PRACTICE GUIDE 15

Details of the main, practical options for grass weed management in forests are given in Forestry Commission Practice Guide 15 (Willoughby et al., 2004a). These include cultivation, the use of sheet mulches for restock sites, avoiding clear-felling in the first place, and carrying out all the other elements of good silviculture – such as matching tree species to the site, using well balanced, healthy planting stock and protecting them from browsing.

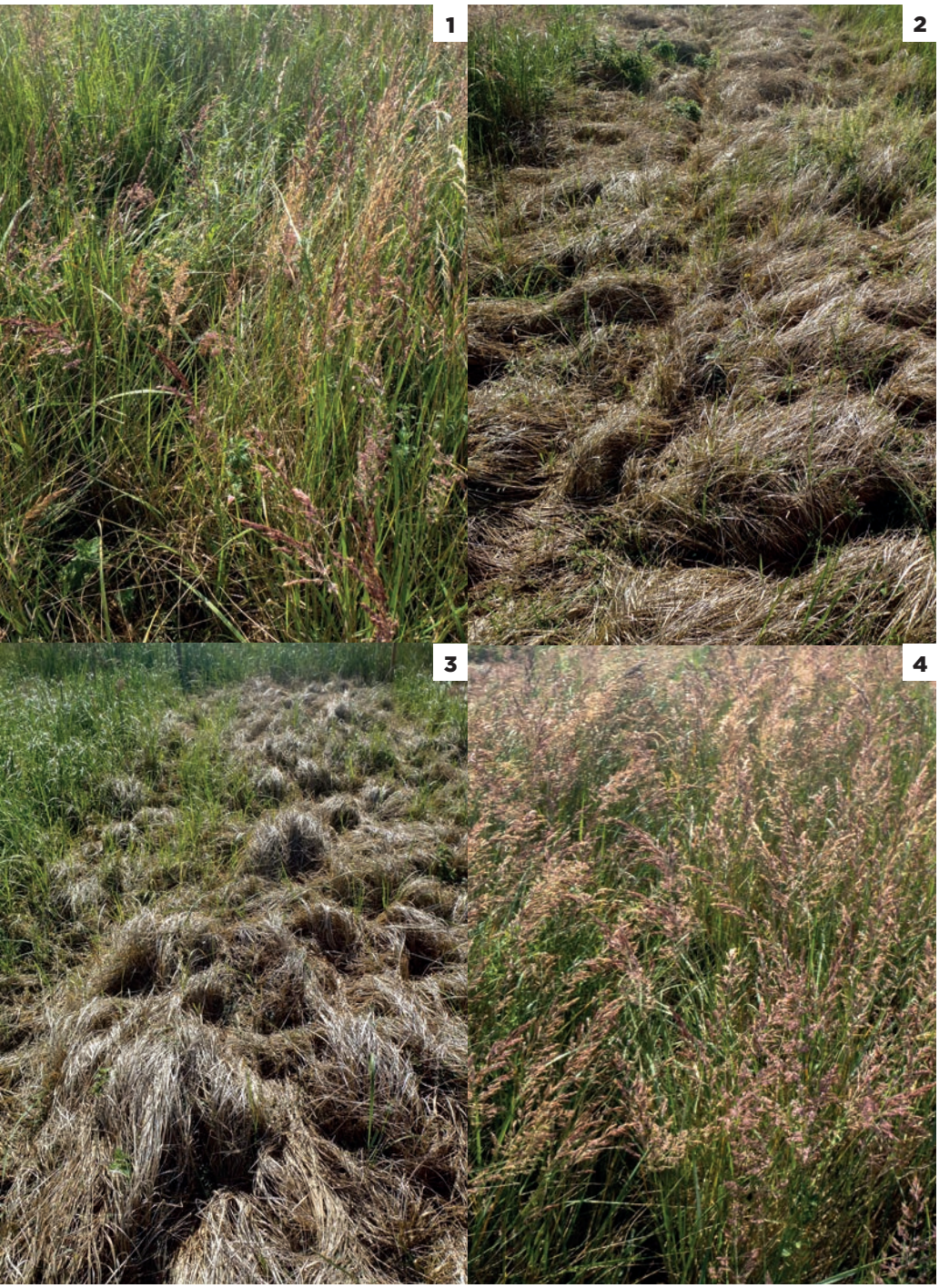


Photo credits: Forest Research

1. Untreated wood small reed can compete severely for moisture, nutrients and light with newly planted trees. 2. Wood small reed can be effectively killed by the selective graminicide cycloxydim, without any risk of harming crop trees. 3. Glyphosate is effective in killing wood small reed, but sometimes it is difficult to apply it without killing or damaging trees. 4. Propyzamide has been traditionally used to control wood small reed and will not harm trees, but is much less effective than cycloxydim or glyphosate.

Cycloxydim: an alternative for glyphosate?

With the long-term future for propyzamide unclear and the need to look for alternatives to glyphosate, particularly on FSC certified estates, we have reviewed some of our past research into other herbicides such as graminicides for controlling otherwise difficult to kill forest grass weeds. The results have recently been published in the scientific journal Forestry (Willoughby and Forster, 2021).

In the paper we conclude that where chemical alternatives to propyzamide or glyphosate are required, cycloxydim may have greater potential to be effective on a broader range of forest grass weeds than was previously thought. Even if they aren't killed outright, accidental sub-lethal damage to young trees from glyphosate applications is quite common, unless they are protected by treeshelters which themselves aren't cheap, and if made of plastic and not collected at the end of their useful life pose their own risk of