FORESTRY & TIMBER NEWS

June 2021 Issue 105

FORESTRY IN A DIGITAL AGE

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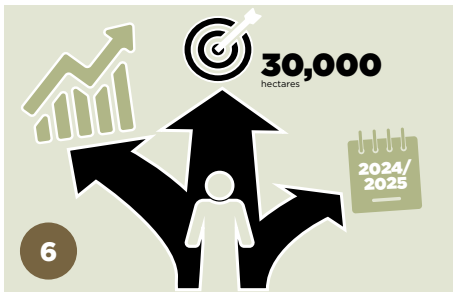

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May you live in interesting times...

STUART GOODALL CHIEF EXECUTIVE, CONFOR

In all my years with Confor I don't think that 'Chinese curse' has been more appropriate. We have a new 'Action Plan' for England, a new Minister in Scotland, new opportunities for influence in Wales, and the former Northern Ireland forestry minister is now leader of the largest party at Stormont. Throw into the mix a Green Recovery from the pandemic and a steady stream of reports and policies on carbon trading, incentives and taxation, and there's a lot to get your head round.

On the positive side, demand for timber products remains strong and the long-term fundamentals are positive – the world wants more wood.

The challenge is we operate in a highly regulated sector, with public policy and funding driving the speed and type of new planting, and we face strategic challenges like skills and squirrels that require governmental support and co-operation. We also have to compete for ministerial attention with powerful organisations who are often laser-focused on their own interests.

Thankfully, the facts are on our side, and we have a product that ticks so many boxes, and we have made real progress in communicating all this. But we're now at a crossroads.

For me living in interesting times isn't a curse, it's an opportunity that needs to be grasped. Confor has and can make a real difference, and we now need to redouble our efforts.

In the coming months we will continue to strengthen our communications with Members, so you know what we're doing for you and to ensure we're focused on your priorities. And please do get in touch, it's because of you that I and the Confor team can enjoy these interesting times.

Are we dealing with stretch targets?

Changes which could affect the forestry and wood industry across the UK have come thick and fast recently – the England Trees Action Plan, ministerial reshuffles following elections in Scotland and Wales, and a new DUP leader in Northern Ireland. **David Lee** tries to read the political runes.

When the UK Government confirmed plans to plant 30,000 hectares of new woodland every year by 2024-5, it was what might be euphemistically termed 'a stretch target'. With 2019-20 planting levels stubbornly flat, at just under 14,000 hectares - and new figures due in June unlikely to see progress - there's a big challenge ahead. The target is complicated because it is set by the UK Government, which can only directly influence planting in England - which delivered only 2330 hectares of new woodland in 2019-20. It therefore relies on other parts of the UK to meet the target, including Scotland, where forestry policy is fully devolved.

Scotland is currently planting about 80% of all new woodland in the UK, with ambitions to go from its current level of 11,000 hectares to 18,000 hectares by 2024-25. England aims to increase planting to about 7000 hectares annually by then, although it is unclear why the figure was not included in the England Trees Action Plan, published on 18 May. This would leave 5000 hectares to plant annually in Wales and Northern Ireland. With Northern Ireland's capacity probably 1000 hectares, this would leave a 4000 hectares 'balance' for Wales - but with just 60 hectares planted in 2019-20 and no big increase expected for 2020-21, this looks tough. So where do we go from here?

Scotland – momentum is vital after reshuffle

When the last SNP administration took charge in 2016, Confor set out the case for the approvals process to be managed more like planning, with firm and clear deadlines. The Government established a review into the planting application and approval process, led by plain-speaking former Chief Planner Jim Mackinnon, which swiftly laid out clear action points to reduce bureaucracy and delay in the system. The proposals were accepted in full by Cabinet Secretary for Rural Economy, Fergus Ewing, and their impact - coupled with Mr Ewing's strong political leadership and earlier work by Confor on improving processes and balancing grant rates - proved significant. Planting rates rose from just over 4500 hectares in both 2015-16 and 2016-17 to around 11,000 hectares in 2018-19 and 2019-20, with a split of around 60% conifer and 40% broadleaf.

With the 2020-21 figures expected to nudge up from 11,000, the industry in Scotland has momentum and confidence. This is underpinned by the Scottish Forestry Strategy, which runs through to 2029 and passed through the Scottish Parliament with cross-party support. Confor's inclusive message - that the economic benefits of forestry and wood processing go hand-in-hand with efforts to tackle the climate and nature crises - has been well-received across the political spectrum.

The environmental NGOs pushed for a 50:50 conifer:broadleaf split during the 2021 Scottish Parliament elections, but Confor believes the 60:40 balance should remain, to ensure long-term timber supply and sequester carbon faster.

Scotland is the only part of the UK to set a target for wood use in construction, with the aim of increasing it from 2.2 million cubic metres in 2018 to 3 million cubic metres by 2031-32.

Fergus Ewing MSP and senior SNP MP Drew Hendry backed Confor's efforts to push up both tree planting and wood use during a 2021 election campaign visit to Gordon's sawmill in Nairn. The SNP's ambition has continued to rise, with the aim now to plant 18,000 hectares of new woodland annually by 2024-25.

Confor described the target as "ambitious but achievable" - but it will need to be met without the strong support of Fergus Ewing, whose Rural Economy and Tourism portfolio disappeared as First Minister Nicola Sturgeon shuffled her pack after the SNP formed the new Scottish Government.

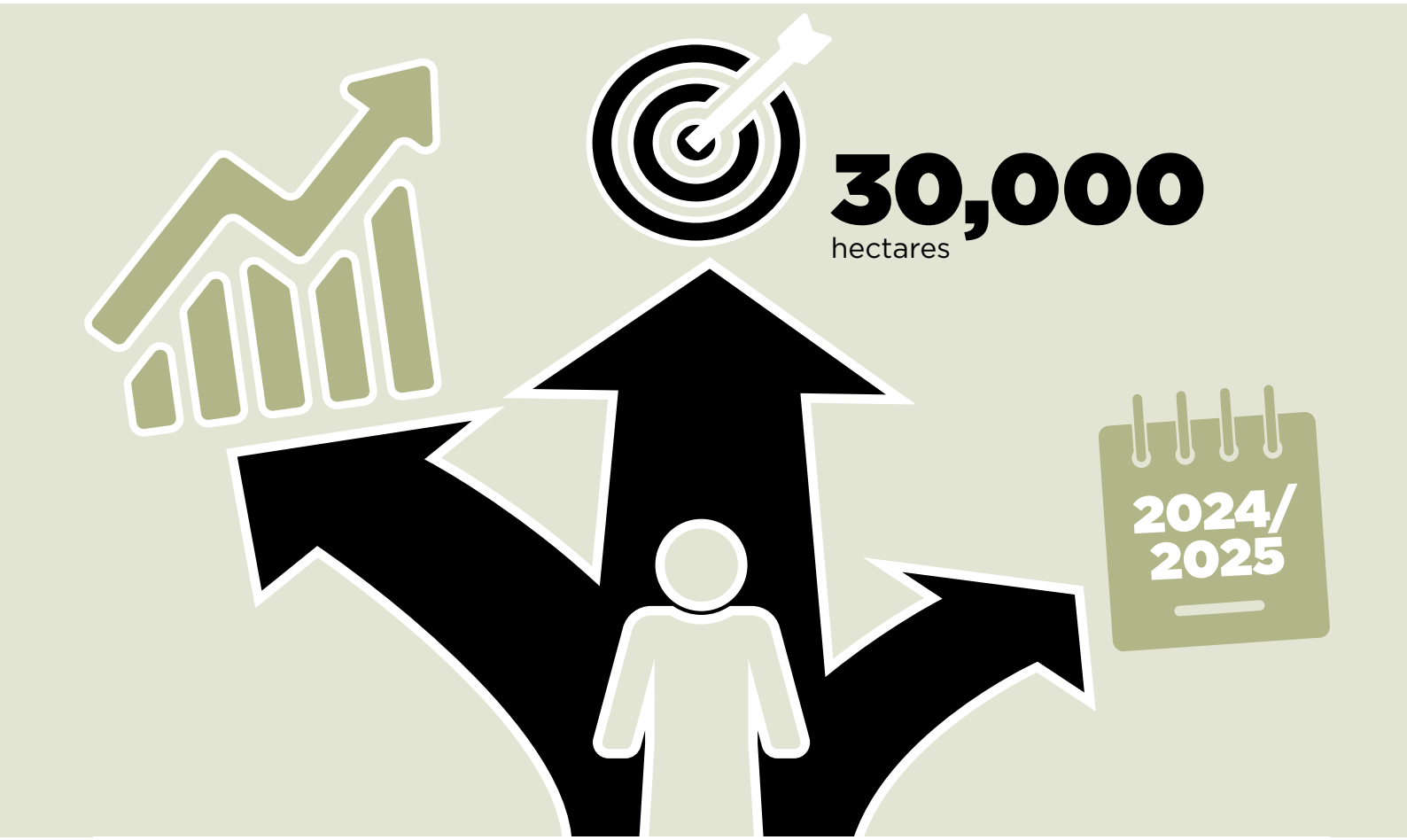
At the time of writing, forestry appears to sit under the new portfolio of Net Zero, Energy and Transport, led by Cabinet Secretary Michael Matheson, rather than with Mairi Gougeon at Rural Affairs and Islands (who spoke positively about modern forestry after a visit to a large planting site in 2019). The significance of forestry in the new Government is uncertain and much will depend on the attitude of new ministers, but certainly Fergus Ewing's strong voice will be missed.

Working with Government, the sector has built momentum in planting (there is already a pipeline of schemes for future years) and financial support for timber transport has expanded hugely. Business and investment confidence has been strong and Confor will engage constructively with the new Government to maintain that and the momentum required to move from 11,000 to 18,000 hectares by 2024-25.

England – no clear commitment to targets

Earlier this year, Confor supported a multi-party attempt to get the UK Government to enshrine tree planting targets in law. Despite the backing of high-profile organisations like Sainsbury's and The Woodland Trust, this didn't happen. More disappointing was the fact that there was no target in the England Trees Action Plan. This was odd, as one day before the Action Plan was published, Environment Secretary George Eustice was quoted in a Defra press release saying rates would treble. The release also said: "Under the new target, approximately 7000 hectares of woodlands will be planted per year by the end of this Parliament (May 2024)."

The date is interesting as it is when the next General Election will take place, unless the Fixed-Term Parliaments Act is scrapped, which Boris Johnson has said he wants to do.



That leaves just three years to treble planting and although there are positive signs (Defra and Forestry Commission beefing up staff resources), the Trees Action Plan continues to put the emphasis on majority broadleaf planting. In his article, John Lockhart of Lockhart Garratt argues we must "extend the palette of species we are planting and make sure conifer species are high on that list".

The broadleaf focus seems strange when it is clear planting targets won't be hit without large-scale productive mixed planting - and when the UK needs to grow more of its own wood. The Action Plan recognises the Carbon benefits of using more wood and against a backdrop of soaring global demand for softwoods, the UK cannot rely on imports to always make up future shortfall.

There are positive messages in the Action Plan about wood use, rural jobs, skills and more, which provide a strong basis for current work in England to agree actions to support the industry, but the lack of a clear statement on the need to tackle grey squirrels if we're ever to have a growing hardwood industry is frustrating.

Baroness Young, Chair of the Woodland Trust, has spoken eloquently of "planting with a purpose" and delivering a commercial crop from hardwoods as well as softwoods, but the message isn't cutting through.

Lord Goldsmith, the Forestry Minister, seems keen to work with industry to push up planting and wood use, but the Action Plan does not make a coherent link between the two. Without purposeful planting and an approach that positively embraces all types of planting, it's hard to see the 7000-hectare target being met in just three years.

Wales – positive signs but still lack of tangible outcomes

The planting figures in Wales look grim - just 80 hectares planted in 2019-20, a long way from the aim to plant 4000 hectares annually "as soon as possible".

Yet behind the headline figure, things are looking up. Serious money has been set aside in the last two rounds of Glastir and there is a strong pipeline of projects being put forward. The challenge is that the money isn't getting through to schemes being planted. There is criticism of inflexible and bureaucratic processes hampering progress, suggesting that a Scotland-style review might be beneficial to unlock the latent demand.

The strong focus on using Welsh wood in construction is positive, but this needs to be a joined-up and long-term project, where Wales plants the trees to grow the wood that it uses to build Welsh homes for future generations. The change in traditional portfolios after Labour returned to power in the Senedd elections might signal a move to more joined-up thinking and working from the Welsh Government. The portfolio of Climate Change Minister Julie James (and her Deputy Lee Waters) appears to embrace forestry, timber, housing and environmental impact regulation (among many other themes). They are both supporters of timber in construction and might look seriously at following the wood back to the forest - and make changes at the breadth and scale required to remove some of the major barriers to afforestation?

Northern Ireland – increasing ambition to push planting

Just 200 hectares of new woodland were created in Northern Ireland in 2019-20, but there is ambition to go further.

In March 2020, the *Forests for our Future* programme was announced by the Agriculture, Environment and Rural Affairs Minister Edwin Poots - who was elected as leader of the Democratic Unionist Party in mid-May.

The official press release referred to "Poots' planting pledge" of 18 million trees over the next 10 years - roughly 900 hectares per year depending on tree species and density.

Again, although this is a stretch target, the ambition is welcome. But will Edwin Poots continue to press ahead with his planting pledge or will the pressures of Brexit implications and Northern Ireland politics push it down the agenda?

VIEWS FROM THE INDUSTRY

What are the real-life barriers to meeting planting ambitions?

Iain Peddie,
Director, Highfield Forestry

The Forestry Grant Scheme in Scotland is financially generous for woodland creation and worth having, but the route to tree planting is a long and uncertain one, slightly easier for those already with land, more difficult for those looking to purchase land for planting.