pollution. A significant advantage of cycloxydim is that it is highly selective and, unlike glyphosate, will not harm young trees at all, even if they are over sprayed when in active growth. If applied at the correct time of year, cycloxydim is likely to be as effective as glyphosate on most grass species, and for wood small reed, purple moor grass and wavy hair grass considerably more effective than using propyzamide. Cycloxydim formulated as Laser® is approved for use in forestry situations in the UK, however, a disadvantage is that the HSE regards it as potentially more harmful to human health, if misused, than non-hazardous glyphosate formulations.

Full details of this research are contained in the scientific paper, which is freely available by following this link: *www.forestresearch.gov.uk/research/alternatives-to-propyzamide-or-glyphosate-to-control-forest-grass-weeds*

SCAN ME

References

DEFRA (2006). Pesticides: code of practice for using plant protection products. DEFRA / Welsh Government / HSE.
www.hse.gov.uk/pesticides/using-pesticides/codes-of-practice/guidance-sustainable-use-ppp-regs-2012.htm

EFSA (2015). Conclusion on the peer review of the pesticide risk assessment of the active substance glyphosate. European Food Safety Authority (EFSA) Journal 13 (11):4302. doi.org/10.2903/j.efsa.2015.4302 www.efsa.europa.eu

EFSA (2017). EFSA explains risk assessment: Glyphosate. doi:10.2805/654221 www.efsa.europa.eu

European Commission. 2007 Review report for the active substance propyzamide. Propyzamide 6502/VI/99-final. European Commission, Brussels. www.ec.europa.eu/food/plants/pesticides/eu-pesticides-database_en

FSC (2019). FSC lists of highly hazardous pesticides. FSC-POL-30-001a. Forest Stewardship Council. www.fsc.org

IARC (2015). Some organophosphate insecticides and herbicides: tetrachlorvinphos, parathion, malathion, diazinon and glyphosate. IARC (International Agency for Research on Cancer), Working Group, Lyon. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans 112, 321-399.