The main barriers to an application are not, in my view silvicultural, they are bureaucratic. These barriers are down to Scottish Government processes rather than just Scottish Forestry. Scottish Forestry is understaffed with new recruits to the organisation lacking forestry experience, which leaves senior staff with far too much influence, often using their personal preferences rather than robust silvicultural arguments to justify decisions in the application process.

Outside Scottish Forestry's remit, the problems lie with the Rural Payments and Inspection Directorate (RPID), whose system is heavily biased toward agriculture and does not fit the forestry sector. The most restrictive factor is the claim year deadline, which falls in the middle of the tree planting season. Where pre-application seasonal surveys are required, this reduces time from contract award to the claim deadline. Any delays caused by winter weather often leaves forest owners having to rush planting or vary contracts, creating massive uncertainty and more work for all involved. Before an application can be submitted, the business and land both need to be registered. Business registration is a challenge as RPID appears to assume everyone is trying to defraud the government. Where one person has significant interest in more than one business, often these businesses are merged by RPID even though they are separate legal entities. This causes serious issues where contracts are not in the name of the legal landowner, therefore preventing Scottish Ministers from taking a standard security, required for high-value projects.

Land registration presents yet another challenge. Where part of an existing land parcel is purchased, it can take months to get the registration completed due to mapping service delays, which means grant contracts cannot be issued. The division of land parcels appears arbitrary, particularly within existing forests and requests to get parcels merged are often unsuccessful. Even after getting a grant contract, land parcel changes can be made without the owner's knowledge, and this only ever reduces areas and payments.

These issues lead to uncertainty for the owner, leading to loss of confidence in the Forestry Grant Scheme and the investment - and that is before I get started on the carbon market.

John Lockhart,
Chairman Lockhart Garratt

I was sat across a kitchen table last week with a long-standing client who was nervously looking over to his son for moral support on a decision he described as "intergenerational with far-reaching implications".

We were talking about planting up a small part of his farm which, for the past 50 years, had delivered reasonable returns as a mixed arable and dairy unit. Previously such long-term decisions, say 15-20 years for putting in a new milking parlour – paled into insignificance against the potential 120-year commitment to create a new woodland.

This kind of decision doesn't come easily, particularly when the landowner's skills and understanding are very much in the realms of food production. Nevertheless, there was still lots of enthusiasm to do something meaningful – but as I started to talk them through the design, consent and grant process, not to mention cost, I could sense them glazing over. If I wasn't careful, this project was going to be put back into the 'too difficult' pile for another day.... or year....

That meeting was one of many I've had recently where we've seen a huge increase in interest for woodland planting in lowland England. This has been fuelled off the back of fundamental changes following the demise of the Common Agricultural Policy and the birth of the Environment Bill.

Farmers are following the money and they've been told that trees are a serious option to consider but it's all looking too complicated at the moment with a large capital requirement, impacts on land values, lack of flexibility and uncertain long-term income streams.

It's excellent that this is being recognised by the forestry sector too, for example the birth of the Forest Canopy Foundation is already cutting through the complexity and drawing down serious funding opportunities for landowners to plant trees.

There is huge demand on our land in England. Some would argue that it doesn't make economic sense to use our best and most versatile agricultural land for tree planting. We need to help landowners identify where the opportunities lie for tree planting alongside producing food.

Early collaboration with stakeholder groups to identify the key environmental issues is vital. The emergence of these later down the line after submitting an application not only causes delay but also rocks the confidence of the landowner. Archaeology in particular has a habit of de-railing schemes depending on the particular approach of the local authority.

The broadleaf policy in England is nearly 40 years old, and many earlier adopters of this policy are now scratching their heads as they see maturing woodlands ravaged by Ash dieback, Acute oak decline and squirrel damage. To give landowners the reassurance that the tiny transplants they're putting in the ground now are going to emerge into mature specimens, we need to extend the palette of species we are planting and make sure conifer species are high on that list.

We need to be designing and building resilience against climate change and future pest and diseases, given the timescales involved. This will only happen if we can purchase those trees from reputable nurseries who understandably remain cynical of the current drive, having been stung by perceived demand never emerging in past policies.

So, what do we need to do? We need to give confidence to that landowner, who's got to make a massive decision on what he needs to do with this land, through providing a good return for his investment and making the planting process as simple as possible.

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GLENNON BROTHERS BUYS BALCAS

Third-generation Ireland sawmiller Glennon Brothers has entered into an agreement with SHV Energy to purchase Balcas Ltd, subject to approval from the Competition and Markets Authority in the UK and Competition and Consumer Protection Commission in Ireland.

If approved, the deal would almost double the size of Glennon Brothers' business – the company's existing turnover is approximately €150m and Balcas accounts for about £100m.

Balcas operates a sawmill in Enniskillen, County Fermanagh, Northern Ireland, producing quality sawn timber products for the Fencing, Landscaping, Agricultural, Construction, and Pallet & Packaging sectors.

In addition, the business operates two renewable energy plants at Enniskillen and Invergordon, Scotland, which incorporate CHP (Combined Heat & Power) and wood pellet production.

"We look forward to welcoming the Balcas team onboard as part of Glennon Brothers, and to working with them to grow and develop the business in the years ahead," said Mike Glennon, of Glennon Brothers.

"This is another milestone in Glennon Brothers' history, which dates back to 1913 and we are thrilled to have Balcas join us on the journey moving forward," said Pat Glennon *(pictured left)*, of Glennon Brothers.

"We are excited to be joining Glennon Brothers, a business with a deep-rooted history in the timber processing sector and values aligned to our own," said Brian Murphy, CEO of Balcas remarked.

A decision by the competition authorities is expected this summer. *http://www.glennonbrothers.ie/*

SCOTTISH WOODLANDS APPOINTS NEW CARBON MANAGER

Scottish Woodlands has appointed its first full-time carbon manager to advise investors and clients on how to derive green value from their forestry and land assets.

Emma Kerr, who joins from Davidson and Robertson rural surveyors and consultants, is based in Dumfries & Galloway but will operate from a range of locations in Scotland and northern England.

Emma said: "I am passionate about the future of natural capital and keen to specialise in this evolving area of land management. I understand that the necessity and opportunity to manage forestry, peatland and land in a sustainable way will be vital to seeking an environmental and economic equilibrium at a local and national level to reach Net Zero targets. *www.scottishwoodlands.co.uk*

JAMES JONES & SONS COMPLETES NEW VISITOR BUILDING AT LOCKERBIE SITE

The idea for the building recognised the need to provide increased office accommodation, better visitor facilities, and the opportunity to host on-site training courses and industry meetings, which previously had to be conducted offsite.

The completed building's structure acts as a demonstration project, almost entirely erected from James Jones & Sons' own products with an approach to minimising the use of steel and maximising timber. Loadbearing glulam beams were used throughout the building, while an unprocessed tree trunk provides loadbearing support to the backbone of the building; a nod to the timber processing cycle. *www.jamesjones.co.uk*

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THE END OF AN ERA: NEWTON RIGG CLOSES IT DOORS

Newton Rigg College will close at the end of July 2021. The current owners, Askham Bryan College, have decided that the campus was no longer profitable and determined that it had to close the site.

ABC took on the campus in 2012 when the University of Cumbria moved the National School of Forestry to Ambleside. The Further Education Commissioner was invited in March 2020 to review the site and the courses offered. The review's result in June 2020 was the site needed significant investment and the majority of NR students could attend a similar course at another college within an hour's drive of their home address.

Given these findings, ABC made the decision that the site was to be sold and if no buyer could be found it would close the campus.

During autumn 2020, there was an opportunity for another educational organisation to purchase the site if all the conditions set by ABC and the Department of Education were met. Unfortunately, neither of the two bidders was successful and on 18 December 2020 it was announced that the site would close.

A further two month window was opened in January 2021 for the bidders to try again to buy the site but both pulled out. This left all staff facing redundancy and students looking for a place to complete the second year of their courses.

The sites are currently advertised for sale, but there are still some people fighting for the campus. Newton Rigg Ltd was set up with the aim to take on the campus and return it to its former glory. They were one of the original bidders and are currently using crowd funding to raise the money to buy the site. However, the farms are valued at £7.2million and the campus land is undisclosed; they have a long way to go.

Newton Rigg has taught thousands of foresters over its 50 plus years of forestry education, but it looks like its era has ended.

CONTINUITY IN APPG LEADERSHIP

The All-Party Parliamentary Group on Forestry and Tree Planting has elected its new office-bearers – with Ben Lake MP *(pictured)* returning as Chair.

Four Vice-Chairs – Drew Hendry MP (SNP), Lord Clark (Labour), Lord Colgrain (Conservative) and cross-bencher Lord Carrington – were re-elected. Deidre Brock (SNP) has also joined as a Vice-Chair.

Ben Lake, Plaid Cymru MP for Ceredigion, told the Group's AGM: "We could never have imagined, when I became Chair in February 2020, that all our other meetings through to April 2021 would be online.

"However, the meetings have been excellent, with strong content and interaction, and very positive feedback. When we agreed the remit for the group, we promised to help tackle two specific issues – to ensure the forestry and wood sector has a secure supply of timber and to ensure that woodlands are managed responsibly.

"They are two issues we have covered repeatedly in a very coherent set of meetings."

Stuart Goodall, CEO of Confor, which provides secretariat support for the APPG, said: "Ben Lake has been an enthusiastic and excellent APPG Chair, who has repeatedly taken up issues on behalf of the Group with ministers and officials. We are delighted to have him back."

The APPG hopes to hold an in-person event at Westminster by the end of 2021.

To receive updates about APPG meetings, please email info@publicaffairs.coop

TREE RADICALS COURSE AIMS TO SHAPE NEW FOREST PARADIGM

Woodland Presents and Timber Strategies are launching a new course, an inquiry, on the future of forestry. The course aims to bring together foresters and a diverse set of professionals, big thinkers and change makers, to explore new innovative ways of managing our trees.

Our society has known that we need to expand and regenerate UK forests for a long time... yet we keep missing the target. So what if we changed the 'normal' response? What if a different team of skilled professionals could help break this cycle? This is an invite to become part of a diverse group of talented people that are prepared to commit themselves to exploring pathways towards a new forest paradigm.

This will involve delving in deep to the policy, ecology, economics, attitudes and perceptions that underpin the current state of affairs, then exploring and resourcing meaningful interventions. The goal is to influence thinking, practice, and the ways humans interact with forests. This has never happened before. There are no guarantees of what will result, but deep, rich learning and change is on offer.

Change our course. Become a Tree Radical.

More details at http://thewoodland.co/tree-radicals/.

SCOTTISH WOODLANDS SAYS FAREWELL TO COLIN KENNEDY AFTER 40 YEARS SERVICE

Colin Kennedy *(pictured right)* retired from Scottish Woodlands Ltd at the end of April, after 40 years service with the company. Following six years in the Inverness office, he moved to the south-west to their Castle Douglas office, steadily gaining promotion until becoming Area Manager for South Scotland / North England in 1999, and then a Director of Scottish Woodlands until 2007 when the company restructured, and remained an Associate Director until retiral.

Colin's professionalism and easy, likeable manner will be well known to many *FTN* readers. But what everyone may not know is the huge debt Confor owes this man, for he has served in a voluntary capacity as chairman for Confor's South Scotland region for the last 14 years, freely giving his wise counsel and advice to me, and supporting the membership generally.

We wish him a long and happy retirement with more time to enjoy life with wife Lindsey, his three children and two grandchildren. Mind you, they will have to compete with his passion for golf – a single handicapper, he is due to take on the Captain's role at Kirkcudbright Golf Club later this year. That's when he's not to be found at his local tennis club in Castle Douglas – a County player in his youth – or immersed in local community work for schools, church and village. Or maybe the next Mastermind – he is an avid "quizzer".

Thanks for everything Colin – you will be missed.
Jamie Farquhar

HOME FORESTRY ANNOUNCED AS NEW SYKETEC DEALER

Home Forestry LLP are very pleased to announce their new dealership in England and Wales for the Finnish Harvester head company Syketec LTD. Home Forestry LLP is based in Shropshire, England and is a forestry machine sales and timber harvesting company est. in 1996. Syketec LTD produce stroke heads and tractor mounted processors referred to as the Jobo range, which can also have wheel motors fitted to speed up delimbing, if the base machine has the required oil flow. The Jobo 50 ST and Jobo 75 ST are available to be mounted on forest cranes and the EX-models are designed for excavator bases. *www.homeforestry.co.uk*

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- Walsall Tree and Garden Services
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- Duncan Cameron
- Liam Atkins
- Diana Guglielmotti
- Kati Karki
- Michael Turner
- Grant Murdoch
- Joel Apa
- Samuel Pyne
- Will Daniel
- Samuel Whibley

TILHILL'S BOARD OF DIRECTORS REINFORCED

Tilhill has welcomed Harry Legge-Bourke to its board of directors, as a non-executive director, with immediate effect.

As the owner of the Glanusk Estate, a successful multi-diversified estate set in the Black Mountains in the Brecon Beacons National Park, coupled with his extensive experience that includes being a former board member of Natural Resources Wales (NRW), and chairman for the Wales Land Management Forum, Harry will be able to advise on the many aspects of forestry and utilise his business acumen to provide guidance where appropriate.

Tilhill has also announced the appointment of Peter Chappell as their new head of Investment & Property, taking over the role in June following a robust handover period. Peter joined Tilhill in 2007 as a forest manager. Then, after time spent in the forest industry in Finland, Peter returned to the Company to become part of the Investment & Property team based in Wales.

Peter gained Chartered Forester status in 2010 and has many years' experience in not only forest management but the investment aspect of what is rapidly becoming a much sought after portfolio asset.
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THE LOG DAUGHTER

Part of a close-knit timber family business, Laura Jermy has explored all aspects of the forestry and timber supply chain – from driving heavy machinery, to understanding regulations, to managing harvesting squads. And she is on a mission to educate the public about our great industry. **Stef Kaiser** meets her in Carlisle.