Scottish Government (2007). Pesticides: code of practice for using plant protection products in Scotland. Scottish Government / HSE. www.gov.scot/publications/pesticides-code-practice-using-plant-protection-products-scotland

Willoughby, I.H. and Forster, J. (2021). The herbicide cycloxydim is an effective alternative to propyzamide or glyphosate for the control of the forest grass weeds Molinia caerulea, Calamagrostis epigejos, Deschampsia flexuosa and Holcus lanatus. Forestry, in press. https://doi.org/10.1093/forestry/cpab035

Willoughby, I., Evans, H., Gibbs, J., Pepper, H., Gregory, S., Dewar, J., Pratt, J. and McKay, H. (2004a). Reducing pesticide use in forestry. Forestry Commission Practice Guide 15. Forestry Commission, Edinburgh. www.forestresearch.gov.uk

Willoughby, I., Jinks, R.L., Gosling, P.G., and Kerr, G. (2004b). Creating new broadleaved woodland by direct seeding. Forestry Commission Practice Guide 16. Forestry Commission, Edinburgh. www.forestresearch.gov.uk

Willoughby, I.H., Jinks R.L. and Forster, J. (2019). Direct seeding of birch, rowan and alder can be a viable technique for the restoration of upland native woodland in the UK. Forestry 92 (3), 324-338. https://doi.org/10.1093/forestry/cpz018

Learn more about the signs and symptoms of tree pests and diseases with the Observatree field guides. Credit:Forest Research

How are your trees?

Suzanne Sancisi-Frey, Forest Research talks about two pioneering tree health citizen science initiatives, BRIGIT and Observatree and the training options and resources they offer

There is a wealth of freely available information and training resources to help you to understand and manage the health of your trees. Many of these resources have been developed through past and ongoing research and citizen science projects in the UK.

In particular, two pioneering tree health citizen science initiatives – **BRIGIT** and **Observatree** – have been raising awareness and understanding about tree health. The training in these projects has been led by Forest Research and the associated training resources developed are available to forest owners and managers and members of the public alike. They are highly regarded by tree health professionals within the forestry sector and beyond, with the training contributing to continuous professional development (CPD) portfolios.

Observatree (*www.observatree.org.uk*) is a multi-award-winning citizen science project which operates as an early warning system for non-native pests and diseases of trees, whilst also monitoring the spread and movement of pests and diseases already present in the UK via a nationwide network of volunteers. It invests heavily in volunteer training and as a result has developed a highly skilled and knowledgeable network of citizen scientists who are an integral part of tree health monitoring in the UK.

Observatree tree health training consists of face-to-face workshops in the field which focus on how to recognise when trees are unhealthy and important tree pests and diseases such as ash dieback, *Phytophthora* infections, oak processionary moth and many more. Tree health surveying, the fundamentals of biosecurity, tree identification and sampling trees for disease also form part of the sessions.

The BRIGIT project (www.jic.ac.uk/brigit/) aimed to enhance UK surveillance for and response to the threat posed by *Xylella fastidiosa* specifically, a devastating non-native bacterial pathogen of a wide range of important woody plants and trees,

BRIGIT concentrated on delivering training to identify the main hosts for *Xylella fastidiosa*, along with building awareness of the signs and symptoms seen in infected trees and shrubs and practical techniques for monitoring the insect vectors of the disease (*www.spittlebugsurvey.co.uk*).

Tree health resources available online

Both BRIGIT and Observatree have provided a packed on-line training schedule including webinars on pests and diseases that are impacting trees in the UK, as well as some that are lurking on the horizon such as the emerald ash borer and the pine processionary moth, amongst many others. Many of these training webinars and films can be viewed on the projects' websites.

In 2021, BRIGIT hosted an on-line *Xylella* awareness week providing digital training events and many of the extremely informative talks and presentations are well worth a watch and are freely available to view (*www.jic.ac.uk/event/brigit-xylella-awareness-week/*).

As a result of these projects, you can also obtain pest and disease field guides, printed on waterproof paper at Summerfield Books (*www.summerfieldbooks.com*) or you can download them for free from the resources page on the Observatree website where you will find other useful tree health training materials, such as pest and disease calendars, and posters as well as practical biosecurity tips.