Laura Jermy is the third generation of a family held together by a passion for timber. The two family businesses TG Norman and DS Norman, run by two of Laura's uncles, work closely together on a daily basis. 31-year old Laura, has worked her way up to become the business's timber buyer and harvesting manager.

Until recently, TG Norman, a softwood and hardwood sawmill based in Cumbria, used to buy at roadside and send the timber for processing to the sawmill the family has been running on their site for 58 years. "But since we started purchasing standing timber, we have integrated the harvesting and replanting aspect into our business model", says Laura. For her job, this meant diversifying into forest management, and having to learn how to deal with license or grant applications for her clients.

"As a family, we are now almost 'from seed to sawmill': I buy standing timber, our contractors cut it and my father and one of my uncles haul it to either our in-house sawmill or one of the larger processors in the region – James Jones, Iggesund, Taylormade or Kerrs."

The deep end

Laura's grandfather Thomas, who is now 76 years old, started TG Norman in 1962 and has always been the pillar of the family business. But when four years ago, his health started to deteriorate, it was time to bring in someone else to support him or take over his role. No easy task, as for a family business, trust is the number one priority when it comes to delegating important responsibilities.

"One day, my grandmother Hilary, who is also a key member in building the Normans foundation, approached me and said – 'have you ever thought of buying timber, Laura?' It was the day when my career in the forestry and timber sector began. I ended up taking over the buying aspect of the family business – and become deeply immersed in other aspects of the supply chain, from learning how to drive timber lorries to advising landowners on felling and replanting".

Laura was thrown in the deep end and her learning curve was steep, with success resulting mainly from learning by mistakes – many mistakes. "I had grown up surrounded by logs and lorries, but didn't have any knowledge of what happened beyond our timberyard, what a log's journey was from forest to sawmill."

Laura's grandfather and uncles mentored her in the beginning. Her training was a combination of shadowing her family on their trips to the operations sites, learning from the contractors, and complementing it with her own research to fill the gaps. "My family could pass on their knowledge as timber merchants and hauliers, but when we started buying standing timber and got involved in harvesting and replanting, I had to very quickly get up to speed with understanding how to maximise product output from a tree; I had to understand the work of the harvesting contractors and what to watch out for. At the beginning, it was difficult to project an air of confidence with my very limited knowledge – I had to be very vigilant to avoid a bad deal. It is my work with the contractors that has shaped me a as a professional."

Laura's willingness to help out with whatever was needed in the family business meant that she ended up with a lot of responsibilities on her shoulders – but also with an impressive insight into the inner workings of a supply chain – which today benefits her work as a manager. Having started with the administrative side of the business, she doesn't shy away from jumping on a forklift or get into the timber lorry when a load needs delivered. She holds a JCB forklift and a HGV class 1 and 2 license.

@thelogdaughter's story time on TikTok

On the social media platform TikTok, the main source of information and opinions for many under-20s, Laura posts videos giving insight into her daily work – driving the lorry, in the forest dealing with harvesters or assessing trees, or in the timber yard checking the incoming timber loads. To the beat of pumping pop music, she walks her audience through every step of getting timber from forest to home, for example: "receive infected larch notice from Scottish forestry" – "Went out to the forest to look at the timber" – "Got contractors to inspect site and quote for harvest" – "tendered for the job and won it" – "planned the waggons and routes" – "did my risk assessments" –"sent in the machines"- "made a landing pad for the wagons to load" – "hauled the timber so you can light your fire at home".

A key reason why Laura tells the forestry and timber story on social media is she got sick of the scrutinisation of our industry and the people in it. "We are seen as 'ogres' – habitat killers, drivers of big, loud lorries. I want to educate the public on why we are here, working every day. My message is that we are passionate about our sustainable industry and we provide a service to you – you, who is watching my videos."

"Most people are not mean or dumb – they are just unaware. They go to B&Q to buy a fence panel, maybe complain about the price, but haven't paused to think about how the post got to the shop and the people who made it happen."

As a timber buyer and haulier based near the Scottish-English border, she sees a stark difference between the countries when it comes to regulation. "If I want to haul timber on the Scottish side of the border, I have to comply with the rules of the Timber Transport Forum, which involves detailed planning of every load to make sure it is on an agreed route. The routes are colour coded, with different levels of assessment and planning requirements for the different levels. Sometimes, councils can veto a timber transport, which, of course, complicates our work as timber hauliers, compared to the situation in England. However, I understand the need to work extremely close with the councils, as timber transport can have a negative impact on local communities, if not managed appropriately."

Passionate advocate

A lot of TG & DS Norman's work is on estates and farms, filling a niche that is often not covered by the bigger forestry companies. Laura's best friend Rachel owns an animal health farm supply business called NutriGrow. The two women collaborate professionally, helping each other out with advice and creating business opportunities. For Laura, this symbiosis between local farming and forestry businesses is common sense, and she has become a passionate advocate for presenting forestry and farming as part of the same story, reducing silo thinking.

It's not only the farming vs forestry narrative Laura wants to change, but the public perception of our sector. In her job as a buyer and manager, she has had her fair share of dealing with hostile members of the public. A woman of action, she believes that helping to understand and giving insight is key to changing perceptions.

https://www.timberandsolidfuel.co.uk/

Information Highway – Future technology solutions in forestry

Per Annemalm, Komatsu Forest, explains how current and future cloud-based data sharing allows the supply chain to work smarter, not harder.

A modern forest machine uses integrated sensor and computer technology to collect information about all its activities in the forest, as well as information about its health and performance. Some digital information exchange between forest machine, planners and processing industry has been available for decades already, but still, phone calls and paper documents are common.

The 'Information Highway' has now reached the forest – bringing real-time data transmission and smarter business systems to our onsite operations. Let us show you some opportunities the future will bring in terms of connectivity across the forestry supply chain. Some of the applications are already a reality, others are still at development stage.

Control of value chain: Forest – Industry

The processing sector needs to be in control of what is being produced: what lengths and diameters are cut, qualities, straightness of logs etc. Any change must be done quickly, and within the same working area. A sudden order for sawn wood from a customer may generate a need for different lengths. A price hike of fence poles means the harvester has to swap from cutting for pulp wood to fence wood. Every minute cutting according to out-of-date instructions is a loss of value. And any manual change of the instruction in the machine means a risk of human error. Processors and product buyers should be able to change production instructions in real-time, and ideally in an automated way, responding to changes in product demand. This is getting closer to reality now as the technology evolves. We will basically see logging systems where the operator never gets involved in what lengths the machine will produce. It will all be managed from an office.

Different types of forest sites will produce different products. Today, depending on market demand, planners sample forest sites, make estimations, use growth models and sometimes just harvest sites as they come. The future planning could be based on laser scanned forestry data. A drone scanning individual trees, and the choice of site will be made to fit what backlog the industry has of the forestry product.

Stock control

The logging operations will become a more integrated part of the mill stock logistics. Since the industry will know everything about every single log from the harvester, forwarder and lorry, including the whereabouts, they can use the forest stock as the main part of their stock instead of expensive mill premises, relying on just-in-time flow of wood into the industry. Logistic planners will follow fleets of harvesters, forwarders and timber lorries, and the flow of logs in the forest and on the roads and see a forecasted delivery plan which they can compare with the mill's need of wood All in real-time.

Sharing data in real-time

Machine data will have a wider use in forestry. Planning of silviculture, for example. Reforestation result will be evaluated based on production maps which show distribution of harvested tree species/sizes/density. It can be used to choose best soil preparation method or tree species. The operator can indicate trees affected by diseases and insects, which can trigger pest control action in the surrounding stands. Landowners will be able to follow the progress of the logging online. More geodata from third party will be used, such as national soil moisture maps, archaeological and environmental preservation maps, fire warning maps or safety rescue points and plans.

With such accurate measuring system, payment for wood can be done based on harvester data as soon as the wood is cut in the forest.

Optimising machine performance

There are smarter ways to analyse the cost of logging operations; connectivity technology can flag up to the managers anything that may cause an operation to become inefficient, such as cutting too short lengths, making strip roads too close, or choosing inefficient wood extraction routes.

Environmental value optimisation will be done automatically by the machine; examples are avoiding wet areas or leaving out protected trees. The machines will be able to predict when it needs servicing, not just based on machine hours, but by self-diagnostics. It gives opportunity for planned stops when they have least effect on production.

Any technical support can be done remotely via mobile web camera to facilitate diagnostics. Smart glasses with augmented reality to show interior of components or indicate how to perform the service are surely going to be used as well as drone delivery of spare parts to the forest.

Connectivity technology opens new possibilities

The cloud-based service MaxiFleet by Komatsu Forest allows you to work smarter, not harder, and helps you visualise and plan your work. During the pandemic, it also became apparent that digital collaboration between machines or machine-office has been central to solving many of the new challenges we all have faced.

New opportunities with MaxiFleet

Share Working Area, the latest feature in MaxiFleet, is an example of enhanced digital collaboration. It is aimed at simplifying cooperation with colleagues, partner companies and external actors. It is now possible to give access to a work area with users in an external company, which provides great opportunities for collaboration.

The forest owner can, by logging in to the shared link, follow the progress of the logging in the area. The sawmill can get detailed information about products and volumes, while the timber truck driver can get directions to wood pile locations and information of production in each pile. All external users can also collaborate by adding work area information to the shared map which in turn helps to improve the work.

The harvester's work area can be shared with a partner company working with forwarding in the same area, giving access to production data and tracks. It will display the harvester's work directly on the screen of the machine, which means that the forwarding can be well planned both based on the shortest possible route and with special consideration for ground conditions.

Another solution for collaboration is My Position, a function that enables you to easily mark out all the places for which there is important information to note and share. This could be trees damaged by bark beetle infestations, windthrown trees, or an area that is particularly sensitive. This function makes it easy to prepare an area so that everything is in place when it is time to start felling or forwarding.

CONTACT *If you wish to know more about what you can do already today, please contact us at Komatsu Forest and we will be happy to inform you. komatsuforest.co.uk*

CASE STUDY: THE WOOD CUT-TO-ORDER CHALLENGE

Here is an example of an ever-increasing challenge for the processing industry: A Scandinavian sawmill receives an order for a large volume of construction wood from a Japanese house manufacturer. The customer is very specific about the dimension, 3.65m lengths. And they will buy wherever they can find the shortest lead time. But they need 50,000m³ and the deal will generate a significant profit. But how to do it if it will take weeks or months to see the new lengths of logs coming through the mill gate?

Using modern technology, the supply chain manager enters the fleet management system for the forest machine fleet, changes the lengths to match the 3.65m length demand, and pushes the instruction out to the harvesters in their fleet. Within an hour from the contract signed with the customer in Japan, the operators are now producing logs designated for that order. And the forwarders follow by sorting them into the right piles, using the same modified instructions. The very next day, the first logs enter the sawmill who start production.

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Accsys

‘PICKLING’ WOOD TO SAVE FORESTS

With the building and construction sectors now accounting for 36% of global energy use, there is increasing demand for sustainable solutions.

The wood treatment process called acetylation allows fast-growing, more abundantly available softwood to be transformed into eco-friendly products that have characteristics to match or exceed the very best hardwoods from areas with high biodiversity and preservation value.

Accsys’ acetylation process uses acetic anhydride which reacts with wood to increase its existing acetyl content, reducing possible water absorption. Essentially ‘pickling’ the wood, it boosts the wood’s natural properties without adding any toxic chemicals. The process means the acetylated wood suffers less swelling and shrinkage when wet, and reduces susceptibility to decay, creating a product that competes with, and can even outperform, non-renewable and less carbon-friendly hardwoods, plastics and metals.

Radiata pine from FSC® certified, responsibly managed forests grows so quickly that one cubic metre of the source of Accsys’ acetylated wood takes only approximately 2.3 seconds to grow in New Zealand’s forests. Growing fast and sequestering CO2 to do so, the acetylation process ensures that the carbon is trapped in useful products for decades.

Accsys puts this wood through the acetylation process at its Arnhem facility in the Netherlands, creating a modified wood product for many uses including window frames, doors, decking and cladding – and will form the new retractable floor system being developed for Rome’s Colosseum.

Demand for hardwood materials has historically outstripped supply and taken its toll on the natural environment. With governments and businesses scrutinising the environmental impact of their own operations, those of their partners and their supply chains, acetylation offers an attractive alternative to create dimensionally stable products with enhanced biological durability, while preserving our forests for the generations to come.

START-UP USES WOOD BYPRODUCTS AS FEEDSTOCK FOR 3D PRINTING

In May, US-based company Desktop Metal, a leader in mass production additive manufacturing (AM) solutions, announced the launch of Forust™, a new process to sustainably produce functional end-use wood parts using its patented single pass binder jetting AM technology. The Forust process upcycles waste byproducts from wood manufacturing (cellulose dust) and the paper industry (lignin) and re-materialises wood parts through high-speed 3D printing including digital grain throughout the part.

Forust began with a vision to transform wood byproducts, including sawdust and lignin, into finished wood products, combining both stunning design and functionality. The high-speed 3D printing technology offers architects, designers and manufacturers a new path to produce luxurious custom wood pieces for home decor, interiors, transportation and architectural design, with a superior environmental footprint, new geometries and quality unavailable from subtractive wood manufacturing technology.

Modvion and Otto Lundman

MASS TIMBER USED IN WIND TURBINES

Leading global wind turbine manufacturer Vestas Wind Systems invests in Swedish wood technology company Modvion. The intention is to accelerate market adoption and scale-up the production of wooden wind turbine towers. Vestas is interested in using the wooden towers in its product line as part of a more sustainable product offering for customers. 300-1,200m^3 of timber are used in a single turbine tower.

Facts on wooden wind turbine towers

- Wooden towers are built in modules and assembled on site.
- The modular concept together with the lower weight of wood, enables higher towers to be built while still using normal roads for transportation.
- By weight, the wooden construction is stronger than steel.
- The carbon dioxide absorbed by the trees during their growth period remains stored in the wooden tower, facilitating climate neutral wind energy.

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Flying the SALTIRE over Scotland's forests: a journey of discovery, with lasers

Josh Roberts MICFor Innovation Manager at Forestry and Land Scotland.

As a forestry organisation, the information we hold about the forests under our stewardship is the foundation for our business. But maintaining and updating an accurate, comprehensive inventory across a large, dispersed landholding is no small task. Despite a network of well trained, professional surveyors, Forestry and Land Scotland (FLS) only undertake detailed mensuration surveys for around 3% of its landholding per year.

The time, effort and expense we already invest into surveys, combined with our planting records, provides us with one of the most comprehensive forest inventories in the world. This makes it all too easy to become complacent about the quality and reliability of the information on the map. However, we must never lose sight of the fact that every stage of our business process uses forest inventory information, or information derived from it. If you do not have accurate, detailed knowledge of your forest that persists across generations of staff and can be retrieved easily when you need it, how can you make good decisions at both the stand level and across the whole landholding?

Twenty years of low timber prices stifled a lot of the motivation for driving efficiency in collecting and maintaining such accurate inventories. In that time technology moved on, but adoption of these more advanced methods has been slow. The surge in timber prices in recent years, however, mean it is now more worthwhile than ever to know forest inventories in greater detail.

Forestry and Land Scotland is therefore carrying out a feasibility study over the course of 2021 into the use of remote sensing technologies to improve forest surveying.

The team leading the project launched a 'challenge' in 2020 through Civtech, the Scottish Government's flagship innovation programme. Challenge based projects are centred around solving specific, real world problems using innovative technology solutions. In this case, the 'challenge' is how to take accurate, repeatable measurements of trees, timber and forests at scale, regularly and affordably.

FLS provided funding to develop new approaches to tackle this age-old problem, making best use of modern technology and focusing on Scottish conditions. After a series of competitive development runs, FLS have awarded a contract to carry out Airborne Laser Scanning of 1000 square kilometres of FLS managed forests in Dumfries and Galloway.

FLS is working over the coming months with Vivid Economics, a London-based economics consultancy firm, and Arbonaut, a Finnish company who carry out Lidar forest surveys around the world and who have managed Finland's Lidar survey programme for twenty years. If you're not familiar with Lidar, it's like radar but with lasers instead of sound.

Working together, they are developing the Scottish Airborne Lidar Tool for Inventory and Resource Estimation. SALTIRE aims to improve resource planning by increasing the quality, coverage, and accuracy of FLS' forest information.

Airborne Lidar data will be collected and analysed to create 3D-models of vegetation and surface topography. These models will be used to estimate the physical characteristics of both the standing forest and the underlying terrain. This information will support decision making and prioritisation, plan transport logistics, estimate potential harvesting costs and revenues at a landscape scale and determine forest and soil carbon storage dynamics.

SALTIRE will build on techniques pioneered in Finland, developing a product that could feature amongst the most advanced forest surveying techniques in the world. As the name suggests, SALTIRE will be specifically tailored to Scottish conditions as part of the feasibility study, including not just calibration against Scot-

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Automatically generated micro stands overlaid onto aerial imagery. The metric mapped above is forest density (from low to high, green to red).

continued from p23
tish stands, but also building specific models to classify the data according to UK forestry conventions. For example, the project will seek to build a way of automatically classifying each area of forest surveyed according to the Forestry Commission Terrain Classification System, automatically assigning all areas of a site with a score according to slope, roughness and bearing capacity.

Lidar tools have been in use for some time globally, but this has not been widely adopted in the UK so far. One of the main reasons cited for this is that many systems looked at in the past still required substantial manual data processing and ground truthing, especially when it came to species identification and a crucial step in surveying called stratification. Stratification involves splitting an area into homogenous blocks: by species, variation in height, range of diameters, different management practices, year the forest was planted or established and a range of other criteria. Systems that could not automatically stratify correctly, or accurately identify species, were not especially attractive because you effectively had to survey the site on foot anyway, eroding a huge part of the value of remote sensing large areas.

This project, however, looks set to change that. By using an innovative modelling approach that combines the precision of individual tree estimates with the accuracy of area-based approaches, SALTIRE could create a best-of-both-worlds system that can stratify forests automatically without labour intensive pre-processing, while still giving accurate figures for things like timber volume. The trial data worked on so far has been really promising, but to really put the theory to the test means taking it to the forest and finding out what it can do.

We're really excited by what we've seen so far but are very much still in the discovery phase. This technique has the potential to give us detailed information about our forests at the surveying and planning stage on a scale we've never had before. However, we do not yet know exactly how much detail and how often to collect it to get best value. We are using this project as an opportunity to ensure we are focused on gathering data that translates into income and savings as it makes its way through our whole business process, and translates into better management decisions on the ground, not just what is interesting.

No doubt about it that is an ambitious aim. But when it comes to something so central to the whole purpose of our organisation, it might just pay to be ambitious.

THE CIVTECH CHALLENGE
Civ Tech

"How can we use technology to estimate herbivore populations and impacts across Scotland in a greener and cost effective way?"

Our project is related to NatureScot's functions regarding the conservation, control and sustainable management of deer. It was initiated by NatureScot being successful in being accepted for the CivTech innovation programme for 2021.

CivTech is the Scottish Government's flagship innovation programme. It offers a procurement route for organisations which are looking to solve specific challenges using innovative technology solutions. In terms of our challenge this was to look at:

- A reduction in the annual Deer Census Programme budget
- A reduction in the annual carbon foot print attributed to census methods
- An increased efficiency in staff-time for data collection and processing
- An improved level of stakeholder confidence in the data collected and provided

Following the conclusion of the Civtech exploration, accelerator and demonstration day stages, we are now continuing to work with two companies; Eolas Insight, a Scottish based remote access company, will focus on the use of both historic and tasked satellite imagery and fixed wing imagery combined with AI technology. Sentinel Unmanned are an existing MOD and police contractor using specialist UAVs operating with a number CAA exemptions and again using AI technology.

The current trial looks to explore and trial these difference approaches testing the efficacy of the technology and help train the AI systems. This will establish whether the resolution is of sufficient quality to both identify and classify deer to the same level of detail as our current approach.

We will continue to involve our wider stakeholders and potential customers to build on the wider understanding and confidence in these new approaches.

We are aware there are pros and cons of each type of technology be that around costs, timing, weather / cloud cover implications, CAA regulations, camera resolution and stakeholder buy in. The wider application of using this technology to assess deer populations in different habitats is key. Locating deer in the open range has been the focus of initial work but we recognise the potential value of using and adapting this approaches across woodland areas. Currently other methods are used including dung counting, camera trapping and ground based thermal imaging surveys. The application of aerial based camera systems may well offer viable alternatives.

The trial work will continue to better understand how different imagery could work across varying topography, backgrounds and woodland cover. It will also consider how the degree of canopy cover would affect the results.

In addition to deer population surveys there are other potential uses in relation to tree health monitoring and habitat monitoring.

Gary Ellis / Unsplash

There are clear links to this work and NatureScot priorities related to ensuring the health and resilience of Scotland's nature is improved and that there is more investment in Scotland's natural capital and its management to improve prosperity and wellbeing. Keeping abreast of these latest advancements in technology and accessibility of data will helps us to improve resilience of our ecosystems and the protection and enhancement of vulnerable habitats and plans for continued woodland expansion.

Data, blockchains, forestry

Forestry investor **Brendan Duggan**, head of the Timberblocks project, explains how database management and blockchains can open up timber management and forestry investment.

Imagine owning a small stake in the management of a sustainable forestry project in Africa; being able to monitor your share in a climate-smart investment online and even transfer ownership of your share. Imagine buying a piece of wood in the UK and being able to verify yourself what specific forest it came from with the full certified chain of custody on an accessible database. Or a 16-year-old in Kenya being able to buy a token on a smartphone, representing one tonne of sustainably produced UK timber, audited and redeemable at market value. These are examples of the potential of blockchain database technology to drive future innovation in the global forestry and timber industry.

Jargon alert! What is blockchain?

A blockchain is a shared database that is very difficult to change retrospectively and has no central authority controlling it. The most famous blockchain is the Bitcoin network which is run by thousands of its users around the world, all of them approving, recording and timestamping every transaction – which in bitcoin's case is a currency, payment system and store of value. Instead of a bank approving transactions all the users approve everything in accordance with the basic software set up. Trust lies not in overseeing authorities but in the mathematical algorithms, all verified and available to view online.

BLOCKCHAIN TECHNOLOGY HAS THE POTENTIAL TO CHANGE THE DYNAMICS OF INVESTING IN FORESTS AND TIMBER AND COULD INFLUENCE FOREST MANAGEMENT FROM THE GRASS ROOTS INVESTOR LEVEL.

Just about any kind of database can be put on to a blockchain - possible examples being land registries, elections or vehicle registration schemes where records need to be held in a secure but accessible environment.

Global trade, shipping, manufacturing supply chains, insurance, food import export, energy, insurance, and many other industries are adopting these databases for their own purposes. This vastly improves efficiency, chain of custody monitoring, proof of origin, inventory management, and reduces waste and fraud.

Transparency in global timber supply chains

An important feature of blockchains in supply chain management is that the database works on scientific proof rather than honesty of participants, permanently available to see for whoever has permission to view the database.

The advantages of this kind of system being applied to the movement of timber products around the world is clear. A system capable of verifiably tracking timber consignments from source at felling to end product at the point of sale to the consumer.

Illegal and unsustainable logging and deforestation will remain a global challenge for the foreseeable future and the ability to track a specific item of timber from its source to the consumer is likely to gradually move away from voluntary certification. The future will be scientific proof of origin with the use of DNA technology, Isotropic testing and other chemical markers all playing a part. Notice the use of 'consumer' at the end of the chain here rather than retailer – increasingly, it will be the consumer of a piece of wood who will want to verify the provenance of their purchase themselves by viewing the chain of custody and its associated certifications, and savvy retailers will enable this. House buyers will want to verify themselves where the floorboards came from and that they are not outsourcing the CO_2 history of a product to other countries. Mortgage lenders could require surveyors to verify the provenance of wood products in buildings. Forest certification bodies are well placed to embrace this new approach and we are in discussion with non-profit organisations to help them further enhance their own effectiveness.

The technology offers governments and regulators previously unavailable management tools for overseeing timber transport, import export data, carbon impacts at home and abroad attached to imports. All in real time as well as analysed retrospectively.

INCREASINGLY, IT WILL BE THE CONSUMER OF A PIECE OF WOOD WHO WILL WANT TO VERIFY THE PROVENANCE OF THEIR PURCHASE THEMSELVES BY VIEWING THE CHAIN OF CUSTODY AND ITS ASSOCIATED CERTIFICATIONS.

A paradigm shift for forestry investment?

The natural evolution of a blockchain representing the custody of products is the emergence of tokens which, when assigned to a company or person, represent control or ownership of a defined part of that product. For example, there are blockchain based tokens representing one US dollar or an ounce of gold or a barrel of oil and these tokens are themselves bought and sold enabling liquidity of trading and low cost transactions. There is increasing demand for such tokens representing value for organisations wanting to improve chain of custody and supply/demand management through the ownership of tokens, as well as investors.

Tokens could be assigned assets such as standard amounts of standing and harvested timber - tracked, audited and redeemable at value and therefore capable of being bought and traded by the pro-

and timber

BE PART OF THE BLOCKCHAIN REVOLUTION

The blockchain revolution can change the dynamics of how individuals and organisations interact with and influence forestry, the timber business and climate change initiatives. It is an emerging technology in the early stages of adoption but already the implications of its use are becoming clear.

There is much work to be done, however, and investment is required, not just in the form of finance but also in the form of 'buy in' from the industry and support from the appropriate authorities. To this end, the Timberblock project is looking for collaboration from interested individuals and organisations who can make contact via www.timberblock.org.uk

verbial 16-year-old in Kenya on a smartphone and the millions of other like-minded people around the world.

Right now, commercial forests are owned by rich individuals and financial institutions. This technology has the potential to change the dynamics of investing in forests and timber and could influence forest management from the grass roots investor level. It could remove 'gatekeepers' to investment and change forever how individuals react with commodities and how they modify their spending according to their financial needs and environmental principles.

Like many new technologies, there are risks and both consumers and investors would need adequate protections in place from unscrupulous schemes that the forestry industry has seen in the past - notably in tropical hardwoods, and in the UK and the US they would qualify as regulated financial instruments. But done properly with the right reputational management it opens up participation in forestry and timber to millions of individuals around the world who want to play a part in it.

MYSAFETY: LEARNING TO WORK MORE SAFELY

Increasing use of analytics and predictives will inform behavioural change and, like other innovations such as those from Tesla and Dyson, the MySafety project can be a positive disruptor. MySafety's core technology has been delivered successfully thanks to the initial prompting of John Paterson of Egger and the fantastic support of trialists.

Unfortunately, levels of fatalities remain stubbornly high despite the hard work of many in the forestry industry to improve standards and prevent accidents and incidents. Disappointing as this is, similar stalled situations have been reported elsewhere: in the last decade, the US industrial sector has seen the numbers of workplace deaths rise even though the levels of accidents continued to fall. Holistic system thinking is therefore essential to complement today's focus on a personal approach to safety: As well as its current intense focus on prevention of accidents, the industry needs a full understanding of the nature of incidents - humans make mistakes while latent conditions may lay dormant and unnoticed for many years. Analysis will ensure root causes are fully understood and blame is not unfairly attributed to individuals when underlying systems are at fault.

MySafety's secure communication channel facilitates better reporting of incidents. Its analysis of that reported data ensures failings in the safety system's component parts can be observed and considered, and appropriate actions can be taken. Simultaneously, the channel improves safety awareness by satisfying many of the goals of FISA's recently updated Guide to Managing Health and Safety in Forestry:

- Landowners can contribute site information for Site Risk Assessments and monitor activities.
- FWMs and Contractors can accumulate and consolidate information throughout their operations, e.g. in harvesting - measuring, planning, harvesting and delivery from site are all opportunities to contribute vital information. Site and operational assessments can be shared easily with other stakeholders to provide a consolidated site safety records which, in turn, are easily audited.
- Operators can work safely by being better informed: they gain situational awareness from MySafety's daily checks and they are both fully aware and regularly reminded of Control measures and site checks required by HSE.