Tree health training packages

Observatree offers training packages to industry and other interested groups. Many organisations and commercial stakeholder groups within the forestry sector, from managers of small community woodlands to substantial land and forest owners, have benefitted from Observatree training and resources. Recent workshops held for the Institute of Chartered Foresters (ICF) allowed members to learn about tree pests and diseases such as *P ramorum* and *Sirococcus tsugae*, that are threatening trees in Wales and at the same time they boosted their CPD.

If you see any pest and disease symptoms on your trees that you are worried about then please report them to the Tree Health Diagnostic and Advisory Service at Forest Research through TreeAlert *https://treealert.forestresearch.gov.uk*

Contact If you would like to volunteer as a tree health surveyor with Observatree please email *observatree@woodlandtrust.org.uk* and if you are interested in tree health training for your organisation please email *suzanne.frey@forestresearch.gov.uk*.

Left to right: The crane grab raising the strap over the loaded timber. The strap is tensioned via a drum winch. Brian Greggan of Annandale Transport demonstrates the TU Auto Tensioner

Auto-tensioning timber strap trial

In 2020 the Scottish Timber Transport Scheme agreed to support a year-long trial on auto-tensioning timber straps on HGVs. The trial started in February 2021 and will run to February 2022. Timber Transport Project Officer **Paul Boobyer** weighs up the results so far.

The auto-tensioners, named simply ExTe TU, are manufactured by ExTe, a Swedish firm specialising in the production of timber bunks and automatic tensioners, and were fitted to the HGVs (wagon and drag) used in the trial by Clark Engineering and James Munro Engineering. One truck belongs to Annandale Transport in Dumfries and Galloway; the other belongs to James Jones and Sons and is based at their Mosstodloch premises in Moray.

The auto-tensioner is a drum winch mechanism that provides a constant tractive force of 1,000kg, meaning the straps are always under tension and do not come slack. They utilise the compressed air system from the truck to operate them. There are a number of different mounting options, a feature which allows for flexible installation even in the tight spaces between mudguards or below flatbeds or boxes. The auto-tensioners release systems are mechanically operated in this trial but are available with an air-operated release mechanism as an optional accessory. With this option, the tensioner can be disengaged at the touch of a button from inside the cab by using a remote control.

To secure a timber load, an operator uses the crane to grab a grapple attached via a shackle to the end of the strap. The crane then lifts the strap over the loaded timber, before lowering it to the opposite side of the trailer. The operator then dismounts from the crane and fastens the shackle to a heavy-duty clip bolted to the chassis of the trailer.

James Jones and Sons is trialling eight tensioners—one attached to each bolster, which is the most common configuration for auto-tensioners fitted to trucks in Sweden, while Annandale is trialling five tensioners—two on the front bunk and three on the trailer installed on the chassis between bolsters. The choice to fit five tensioners was based on cost and to determine whether five would be sufficient.

The tensioners have been successful in demonstrating improved road safety when compared with conventional, manual timber straps which can become loose as timber settles in transit. The straps take roughly the same amount of time to secure as conventional straps, but drivers don't have to stop en route to re-tension the straps, which saves time compared with manual strapping.

The feedback from both firms involved in the trial has been mainly positive. Both firms have said that they are very impressed with the constant tension the ExTe TU provides for safety and load security. Brian Greggan, a driver and crane operator for Annandale Transport, said that he wouldn't want to go back to manual strapping. Brian added that the process of unloading is faster than when using conventional straps. Drivers for James Jones and Sons have provided similar feedback.

However, there are some drawbacks. At around £1,500 per unit, the current cost of auto-tensioners is much higher than conventional manual straps, which cost around £20 each. However, this upfront cost may be offset by the time saved compared with operating manual straps. The auto-tensioners weigh 11kg each so there is some loss of payload capacity. However, given that ExTe produce the most lightweight aluminium bolsters on the market, the reduction in payload capacity is not significant.

A lack of visibility on the front bunk of the wagon and rear bunk of the drag makes it a little difficult for the crane to pick up the grapple to bring the strap across the load, especially when the loading area between the truck and timber stack is narrow. In this trial the grapples are stored approximately one metre from the bottom of the bolster. Future iterations of TU systems in the UK may see operators choosing different TU tensioner configurations depending on their truck setup (e.g., wagon and drag / artic). For example, on the eight-TU set up, a pair of chains can be linked together on the ground beside the truck and then lifted across by the grapple. This can improve the visibility and half the number of pulls across with the grapple from eight to four.

The trial has also demonstrated that the five-tensioner configuration isn't always sufficient when transporting shorter logs, in which case a manual strap needs to be added.

SMALL WOODLAND OWNER **Professor Julian Evans** OBE FICFor

When to slow down

David and Julia Crossley and I got chatting about our small woods when we met in September. We were at a Royal Forestry Society regional meeting on the Eling Estate and our conversation turned to the topic of how the passing of the years gradually curtailed what we felt up to doing ourselves. I thought it helpful to share some of the thoughts for reasons of safety and common sense and also because we both thoroughly delight in, indeed relish, the joy of ownership.

The first remark, though not necessarily the first that arose in our conversation, is that we need to pace ourselves. Matching what we can do with what we want or hope to do gets ever farther apart: knowing this and being sensible will reduce accidents.

Secondly, we both reported acquiring labour-saving devices or safer substitutes. David and Julia have a log-splitter and we've invested in an electric chainsaw. The latter is brilliant for cutting firewood logs where the same action is repeated again and again, and a full battery gives 40 minutes of continuous use. However, it feels less robust when tree felling and for that I still use my Stihl petrol driven saw with a 14" guide bar. For both, we affirmed the huge importance of a well sharpened chain.

Our conversation turned to generally being more health and safety conscious. Knowing when we were tired echoes what I've already remarked on and knowing when a job is beyond us is now weighed more carefully and judgement more circumspect.

All of this is in the context of the dangers those working in our industry face each day as the accident statistics reveal.

35-year-old ash trees with dieback, too big and too dangerous for me to fell.

We can never be too careful, the small woodland owner very much included.

But beyond the pleasure of conversations with fellow woodland owners, managers and advisers, what a pleasure and what a classroom field trips are! Whether Royal Forestry Society, Confor, Institute of Chartered Foresters (ICF), environmental groups and others all allow us access to new woodlands, new stands, even, perhaps, new silvicultures like continuous cover forestry (CCF) which can inform our own practice. It is no surprise that professional bodies like ICF encourage not only deliberate participation but recording thereof in CPD (continuous professional development) so that we continually improve and advance.

"OTHER CHANGES ARE THE SWITCH TO AN ELECTRIC SAW FOR THE BULK OF FIREWOOD CUTTING."

One matter the Crossleys and I didn't discuss was our response to COP26 and all that climate change must usher into our lives and lifestyles. For me I will try and reduce frequency of visits to my wood which is a 17-mile round trip from home. This will be difficult when trapping grey squirrels as the law requires, and rightly so, a visit every 24 hours once a live trap is set. If only warfarin was still an option and the newer initiatives farther advanced...! Other changes are the switch to an electric saw for the bulk of firewood cutting and attempting to combine jobs and spending most of a day rather than, say, two half days – sounds like more picnics! Use of non-mineral oil for lubricant, local produce for fence repairs, and similar small economies will all help a little.

Finally, being the December issue, may I wish you a Happy Christmas recalling that the Magi brought the Christ child two non-timber forest products – frankincense and myrrh – both of which, today, are endangered because the resource is not managed sustainably.