External drivers are also impacting significantly on the need and desire to improve safety:

- The latest Occupational Health and Safety Standard, ISO 45001, expects safety leadership. MySafety's incident analyses enables benchmarking, so all the industry's stakeholders can learn how they are performing and what factors are impacting on their safety performance. In turn, that fosters leadership and continued improvement.
- FSC's audit frameworks cover safety and analysis of recent UK audit reports highlight the frequent need for remedial actions in respect of safety issues to satisfy the supply chain's requirements.
- Environmental, Social and Governance (ESG) factors are increasingly important to investors and the UN's Sustainable Development Goals provide a global framework which ties back to ISO45001.

Ultimately, improving the transparency of incident reporting will enable the industry's stakeholders to learn much more about the effectiveness of their operational systems and attract more investment, while operators will be able to work even more safely.

Comparison with the rail industry which has a strong safety culture is particularly revealing. That industry expects at least 10 near misses for every accident. So, given the levels of reported accidents in forestry, there may be hundreds of thousands of near misses which are not reported. Unfortunately, no learning can be shared from those unreported incidents and the same mistakes will continue to be made until a fatality occurs.

The pace of technological change and innovation is relentless and volumes of data are growing rapidly: there is always much more to understand. For example, wearable technology is already available: in-helmet technology alerts operators when they are working at risk because their fatigue has risen to dangerous levels. By monitoring operator fatigue levels along with assessing the full injury potential of incidents, MySafety will stimulate learning by all the industry's stakeholders. New insights will be gained into forest safety and, by sharing them, safety awareness will be improved.

Get Involved *The continued development of the MySafety project is vital to improving forest safety. If you would like to be involved, please mail Stephen Bartlett or Colin Mann at mysafety@invigilatis.com*

MYSAFETY: FEATURES AND BENEFITS

Features

- Safety check
- Control measures
- Reporting – incidents, access, competency
- Machine checks
- Document management
- Guidance
- Messaging and alerts
- Emergency support
- Tracking

Benefits

Operator – improved safety
- easier contribution to risk assessments
- simpler incident reporting
- a single repository for certificates and competencies

Contractor – admin efficiencies and savings, and comprehensive audit records
- immediate awareness of team issues
- visibility of all teams
- one source for all operators' certificates and competencies
- detailed site safety records

FWM – admin efficiencies and savings, and comprehensive audit records
- immediate awareness of site issues
- visibility of all sites
- one source for all contractor's certificates and competencies
- consolidated site safety records

Owners
improved operational awareness

Industry
improved awareness of safety, enhanced safety culture and lower levels of incidents with injury and fatality potential

MARKET REPORT **Oliver Combe,** Timber Auctions

Settling down

Global Outlook

Global volatility in sawn timber prices continues to make the headlines although there are now strong signs that the global timber market is settling down and finding some stability albeit at new levels.

There is still strong demand for lumber both in the short term, due to increased repair and renewal activity during the pandemic, and in the medium term, due to government economic stimulation packages post pandemic. Longer term, increasing the focus on a net carbon zero future is having a positive impact on the use of wood as a construction material and the development of refined wood products. President Biden's $1.9 billion economic stimulus package has kickstarted a construction boom in the USA which has lead to an unprecedented run commodity prices including timber which has trebled in price over the last nine months. In May 2021, US housing starts have reached their highest level since 2006.

At the same time, increased political tension is impacting on global patterns of lumber trade as demonstrated by the Trump era timber tariffs on Canadian timber and the Russian ban on exports of roundwood to China. Both of these are disrupting traditional trade patterns and have forced timber buyers to open up new sources of supply, however, these supply patterns are developing and are now helping to ease the shortages seen in the market over the last 6 months.

US Timber futures have finally stabilised in May and there are signs that supply is finally starting to catch up with demand, market prices have fallen back in early May from a high of almost $1700 per 000 board feet to $1300, although this price is still 280% higher than a year ago!

It should, however be noted that the exceptional market conditions currently are for sawn softwood lumber which is produced from coniferous sawlogs and especially spruce and to a lesser extent pine.

Other product categeories have seen a lesser impact and in the case of industrial small roundwood and enerywood prices have remained static or fallen due to large volumes of sawmill co-products coming to the market.

UK softwood market

The spring of 2021 has seen a run of exceptional demand for softwood sawlogs which has translated into very strong prices for standing timber. This, in turn, has brought large volumes of timber to the market in central and north Scotland as well as the Scottish Borders; however, in England and Wales there appears to have been far less timber brought to the market in 2021 and the supply situation remains very tight.

It is interesting to note that the 2021 price spike has been driven almost exclusively by high prices for sawlogs but there has been very little movement in small round wood prices unlike in the 2018 price spike where there was frenzied demand for all parts of the tree. This is best illustrated by the Forestry Commission standing sales index which shows overall prices just coming back to spring 2018 levels.

The Forestry Commission date for sawlogs shows that sawlog prices have increased much more sharply and are now above the 2018 levels.

Private sector sales of sawlog rich crops have confirmed this trend with standing prices of £70 and £80 per tonne being achieved for exceptional crops in the early spring but these have now fallen back to around £70t standing.

In Scotland, the high prices have brought large amounts of timber to the market and most buyers are now sufficiently well bought that they can now afford to be more strategic in their purchasing.

In England and Wales, there appears to have been a shortage of sawlog rich crops being offered to the market in spring 2021 and has served to keep log prices higher in England and Wales than in Scotland which has in turn created stronger standing sale prices. It remains to be seen if high prices will bring forward more volume in the south or whether shortage of softwood is the new normal!

Hardwood Market

The global pandemic has had a much more serious impact on the hardwood industry than the softwood sector. Most hardwood timber is used for decorative finishes, final fittings and luxury applications as opposed to the structural and packaging uses of softwood. Although the values are generally higher the quantities used are much smaller and there seems to be more stock held in the supply chain than in the softwood industry.

So, whereas the softwood industry has experienced a boom with rising demand, soaring prices and shortage of stock, the hardwood sector has seen much weaker demand and cautious pricing.

The oak market is now starting to show some signs of recovery, supplies of imported logs from Europe have slowed right down and buyers have concentrated on working through their inventories of UK bought logs some of which are left over from the high prices of 2018.

£ per tonne delivered to customers in Wales, central and south England (March 2021)

Product	*Lower price*	*Upper price*	*Trend*
Log 18	£95.00	£105.00	= ↑
Bar 14	£80.00	£90.00	= ↑
SRW	£50.00	£55.00	= ↓
Fencing	£65.00	£75.00	= ↑
H Wood firewood	£55.00	£60.00	= ↓

£ per tonne delivered to customers in north England and Scotland (March 2021)

Product	*Lower price*	*Upper price*	*Trend*
Log 16	£90.00	£100.00	= ↑
Bar / pallet 14	£65.00	£75.00	= ↑
SRW	£45.00	£50.00	= ↓
Fencing	£60.00	£65.00	= ↑
H Wood firewood	£50.00	£60.00	=

A construction boom in the US has led to increased demand for timber

It now seems that this backlog of wood is nearly worked through and there is now interest in better quality oak parcels and signs of a firming of prices for UK oak sawlogs.

It may now be the time to test the market as it will only take a modest upturn in demand coupled with lack of imported French oak logs for supply to become an issue.

The domestic ash market is flooded with material as a result of the widespread felling of diseased ash stands. The export market has held up remarkably well and has managed to weather the storm of volatile shipping rates and container shortages whilst maintaining a steady flow of material out of the country.

Prices have remained static as any increases in timber prices have been eaten up with increased shipping rates. There are now signs that the shipping market is settling down and that export volumes may be able to increase.

Roadside hardwood prices (£ hft) May 2021

	Oak planking	Oak beam	Oak fencing	Export ash & beech	White ash sawlogs	Export sycamore	Large Douglas fir and Larch
High price	£12.00	£10.00	£7.00	£3.00	£4.00	£3.00	£5.25
Mid price	£10.00	£8.00	£6.00	£2.75	£3.50	£2.75	£4.50
Low price	£8.00	£6.00	£5.00	£2.00	£3.25	£2.50	£3.00

These prices are for guidance purposes only and are based on historic market information

Domestic demand for beech remains very weak although there is export demand for better quality white ash sawlogs.

The shortage of large diameter softwood logs has pushed prices for the "specialist categories" up and had a knock on effect on poplar logs which some mills are now cutting for use as packaging timber, pallet wood and landscaping timber. This has helped offset the slowdown of the export market for poplar over the last six months.

The firewood market has been significantly impacted by the increased felling of diseased ash which has flooded the market with both firewood and hardwood biomass through the south east of England and now is moving up into the midlands and east of England. It also appears that felling activity has been focused on ash to the extent that it may have reduced the amount of softwood coming to the market.

In summary, the market appears to now be stabilising as supply and demand have come into balance.

TIMBER MARKET REPORT

Harry Stevens, BSW Timber

The Balancing Act

Long-time watchers of the standing timber market never cease to be surprised by its vagaries and its erratic behaviour.

Currently, demand for timber products is booming, with the construction and home improvement sector seeing plenty of activity. So why have sawlog prices shot up whilst the small roundwood market has been largely stable?

The panelboard sector, OSB, chipboard, and even MDF are experiencing demand every bit as strong as construction and DIY sawn timber. Indeed, a recent article referenced a threefold increase in OSB prices in the USA with demand at such a level that volume is being regularly exported from Europe to north America.

To understand the drivers in the price for small roundwood we need to compare the wider raw material market available for these producers.

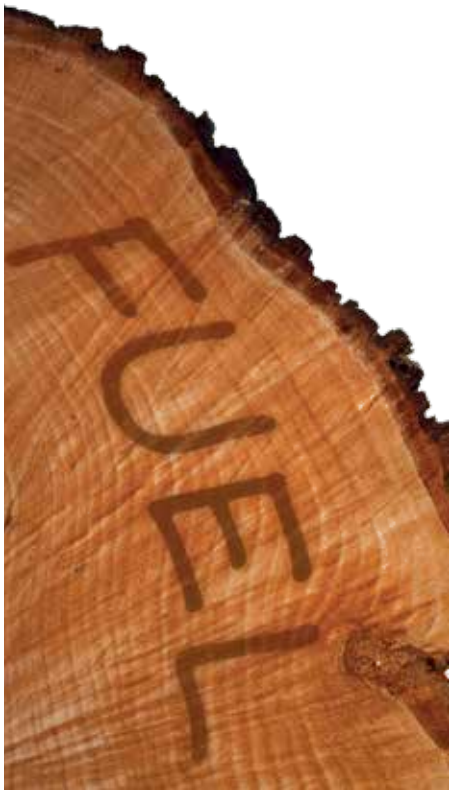
Supply transformation

The supply for the sector has been transformed over the last 10 to 15 years due to the shift in the market for burning wood for energy. At times, it has appeared that the traditional user of small roundwood would be overtaken and priced out the market by the new users of small roundwood. But, as ever, the market has adapted, newer streams of fibre have been developed. Sawmill co-products have gone up in value, brash recovery and processing has become widespread and the recycled wood market has been transformed, from one were there was a gate fee for tipping material to one where recycled fibre has a value that makes it worth recovering and processing in the market.

However, more recently, demand and supply appear to come more into balance. The supply chain has matured to a point where the existing larger users have become more comfortable with their supply and the strong upward movement for small roundwood that the market has seen over the last ten years appears to be over. Indeed, one could speculate that we have seen the high water mark in the fibre sector as currently there is little new capacity to come online and some of the existing capacity has proved uneconomic and has disappeared with perhaps more to follow.

A balancing act

All the above has resulted, as I have described, in a strong end market for building products but a relatively stable small roundwood market.



THE SUPPLY FOR THE SECTOR HAS BEEN TRANSFORMED OVER THE LAST 10 TO 15 YEARS DUE TO THE SHIFT IN THE MARKET FOR BURNING WOOD FOR ENERGY

So, the strong increase we have seen in standing timber has been almost exclusively driven by movement in the sawlog market. What are the factors here?

With hindsight, the bottom of the market for saw logs was around the onset of lockdown with, at that point, uncertain confidence in the sawn market. Sawmillers had reduced their inventories of future volumes and were overtaken by events as the sawn market picked up very strongly in the spring and summer and then throughout last year. Throughout this period sawmillers struggled for volume particularly as the weather made life difficult in the winter.

The southern Ireland effect

At the same time, the changes in the regulatory regime in southern Ireland created a spike in demand for sawlogs for export from the pest free zone on the west of Scotland, where a relatively stable part of the market quickly became one of the most sought after areas to secure log contracts. Southern Irish sawmillers were reported to be reliant on Scottish logs for as much as 50% of their feedstock. This increase in price rippled out from the pest free zone across almost all of the Scottish market as the equivalent of several new sawmills coming online created shortage in the market. Certainly, one surprising result of the demand was how the Scottish sector started taking a strong interest in the workings of the Irish felling licence process *(read more on this on page 37)*.

Calm

Whilst this demand for sawn products remains strong, the sawlog supply has caught up with demand for the most part. Logyards are reported to be filling up, and stocks of less attractive specifications of logs have built at roadside.

Standing prices which had increased strongly appear to of plateaued though as ever quality sells and demand for parcels with high proportion of longer length remain very attractive.

What to the future?

So what of the next few months? Demand from end products will remain strong and I expect the sawlog market to remain at its current level as sawmills replace their volume based on their existing run rate, and the Irish demand does not look like it is going away anytime soon.

The small roundwood market will see a slight dip in demand over the summer, but again I expect the market to remain at its current level as users start to look out over the balance of the year and secure product for the autumn and winter.

As ever, quality standing sale parcels will be see plenty of demand.

TIMBER MARKET ANALYSIS

Forestry now sits at the apex of both climate and land use policy

Interest in the UK forestry investment market – including from new buyers – continues its long-term upward trajectory, according to Savills Spotlight Forestry 2021, the company's analysis of the sector.

Last year we reported evidence of new buyers entering the UK forestry market and this trend has intensified as climate concerns continue to dominate investment landscapes.

James Adamson head of Savills forestry investment says, "The traditional market drivers of capital asset appreciation and rising timber prices have not changed, but evolving policy and action around the sustainability agenda has shone a light on forestry as not only a financial investment, but also an environmental one".

This growing interest in the sector is borne out by transactional evidence. During the 2020 forest year (1 Oct 2019 to 30 Sept 2020) the value of the UK forestry investment market hit a record of over £205 million with cases of forests selling for in excess of 30-70% over the asking price, which ultimately represents the scarcity value of tradeable forest assets.

The carbon story

The growing interest in woodland carbon for offsetting and ESG objectives provides a new potential income stream for landowners and is generating demand for bare planting land. While forestry is not just about carbon, the emergence of carbon sequestration as a key incentive for planting is undeniable. As a disruptor carbon boosts an already strengthening forestry market making forestry an attractive asset for its "soft" insetting power.

For many companies looking to purchase offsets, the UK provides high quality, verifiable "charismatic carbon". Companies value the additional benefits UK tree planting can provide such as public access, biodiversity uplift and species protection. If carbon prices rise in line with research predictions, and regulatory baselines continue to increase, it will endure and grow as a dominant force for change within the forestry market, blurring the lines between land use change and viable investment. However, not all woodland creation models can sell carbon offsets and even with rapid carbon price growth, the high returns from timber are likely to remain the most substantial income driver for forestry investment.

The future

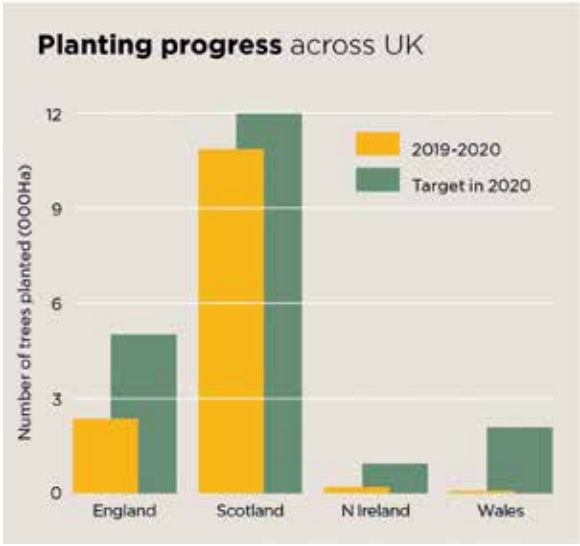
Nicola Buckingham associate director Savills rural research comments, "The industry requires substantial upscaling if tree planting is to be delivered rapidly and at scale – trees don't grow overnight. To put this into context to the year ending March 2021 current tree planting rates across the UK were at 45% of what is required. In order for government targets to be achieved there are a number of factors that need to come into play."

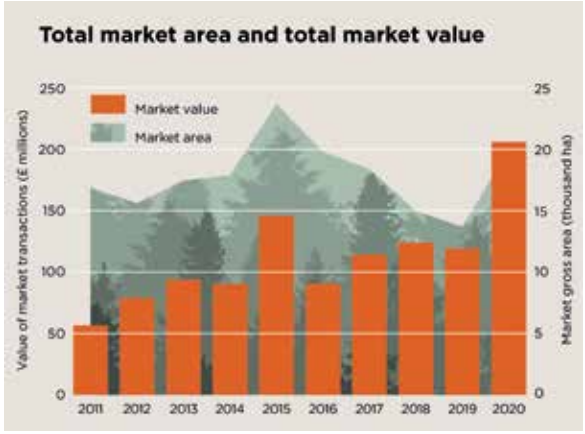
Forestry Commission

At the highest level, land availability is the most significant factor for new woodland creation. Not only does land need to be available, but it also needs to be suitable for woodland creation. Also crucial is the growing requirement for the labour and skills needed to advise, plant and manage new woodland creation and the availability of sufficient planting stock.

Adamson concludes, "For years forest management was about restricting expenditure in a no income environment, but management is now rewarded by strong timber prices and capital values as forestry is recognised as a multi-functional asset, with multiple ecosystem services flowing from it, whether it be timber, carbon, flood prevention or public access."

For more information or to request a copy of the report, please contact Nicola Buckingham at nbuckingham@savills.com





You can rely on treated timber in the field

Make sure it's 4 Use Class 4 GROUND CONTACT

when you follow the simple Ground Rules

Preservative pressure treatment provides wood with added durability. However, it's a mistake to assume that all pressure treated wood is the same – treatment levels should be tailored to the desired end use (Use Classes).

When **ground contact timber** is treated correctly to Use Class 4, it is fit for purpose – evidence from **WPA field trials** supports this.

Several timber trade bodies are working together to help ensure that quality standards are assured across the timber supply chain – so whether you buy or sell treated timber you can rely on its performance, just follow the simple **Ground Rules**.

Typical Use Class 4 applications include:

Fence posts, retaining walls, landscaping timbers, playground equipment, decking posts, decking joists, boardwalk substructures and any external application where structural integrity is essential for user safety.

for ground contact treated timbers:

Specify Use Class 4
levels of **preservative treatment** – anything less and service life, structural safety and customer satisfaction will be compromised.

Use a trusted treater
who has **third party accreditation** of their operational quality management systems – such as the **WPA Benchmark** Scheme.

Be prepared to pay
for quality – premium products incur higher costs but their inherent value is priceless when **performance in the field** is paramount.

Benchmark APPROVED **TREATER** WPA

The **Make Sure it's 4** *campaign is supported by:*

Confor – Promoting forestry and wood

tdca – TIMBER DECKING AND CLADDING ASSOCIATION

Timber Trade Federation – growing the use of wood

Find a WPA Benchmark Approved treater:

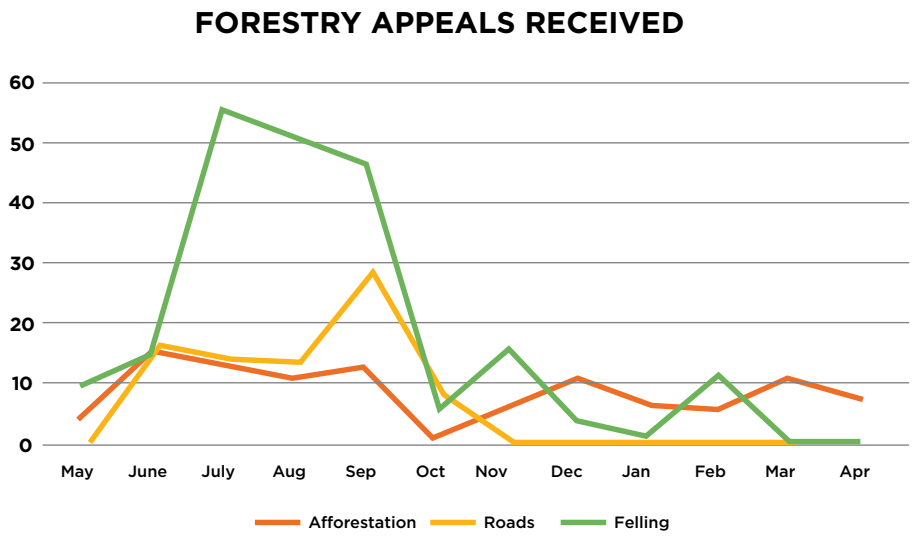
WPA Wood Protection Association **www.thewpa.org.uk**

THE FOREST LICENCES DEBACLE

Seán Lenihan, Kestrel Forestry Consultants Ltd gives a forest industry update from the Republic of Ireland

The Irish forest industry continues to suffer badly from the Forest Licences debacle. By the end of 2020, there was an incredible backlog of 4700 licences for felling, afforestation and forest roading held up in the system due to appeals and objections. The introduction of a €200 fee in October 2020 for individuals or groups who wished to appeal the granting of a forestry licences has had a dramatic effect on the numbers of appeals being submitted. As can be seen from the graph (May 2020 – April 2021) the number of appeals literally fell off the cliff after October 2020.

However, such was the backlog at the time, and with new applications being submitted daily it is estimated that there is now well over 5500 licenses in the Forest System. Despite the recruitment of additional technical staff by the Forest Service, which has resulted in a slight increase in the issuing of new planting and felling licences, there is serious and mounting concern within industry regarding its future.



Scale of timber crisis

Drilling down through the Felling Licence stats up until the end of March 2021 makes for disturbing reading as there were 4095 Felling Licence applications awaiting approval. In terms of hectares, this represents 25,400 hectares of clearfell, and 63,000 hectares of thinnings. At an average volume per hectare of 350 and 70m^3, respectively, the volumes currently held up are estimated to be 8.8 million m^3 got clearfells and 4.4 million m^3 for thinnings.

By any standards, these figures are extraordinary, and a disgrace. They are a damning indictment of the government's lack of real commitment, and support for the forest industry. Setting up multiple committees and offering platitudes in abundance does not represent real support or willingness to address the disastrous state that Irish forestry is currently in. This lack of support for the forest industry is in stark contrast to the ongoing, wholehearted support for other agri sectors, as was clearly shown in May of 2021, when the Taoiseach Micheál Martin personally intervened in a planning row for a new dairy and cheese processing facility in Co. Waterford. Glanbia, one of Ireland's biggest multinational dairy and food company, had their successful application to build a new processing facility in Waterford objected to, and appealed by An Taisce, the government funded body with responsibility for Ireland's heritage. This objection has caused major delays to the construction and commissioning of the plant. The Taoiseach and a host of former government ministers have demanded that An Taisce withdraw their objections immediately to enable the construction to proceed for a plant that will ultimately employ 180 people. The forest industry, which employs 12,000, is on its knees because of serial objectors, and yet there has been no high-level intervention, no demand for objections to cease, and no plans to discard the licencing system for forest operations which was introduced in 2017, and which has caused the majority of the problems we are now experiencing.

This lack of serious government commitment was highlighted by Jim Mc Kinnon in his report on Irish Forestry in 2019. He referred to the lack of political priority given to forestry, as evidenced by the fact that forestry was not even mentioned in the Department's name and that it was and has only ever held a Junior Ministerial position within the Department. Currently, the existing Junior Minister Pippa Hackett is not even an elected TD but a Senator. He contrasted the position in Scotland where forestry has a senior minister and how important this has been to the recent transformation in afforestation levels in Scotland.

Impact on Coillte profits

The felling licence crisis has had a serious impact on Coillte's profitability in the past 12 months. Profits were down from Ð60m in 2019 to €30m in 2020. Turnover was down by €40m to €285m. In addition, the company went from zero borrowings in 2019 to €28m in 2020. Chief Executive Imelda Hurley stated that the downturn was mainly due to licencing issues and COVID but ultimately "the forestry licencing crisis was the most significant challenge facing our sector".

Impact on timber prices

Every cloud has a silver lining and for those forest owners including Coillte lucky enough to have a secured a felling licence it is bonanza time. At the Coillte auction in the early May near record prices were achieved for sawlog and pallet grades. €105 was the highest price recorded for pallet at roadside, with a few lots of sawlog sold for €130. Naturally, these prices are not sustainable over a long period of time, but the expectation is that similar prices will be available and attained for the remainder of 2021 and possible 2022 until such time as the licencing crisis is solved.

www.kestrelforestry.ie

How long will ash continue to be a mainstay in our wood stores?

Richard Hunter, Technical and Industry support manager at Confor, looks at ways of continuing to support firewood demand.

Traditionally, it is said that you could burn ash green, straight from the woodland to the hearth; but given the new requirement that firewood has to have less than 20% moisture, burning 'green' is no longer possible. However, given the ash dieback infection rates across the UK, ash will continue to be a mainstay in our wood stores for the present, but for how long? Ash represents just under 6% of the total forest area in 2010 but makes up a considerable total of our roadside and hedgerow trees. The increasing firewood market utilises both forestry and arboriculture skills to meet the demand. Here in lies one of the many problems with ash dieback; the roadsides and hedgerows are also where we have 'stashed' our power lines and phone cables. The trees are already coming down in droves, and most of us have tales to tell about road closures, power line shut downs and, most importantly, how dangerous the once stable and reliable ash has become.

Ash may well have been one of the first broadleaf trees you felled on a training course, the trainer explaining how to do safety checks – look down for root heave and look up for deadwood (amongst others). We know that ash has brittle deadwood; it hits the deck and shatters into thousands of pieces. According to Peter Savill in *The Silviculture of Trees Used in British Forestry*, ash timber is 'outstanding', known for its ability to bend, flex, absorb shock and withstand pressure. But ash dieback has changed the rules, the stem once prized for making tool handles transmits the vibration of the chainsaw to the crown causing large deadwood to fall on operators. The stem itself also has lost its ability to hold and the hinge snaps quickly compared to a healthy tree, thus reducing the operators control of the tree. These factors have led to many companies opting to use tree shears or grapple saws reducing the risk to the chainsaw operator. However, tree shears present their own dangers hence the new FISA safety alert and industry best practice guidance 608 due soon.

Why does ash dieback make the tree brittle? The components of a wood cell are hemi-cellulose, cellulose and lignin. The hemi-cellulose is mostly replaced by cellulose when the cell is mature. Amongst other things cellulose gives the cell flexibility, and lignin provides the rigidity. So removing cellulose means the cell becomes brittle. The deadwood process is sped up by ash dieback, along with secondary infections, such as Armillaria, that easily invade the weakened tree. Therefore, the crown of the tree has significantly more brittle deadwood.