THE WOOD OLD DAYS *by* Mike Henderson

Before the tyranny of phones, of clones
and drones and traffic cones
Pre-dating rap and drugs on tap, and
taco-wraps and junk in baps
Before the acronyms held sway, more
regulation every day
When winter's snow covered the ground
and bat on ball was summer's sound

There was a time when life seemed good
down in the wood where giants stood
A time when Elwell axe was king and
Spear and Jackson blades would sing
When Sandvik bowsaw's razor teeth cut
many a log up on the Heath
While Yorkshire billhook made chips fly
and helped to keep the fire high

Back then we burned the lop and top,
no Greenpeace telling us to stop
Besides, you needed toasting heat to
make Glad's pack-up fit to eat
Old Hoppus with his ancient arts,
pre-decimal with feet and parts
Bore witness to the weekly slog with
girth tape, sword and foreman's log

Majestic Oaks and silver Ash all fell to
earth with crumpling crash
Sweet Chestnut, Pine, and feathery Larch,
not one could stem the faller's march
Some needed help with lifting wedge
and hefty blows with trusty sledge
And others toppled gently down with
creak or faint protesting groan

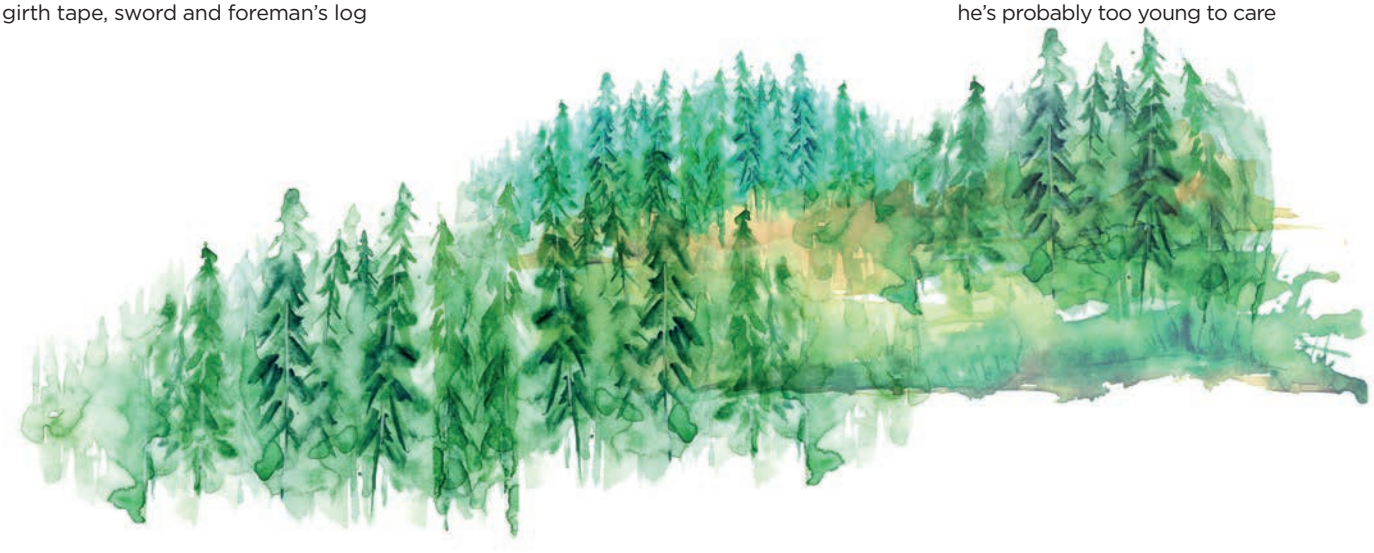
The work was hard and honest toil,
but soon to be displaced by oil
The chainsaw rendered obsolete the
woodman's tools spread at his feet
Left in the shed, no more to work, no
more to swing or swish or talk
Maybe they'll see the light of day, and
grace a theme-pub's wall display