Yet, hand felling is still needed for those hard-to-reach places. In this context, a greater emphasis on operator skill is needed. And a consideration for a wider than normal hinge. Assisted felling methods that allow the operator to be already clear of the danger zone should be top of the list.

Once down the next stage is disposal: what can be done with the timber? For many trees the biomass market beckons, however, if the tree was felled while it still has viable timber, there are many other markets still open. The UK prefers its ash to be clean; ash dieback and Armillaira result in a higher percentage of stems with stain, but markets for these logs can still be found on the continent. Firewood - a strong market if the material is still intact, but the use of tree shears for felling has created a unusual problem for some. As the shears cut through the timber it crushes the fibres together creating problems for smaller fire wood processers, to the point that the crushed ends need to be chain sawed off in order to be processed. But lets not forgot those traditional uses for ash, I asked NCFed Director Toby Allen about how ash dieback will affect coppicing. He reports that "NCFed will be promoting the new FC Routes to Market for Ash Timber Fund to our members. Those that have until now coppiced ash for tool handles, tent pegs, gate hurdles and greenwood furniture are facing a threat to their livelihoods, as coppice regrowth is so prone to being affected by ash dieback. And, like the rest of the forestry sector, many NCFed members have been diverted into felling ash, a very skilled and potentially dangerous job. Cutting diseased ash coppice is high-level work and the rates for felling need to reflect this."

The demand for firewood has been on a steady upward trend for several years and shows no sign of slowing, will such a wide scale loss of Ash affect our ability to meet it? One answer is to bring more woodlands into management, to access the untapped potential of sites untouched in years, could be key to continuing to supply the firewood demand.

A strategy in the making

Neil Harrison of re:heat reflects on the development process of the UK's next Biomass Strategy

While I was tempted to open with the ...are like buses... metaphor for this article, the fact that I live in north Northumberland made me think again – Halley's Comet is a more frequent visitor. It does, however, ring true for the current situation with Government consultations which have a bearing on the UK forestry sector, with the Call for Evidence on the Role of Biomass in Achieving Net Zero being the latest in a long line.

At 28 pages and with 26 questions, the Call for Evidence document is deceptively slim, but the scope of the Biomass Strategy will inevitably have significant implications for forestry, as well as for those in the farming, waste processing and other industries which produce or use biomass in its myriad forms. Issued by BEIS at the end of April, and running to 15 June, the intention is that information gathered through this Call for Evidence will support a review of the amount of sustainable biomass available to the UK, and also how it could be 'best' utilised across the economy to support the Government's net zero target. The ultimate end point of the process will be the publication of a Biomass Strategy – most likely at the end of 2021 or early 2022.

While we have come to commonly apply the term 'biomass' as a drop-in for woodfuel in recent years, the definition of biomass in the Biomass Strategy process is far broader, and covers everything from landfill and sewage gas to energy crops and forestry. The end-uses of biomass covered in the Call for Evidence are similarly wide-ranging, and from a forestry sector perspective include everything from the use of timber for construction, to its use in generating heat and power and as substitute for fossil fuels as ingredients in plastic and chemical production.

By casting the net so widely, and because biomass in all its forms is so versatile in terms of the potential end uses, the range of impacts associated with sourcing, transporting, processing biomass, and of the ultimate end, use are similarly extensive - mind-bogglingly so if you attempt to sit down with a blank sheet of paper and work through them all. This creates both threats and opportunities for the forestry sector when you consider what the purpose of the Biomass Strategy will be - to guide long term policy, create new legislation and regulations, design and implement support or subsidy schemes, and direct private and public sector investment in innovation and job creation.

Neil Watkins / Energy Crops Consultancy

Sitting under the control BEIS, a department with three and a half times the annual budget of DEFRA, it's clear that the biomass sector – and forestry as a subsector within it – has a key part to play in meeting zero carbon targets. It's vital, therefore, that all those who grow or use timber to provide a product or service – whether it's timber frames for houses or low carbon heat for a hospital or school – have their voices heard in this consultation process.

Many of the policies and processes aimed at accelerating the biomass sector have already started in advance of the Biomass Strategy being created. For example, in the biomass heat sector, government are working on plans around how to support the use of biomass now that the RHI has come to an end, and have also recently invited proposals to the Biomass Feedstock Innovation Programme – a scheme which will provide financial support to develop a range of innovations and new technologies, many of which will be in the forestry sector.

It's been 9 years since we last saw a Biomass Strategy produced for the UK, and while has a lot of parallels with a Northumberland bus timetable, the implications of not getting on board a bus to Newcastle are just that you might miss out on a few bargains in the summer sales. Not getting on board and helping to steer the Biomass Strategy towards a destination that opens up, rather than shuts down, opportunities for the forestry sector could be a lot more serious, and the policies and regulations that it drives will be with us for decades to come.

WHILE WE HAVE COME TO COMMONLY APPLY THE TERM 'BIOMASS' AS A DROP-IN FOR WOODFUEL IN RECENT YEARS, THE DEFINITION OF BIOMASS IN THE BIOMASS STRATEGY PROCESS IS FAR BROADER

The consultation is available at : www.gov.uk/government/consultations/role-of-biomass-in-achieving-net-zero-call-for-evidence

Neil Harrison is a director at Reheat, a leading UK biomass engineering and consultancy firm, and a CONFOR North England Committee member.

The need for good quality woodfuel

On 1 May, as part of the Government's commitment to improving air quality, new regulations came into force in England that outlaw the sale of wet wood and housecoal. **Helen Bentley-Fox**, Director at Woodsure, discusses the need to raise awareness of the link between air quality and fuel quality among consumers, and how the organisation is helping producers and suppliers to comply with the new rules.

Ready to Burn Certification Marks

New rules

The Clean Air Strategy set a target for reducing UK particulate matter emissions by 46% by 2030 and the introduction of the new Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020, is a step towards reaching this goal. This legislation currently applies in England only but devolved administrations have the right to look at appropriate ways to improve air quality including fuel burning. We are hoping that there will be parity between the approaches which must be delivered by 2023. If there are big differences in approaches then it will be difficult to police, particularly around the borders. Up to 50% of particulates are transitory and so we need to recognise that we all breathe the same air.

The new legislation in England aims to prevent harmful pollution from the domestic burning of all solid fuels by ensuring wood sold in volumes of up to 2m^3 is certified as having a moisture content of 20% or less. Suppliers selling quantities of wood over 2m^3 will need to provide customers with advice on how to store and season the fuel so that is it dry to burn. Helpful tips and advice on how to dry wet wood and how to measure moisture content can be found on *www.readytoburn.org*. Manufacturers of solid fuels will also be required to demonstrate their products meet smoke emission and sulphur content standards through a certification scheme.

We have a collective responsibility to ensure that the right fuel is burned in the right appliance with the right maintenance, and that any public education is carrying similar messages.

Reduced emissions improve air quality

The Ready to Burn certified fuel scheme is backed by Defra which appointed the non-profit industry organisation HETAS to certify Manufactured Solid Fuels (MSF) and its subsidiary business, Woodsure, to certify woodfuel.

Although there is some debate about exactly how much domestic burning truly contributes to UK air pollution, and whether wood burning stoves emit more particulate emissions than traffic, it is understood that air quality is impacted by what we burn at home. This is where the new legislation and supporting Ready to Burn schemes are helpful in driving this message to consumers and raising awareness of the benefits of only burning proven dry wood. For example, burning wet wood emits up to five times more emissions than a Ready to Burn woodfuel so it's better for the environment, for our health, and for today's high tech burning appliances which will work more safely and efficiently as a result.

Marking products with the Ready to Burn label makes it easier than ever for consumers to choose the right fuel and

> WE HAVE A COLLECTIVE RESPONSIBILITY TO ENSURE THAT THE RIGHT FUEL IS BURNED IN THE RIGHT APPLIANCE WITH THE RIGHT MAINTENANCE

be confident that what they're buying is compliant and ready for immediate use at home.

It's worth noting that the new regulation exempts a range of fuels, such as coffee logs, wine logs, olive logs and fuel made from food waste, which means that at this point in time they can only be used in areas that are not designated smoke control areas, as they are not authorised or certified as 'Ready to Burn'.

For those of us certifying products as 'Ready to Burn', it is simply a matter of these fuels not falling within the legislation so we can't deal with them yet. We are in touch with the suppliers of many of these fuels and, over time, no doubt the legislation will evolve to deal with these other fuels.

Remember, we have no choice in the air we breathe and it is up to all of us to act responsibly, thinking of our neighbours, community and the NHS, whether we are supplying or burning inside with an appliance or outside with a barbeque or firepit. It's a simple message - where you can make a difference, you should.

Supporting the industry

The most critical part of what we do at Woodsure is to work with producers and suppliers of all shapes and sizes to help them comply with the new laws so the need for certified woodfuel can be met. Woodsure has been the UK's only woodfuel certification scheme for more than 10 years so we have a proven track record in working with the industry to raise quality standards, and over this time we've defined an audit process that is simple yet robust.

Our approach attempts to minimise the practical and administrative demands upon producers and suppliers, helping to keep production costs down. When woodfuel producers apply to the scheme, they need to send us a sample to be tested. We also test a representative sample of the final woodfuel product at the point of sale. All tests are conducted to an internationally recognised standard methodology for moisture content and are conducted using test equipment that has been specifically designed for this purpose. We conduct a thorough site audit as well to make sure the supplier can consistently meet the moisture content requirement. Where needed we can provide advice about where improvements could be made.

This valuable experience has also taught us that there isn't a one size fits all approach to certification. We recognise every business is individual and we also understand that when it comes to meeting the requirement for moisture content of up to 20%, there are many ways to get there. Therefore, we don't dictate that approach as we know that there are many factors to consider; the type of wood, geographical location, the impact of wet weather and humidity, facilities and air flow, and the chosen drying processes which can be high tech or low tech. In addition, we also take time to get to know the people running these businesses, they're often passionate about the fuel they produce and understand the needs of their customers.

As the certification body for the Ready to Burn scheme, we're keen to minimise the burden of administration that meeting new legislation can bring. As such, we also offer expert technical assistance to answer questions and give practical advice for those who need to comply now, and we're working with the Small Woods Association and others to set up a group scheme for those supplying less than 600m3. Small volume suppliers have until 30 April 2022 to comply with legislation but it's important that we work together now to find a way for them to share the cost of certification so compliance isn't prohibitive to their business.

More information *If you'd like to find out more about the Ready to Burn scheme or have questions about compliance, get in touch with Woodsure on 01684 278188 or info@woodsure.co.uk*

What do the new woodfuel regulations mean for the small firewood producer?

Toby Allen from Say it with Wood explains why it is the small-scale producer that will be hit the hardest.

What do squirrels and the new firewood regulations have in common? Apparently, they are equal barriers to the management of small woodlands. Maybe this is a bold statement, however, with regulations now in force, it's the small-scale producer that will be hit hardest. The main reason for this is because the standard for dried logs has been lowered from 25% moisture content, fairly easy to achieve by air drying, down to sub 20% which is much harder and virtually impossible for those without undercover storage. This single drop in number instantly makes the difference between having a market for low grade timber or finding another way to make a wood pay. Let's be clear, burning wet wood makes for dirty air, and as a society we have to accept the changes we need to make for the environment. Even if that means completely changing our business model, or indeed getting another job.

A lot of producers are genuinely worried about losing a reliable market for a by-product of woodland management. Some readers will remember the days before the current firewood demand grew. Managing woodlands was about covering costs, often at a loss. Grants for firewood equipment, and the addition of the RHI to kiln dry logs encouraged investment, and firewood became a main tool to manage woods. Perhaps the high levels of PM2.5 is a symptom of societies eagerness to have a strong wood culture again?

Most producers I speak to understand the need for change but feel their concerns have been repeatedly ignored. Small-scale producers usually have a strong focus on the many benefits of using products from local woodlands, while the only scheme on offer is more than happy to give equal weighting to logs from Latvia, Italy and Namibia, amongst others. Brexit and the new regulations could have been a brilliant opportunity to level up the playing field against cheap imported logs.

Bringing logs below 20% gives producers using barns to dry logs a stark choice. It means storing the wood for at least an extra year, effectively halving the volume of logs sold. Losing half your income is a big deal, the cost of renting a barn and owning equipment will no longer add up. A lot of small woodland owners are making logs on a lesser scale, selling directly from the woods to friends and family who store and dry the logs further. It is unlikely they will have the budget (or planning permission) to build a drying shed. In an ideal world, there would be support to buy drying equipment, inconveniently, the RHI has been withdrawn from new installations of log kilns. Borrowing money for a kiln in order to use around a third of your wood to fire it, plus the extra handling involved, doesn't make good business sense without the RHI. Kiln dried logs are a great product, and avoid the cost of holding stock while airdrying. With the right encouragement, people could invest in super-efficient, or solar kilns.

> A LOT OF PRODUCERS ARE GENUINELY WORRIED ABOUT LOSING A RELIABLE MARKET FOR A BY-PRODUCT OF WOODLAND MANAGEMENT

Registration with HETAS and complying with 20% only applies to those supplying less than 2m^3. The cheaper option for some will be buying a bigger truck and giving out drying instructions with log loads as per guidelines. Or simply operating under the radar. Group registration schemes are in the pipeline; The National Coppice Federation is currently surveying its members to see if there is an appetite for one. Setting up a scheme demands time and resources, HETAS currently dont help with set up costs. Instead businesses will self-finance untested schemes while still paying a registration fee, which is unfair.

The story of logs from UK woodlands is a great one, the clean air act offers a chance to show we are willing to step up for a better environment. But it means disruption to the part of the industry that can least afford it. The strength of the small woodland business is being able to adapt and innovate, it will take acknowledgement and support to make that happen.

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Your carbon market questions answered

In his fifth and final article for Forestry and Timber News, Forest Carbon's **Matthew Hay** answers your questions about carbon markets, project development and additionality.

Q Is interest in the voluntary carbon market just a bubble that is going to pop?