Fast Forward sixty years to find it's much
too late to press Rewind
The days of man-power felling trees are
distant, hazy memories
Where skill and sinew ruled the roost,
the secret now is Turbo-Boost
No manual handling wood today, for
that is not the modern way

Now chainsaw's raucous reign is done,
and monsters weighing many tons
Purr steadily with little fuss, while
churning out their wood for us
Cocooned in air-conditioned room,
with fearsome power at end of boom
The driver is the new king now, his cab
the throne to which we bow

Where once we watched for shake and
grain, for weight and lean in wind and rain
For signs of rot and limbs up high, where
would-be widow-makers lie
Now fingertip control's the way, hydraulic
power rules the day
No need to labour like a navvy, now that
axeman's techno-savvy

Now far-removed from sound and scent
of axe and saw and effort spent
At steel arms-length from stump and stem,
where once dripped sweat of timbermen
I wonder if the driver thinks of those
before who set their sinks
But then why would he, to be fair,
he's probably too young to care



LETTER TO EDITOR

Planting the wrong trees

Gordon Little, (retired) forester

Why, when we are in a climatic emergency are we planting trees which will take years to show a very limited benefit?

Carbon sequestration is the main aim and whilst planting oaks and other hardwoods will show a small benefit, it will take many years, and be limited to the deciduous growing season.

Water retention, for flood prevention, will be limited with deciduous trees especially in the winter when they are leafless.

Home timber production would make huge energy savings on transport as we import almost 90% of our wood fibre requirements from all over the world. Hardwood trees will contribute very little in the way of timber if at all.

The answer is to plant fast growing conifers wherever possible and especially in the catchment areas of flood prone rivers, where the year round dense foliage and underlying mat of cast needles can hold large volumes of water for many days. In a little as 4 to 5 years the plantations will be functioning effectively, compared will 20 to 30 years for hardwoods, if they survive. Forestry Commission statistics show that Sitka Spruce can achieve almost four times the yield of English Oak, with the relevant carbon storage.

Yes, it will change the landscape, but for the better with a more biodiverse habitat than the miles and miles of bare rarely visited moorland.

We need to decide whether this situation is, as they say, an emergency, or not and bite the bullet.

In 1919 a body was formed in an emergency to replace our depleated timber resources – this was called The Forestry Commission. We now need another "Commission", with specific directives, to act quickly and save a drastic situation before it is too late.

Plant hardwoods by all means, but not under the claim of effective carbon sequestration or flood prevention.

FORESTRY IN PICTURES

"Artwork or abomination – when might it be preferable to leave an abandoned vehicle in a semi-natural woodland?", says Stephen Tong of Tilhill." Read his article on assessing biodiversity in your woodlands on page 52. *Photo: Stephen Tong.*

Want to see your picture here?

Forestry in Pictures is a regular feature in FTN. For every issue, we select the most impacting photograph sent by a reader. If you have a photo you would like to see published here, please send your file to **Stefanie.kaiser@confor.org**. Please include your name, a short comment text to go with the picture, and an image credit.

Photos should relate to forestry and timber and be of high-quality (minimum resolution 300dpi). Exceptional pictures might be considered for the front cover of a future FTN issue.

By submitting a picture to Forestry in Pictures you give Confor permission to use the file for non-commercial purposes in Forestry and Timber News or the Confor website. Photos will always be credited.

COMING UP IN FEBRUARY 2022 – GET INVOLVED

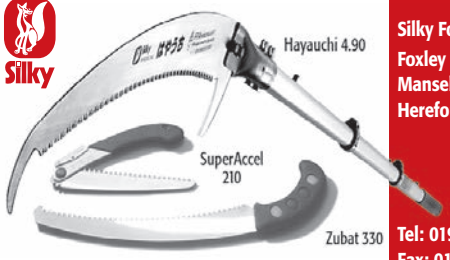
In February, we will run our regular annual features on Forest Management and Diversification, and on Human Resources. Remember that FTN is your magazine – get in touch if you want to suggest editorial or give us feedback on articles we have published in the past. Confor members, send us your company's news updates or pitches for feature articles. Note that our general editorial deadline for the February FTN is 10 January 2022. If you would like to pitch an article idea, please do so by the end of December 2021.

F&TN CLASSIFIEDS

MACHINERY EQUIPMENT

PRUNING MADE EASY

Silky



The world's finest pruning saws

Silky Fox Saws
Foxley Estate Office,
Mansel Lacy,
Hereford HR4 7HQ

Tel: 01981 590224
Fax: 01981 590355
www.silkyfox.co.uk

BIO-OILS

Plantoil
cares for the environment

plantoil BIO-LUBRICANTS ...pure green

CHAIN SAW OIL ● 2-STROKE OIL ● SAW BLADE OIL

FREEPHONE 0800 013 7363 www.plantoil.co.uk

FORESTRY CONTRACTORS

SHROPSHIRE FORESTRY CONTRACTORS

WANTED

STANDING TIMBER ALL SPECIES INCLUDING SOFT WOOD
ALL SPECIES AND GRADES OF TIMBER AVAILABLE FOR DELIVERY

ALSO OAK, ELM (PLAIN AND BURRS), BIG ASH AND FIGURED SYCAMORE

TOP PRICES AND PROMPT PAYMENT

CONTACT: JOHN HALL, FAIRACRES, COUNDMOOR, CRESSAGE, SHREWSBURY SY5 6AY

Telephone: 01694 731621
Fax: 01694 731624 Mobile: 07802 366653

WANTED

QUALITY OAK REQUIRED

Standing or felled

Good price paid for large clean planking logs

Also interested in other grades

Whippletree
Tel: 01763 208966 Fax: 01763 208977

NET PRODUCTS

NET BAGS & BULK BAGS

for logs & kindling.

Plain or with printed band. 1 - 3 day delivery anywhere in the UK. For the best quality, service and prices!

Contact Ian or Robert.
Medallion Net Co Ltd,
Franciscan House,
Grove Lane, Elmswell,
Suffolk IP30 9HN

Freephone 0800 7834018
Telephone 01359 242910
Fax 01359 245264
www.medallionnet.co.uk
Email bsmith4uk@aol.com

CERTIFICATION

An independent FSC® & PEFC Certified Forestry Group Scheme

Providing UKWAS certification to forest owners throughout the UK

UK FCG
Forest Certification Group

The cost effective route to make certification work for you
Support, training, techinical industry updates, trademark use

PEFC FSC

Paul Sandys: 07803 619249
Phil Webb: 07970 388940
ukfcg@hotmail.com
forestcertification.org.uk

Make this space work for your forestry business

Call Laura on
01502 725 866

FORESTRY & TIMBER

FORESTRY&TIMBER LIMITED

INDEPENDANT ADVICE

Purchasing | Selling | Managing | Investing?

- Woodland
- Round & sawn timber
- Enterprise
- Products

Director Mike Mann provides a one-to-one service:

based on 40 years experience across the industry.

Free initial telephone consultancy

Required now by client: 10,000ft³ good quality homegrown Oak sawlog

Contact: Mike Mann T: 01579 350 096 / 07436 282 700 E: mike.mann@crocadon.co.uk

JAS P WILSON

FOREST MACHINES

The one stop forestry shop!

POSCH K-660 a-Vario
Automatic Firewood Factory

Merry Christmas

from the team at Jas P Wilson!

Excavator Attachments and Forestry Guarding

QUALITY MACHINES, QUALITY SUPPORT.

Tractor Based Machinery, Forestry Guarding & More...

www.jaspwilson.co.uk

Tel: 01556 612233 Email: info@jaspwilson.co.uk

FOREST MACHINE SPARES DIRECT

BOTEX POSCH IASCO IGLAND TP EAZiPAK JAK HARVADIG THE VERSATILE CHOICE FAE SP Keto Harvesters