This is a question I get asked a lot and the answer is of course that I don't know! People who witnessed the 'dot com' boom up close claim there are parallels, but I'm too young to substantiate that. There are, however, some trends that I am confident about and some known unknowns at work here, which are worth considering.

For instance, I think we can be pretty sure that ecosystem markets are here to stay. They will expand, from woodland and peatland carbon to other ecosystems (blue carbon, soil carbon etc.) and to other ecosystem services like biodiversity and nutrient neutrality.

I suspect that the market for biodiversity 'offsets' will soon bifurcate into a compliance market (ie Biodiversity Net Gain) and a voluntary one. The latter, in conjunction with new carbon markets, may reduce interest in the woodland carbon market, but I suspect demand for the wider ecosystem markets will only increase as we progress through the 2020s.

The elephant in the room is government plans for a future carbon tax, and how this interacts with voluntary ecosystem markets. Economists say that without all-encompassing carbon taxes our societies stand little chance of decarbonising by 2050, so it is probably a case of when, not if, these are brought in. If businesses are obliged to pay for their emissions they will immediately shift their focus onto reducing these at source instead of offsetting (no bad thing), but they will probably also feel that they have paid their carbon dues (to HMRC), sapping motivation to purchase carbon credits from the voluntary market.

Government, however, won't want to kill private sector investment into nature-based solutions, so will likely try and ensure any carbon taxes interface constructively with existing ecosystem markets. How this will work in practice is anyone's guess.

Q Are the Woodland Carbon Code's additionality tests too stringent, given the need to increase planting rates?

Again, a question I often hear, especially from landowners with ambitions to create productive woodlands that aren't considered additional by the Woodland Carbon Code. The answer to this is an emphatic 'no'.

Additionality is vital to the integrity of ecosystem markets, and serves its main purpose in reassuring buyers of (carbon) credits that their money has actually done something. Without additionality, buyers' claims of emissions reductions would mean nothing, and the value of the carbon credits would be severely undermined. With ever increasing scrutiny of corporate claims to Carbon Neutrality, Net Zero, etc, businesses would quickly exit the UK market if there was any doubt as to the integrity of the credits generated.

It is also worth remembering that we face a climate and biodiversity crisis, with the voluntary carbon market currently providing a key economic incentive to create new native woodlands. If additionality rules are relaxed to incorporate productive schemes that are financially attractive without carbon income, it will further reduce the incentive for landowners to create and expand native woodland habitats.

Q What is the difference between ex-ante and ex-post carbon credits?

In the context of the woodland carbon market, Pending Issuance Units (PIUs) are ex-ante credits and Woodland Carbon Units (WCUs) are ex-postÐ. The former is a promise of future carbon sequestration and the latter is a verified tonne of sequestration that has happened. The reason the distinction matters is that many of the businesses who buy credits from the voluntary carbon market will have footprints that they want to offset. This isn't possible with ex-ante PIUs, as the carbon is yet to be sequestered. As a result, businesses who want to make offsetting claims will have to purchase ex-post credits from sellers of WCUs or other carbon markets.

This is not to say that purchasing PIUs is less desirable for all businesses. A lot of companies we talk to like the idea of ex-anteÐ credits because it makes their financial contribution feel more real, and their involvement in the project more tangible, given that they invested in it at the outset. It really is a case of horses for courses.

Q Are project developers the same as brokersor traders?

No, the role of a project developer is to facilitate a scheme's carbon generation. This can involve assessing the project's additionality, calculating the sequestration potential, undertaking registration and validation with the relevant standard (eg the Woodland Carbon Code), and assuming responsibility for ongoing verifications.

This is different to a carbon trader, a business that buys and sells carbon credits, and a broker, who will facilitate transactions between a buyer and seller for a fee. Many businesses that offer project development services will also be able to act as a carbon trader or broker, too, if the land manager is looking to sell some or all of their carbon.

That's all from me in this carbon series. I hope that it has been useful and informative for FTN readers. If you'd like to contact me to discuss woodland carbon, please email mjh@forestcarbon.co.uk.

Natural Capital is just downstairs

Eleanor Harris, former policy researcher at Confor, reflects on the concept of Natural Capital – and her new role as Natural Capital and Carbon Leader at Galbraith.

In April I left Confor to take up a new post developing Natural Capital opportunities at Galbraith, who buy, sell and manage forests, farms and property across Scotland and northern England. I'm excited to be expanding into new land uses, on a subject I'm passionate about, but will hugely miss working with Confor members. At least I didn't have to move too far: Galbraith are a Confor member, also based at 59 George Street in Edinburgh, and I'm working with Athole McKillop, former chair of the Confor board.

Is Natural Capital a passing fashion? I don't believe so. I've always been trying to find a plan for humans' relationship with nature. How do we reach net-zero without compromising biodiversity or consigning people to poverty? How can well-meaning local activities avoid unintended consequences far away? How can governments, businesses, and environmentalists collaborate for human flourishing, rather than blocking one another?

When I worked for Eco-Congregation Scotland we talked about 'stewardship of creation', and I promoted WWF's 'footprint' quiz – measuring your impact on earth, to help you tread more lightly. Then I met a forester called Andrew Heald who began working for Confor, and brought me along in his wake. He introduced me to Natural Capital as one of four interrelated concepts providing a framework to answer these questions:

Natural capital is simply planet Earth – rocks, soil, water, atmosphere, plants and animals – viewed from the specific perspective of its ability to support human life.

Ecosystem services are the revenue of natural capital: food, clothes, houses, transport, stable climate, breathable air, drinkable water, medicines, wellbeing.

Circular Economy is the system of ensuring that in harvesting the revenue we need, we reinvest in, rather than depleting, our planetary capital. This means taking account of everything (Natural Capital accounting), using mineral resources so wisely that they are a closed loop, and ensuring biological inputs (food and timber) are from systems which are not merely sustainable, but regenerative.

Regenerative production is where you come in. Managing land to produce and restore simultaneously drives circular economy. You may have heard of 'regenerative agriculture' – but it must also include timber, with its special role in displacing mineral materials.

Here is that complete model of how humans can live on our crowded planet. It structures complex interactions, and links disparate sectors. The questions I explored through reports for Confor – integrated land use *(Farm forestry)*, synergies between wood and wildlife *(Biodiversity, forestry and wood)*, measuring whole-cycle carbon benefit *(Eskdalemuir: carbon benefit from forestry and timber)*, or green jobs *(Forestry and local economy)* – these are all practical examples of reinvesting in Natural Capital through regenerative production.

Does pricing nature devalue it? Will we lose our sense of wonder, mystery, or nature's own worth? I was asked this recently by the Eco-congregations, and my answer was that knowing the price of bread and wine doesn't detract from their religious significance. Foresters love valuing timber because it means spending a day in the forest. Natural Capital accounting puts everything on the balance sheet: it doesn't mean that being on the balance sheet is everything.

A final objection to Natural Capital I hear in forestry is: isn't this what we have been doing anyway? We have the UK Forestry Standard and UK Woodland Assurance Standard, and decades of research into the social, flooding or biodiversity benefits of forests, or the carbon and health benefits of using timber.

Yes it is! And the aim of Natural Capital accounting is to measure, state and set out benefits that have been taken for granted by others. If decision-makers only value forestry at the market value of timber, then all those other benefits which come free, are valued at zero. Forestry is the land use which ticks all the boxes; yet too often it seems to be assumed to have the productivity of amenity woodland, and the biodiversity of arable. That's why I believe it's vital that forestry engages with Natural Capital as it develops, to ensure it accurately represents what the industry delivers for the circular economy.

We're able to do that in Galbraith thanks to our work across land uses and the forestry team's lead role in the Natural Capital project. The excitement at the opportunities it creates is palpable – not just amongst the partners who decided to invest in this new role, but amongst young graduate trainees, traditional farming clients and new investors in land. Global political and market signals are all pointing towards increased importance of Natural Capital approaches, and businesses who want to be on the front foot are driving its implementation.

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The Carbon Market: Silence is not golden

Emma Kerr, Carbon manager at Scottish Woodlands, highlights the need for more transparency in carbon markets.

Each nature-based service has a value depending on the service it provides to us. Natural capital is the fancy word for it. This service could be provision of food, timber, flood attenuation or carbon capture. All of which have a value. However, until recently a financial value was only put on a tangible service and the value of other invisible services our planet provides such as carbon sequestration were forgotten because there was no monetary incentive apportioned to them. Until now.

In the UK, at present, the Woodland Carbon Code and the Peatland Code are two active mechanisms by which carbon capture can be quantified, validated, and verified within a certified framework. These platforms allow the registration of new woodland creation and peatland restoration projects on a UK Land Carbon Registry.

Projects yield tradeable carbon units, where one carbon unit equates to one tonne of carbon dioxide equivalent. These codes provide a framework for adding financial value to natural assets, unearthing these silent services, and has given rise to the voluntary carbon market. Thus, corporate entities and businesses can now offset their carbon emissions and reduce their carbon footprint by purchasing carbon units from verified woodland and peatland carbon projects.

All seems straight forward. However, the mechanism by which carbon units are purchased is not straight forward. The intangible nature of carbon sequestration is mirrored in the silent way carbon transactions are carried out. To date, there is an array of carbon affairs. Carbon units are sold off market by private transactions between a landowner who has either Pending Issuance Units or Woodland/Peatland Carbon Units to intermediary companies who then sell onto corporate entities. However, where is the transparency within this transaction? How does the seller know they have got the best deal? How does the buyer know they got value for money?

When a standing timber sale is brought to market this is carried out by means of a competitive tender. All parties are given the option to bid for the standing timber and the end price is dictated by the market ensuring the seller gets an optimum price. Similarly, when a property is sold, the sale price allows a portfolio of comparable data to be developed, shared, and used by industry to accurately value land and property.

Furthermore, the Royal Institute of Chartered Surveyors' definition of market value is "the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion."

The current methodology for selling carbon units to an intermediary does not mirror the sale of other nature-based services nor does there seem to be an exchange between a willing buyer and willing seller. Silence seems golden. There is no comparable data. And why not? Is it because it is an intangible asset? Why can carbon not be put out to competitive tender similarly to the sale of standing timber? Or should the private transactions mirror the Woodland Carbon Guarantee Scheme whereby English Woodland Carbon Code projects are entered into a reverse auction and the Government bids on carbon projects?

THE CURRENT METHODOLOGY FOR SELLING CARBON UNITS TO AN INTERMEDIARY DOES NOT MIRROR THE SALE OF OTHER NATURE-BASED SERVICES NOR DOES THERE SEEM TO BE AN EXCHANGE BETWEEN A WILLING BUYER AND WILLING SELLER.

As we accelerate to 2050/2045 the market for ecosystem services will develop but without any market regulation by Government it is our duty as private sector foresters to set the way for open, transparent transactions to ensure the right price is achieved.

SCOTTISH WOODLANDS *have a large portfolio of carbon projects and are developing a mechanism of selling carbon direct to corporate entities to ensure this transaction is no longer silent. Emma.Kerr@scottishwoodlands.co.uk*

A vibrant UK carbon market – a Woodland Carbon Code update

Scottish Forestry Woodland Carbon Code Manager **Vicky West** explains how the carbon market is growing and evolving.

Rapid growth of the carbon market in the UK

The last 12 months have seen a surge in interest in Natural Climate Solutions linked to company commitments to science-based targets and to reach Net Zero - the 'demand-side' of the carbon market. This is accompanied by a similar increase in activity from the supply-side with many more land agents and landowners becoming involved in carbon projects - both woodland creation and peatland restoration.

Over the last 12 months to 31 March 2021, 343 projects were registered with the Woodland Carbon Code, almost doubling the number of projects involved to 708. The Peatland Code, which joined us on the UK Land Carbon Registry at the end of 2020, has also seen a big increase in project numbers now up to 30, again more than doubling the number of registered peatland restoration projects.

Improving market function

With the increase in market activity, over the next year or so we are looking at what we can put in place to help the market grow and function more efficiently. This includes:

UK Land Carbon Registry: We've created a UK Land Carbon Registry so that market participants can see their woodland and peatland projects together in one place. This is more streamlined and also allows for other standards/methodologies for Natural Climate Solutions to be added over time as they are developed.

Widening the scope of the standard: We're also putting in place a framework & process to allow others to help develop methodologies which, once trialled and approved, could be added to the WCC, meaning more project types are allowed – this could be improved forest management, harvested wood products or agroforestry for example. This will enable us to include other methods more quickly.

Improving links between buyer and seller:

- We've improved the facility to promote WCC validated projects on the WCC website and will continue to improve this area.
- We're looking at other ways of promoting projects and automating the sale of units, making multiple small transactions much quicker and easier.

Both improvements should help connect buyers and sellers whether small-scale or for larger transactions.

Price transparency: We're exploring how we might be able to bring more transparency to the pricing of carbon sales and changes in price over time. Clarity will help the market grow.

Guaranteed price: A number of initiatives have evolved that offer a guaranteed price/income for carbon:

- *The Woodland Carbon Guarantee:* In England, successful 'Guarantee' applicants are given the option to sell their verified Woodland Carbon Units to government at a guaranteed price.
- *Future Woodlands Fund:* In Scotland, applicants to the Future Woodlands Fund are offered a fixed annual income for 20 years for their Pending Issuance Units (Operated by Future Woodlands Scotland, funded by BP).

Wider market endorsement: The WCC is now endorsed by ICROA, the global umbrella body of the voluntary carbon market, providing assurance to buyers of the quality of WCC carbon units. Endorsement will improve buyer confidence in the WCC product.

Improving links with the global market: We're taking part in a trial Global Carbon Meta-registry, bringing together information from all the major voluntary carbon standards globally, minimising double counting between projects/standards, understanding how accounting between countries can happen in practice, and over time providing connectivity between markets and exchanges to facilitate transactions and gain greater insight into pricing. This will help the WCC stay connected with the wider market and improve the efficiency of the market.

Improving WCC key tools. We're working on improving:

- *WCC Carbon Calculator:* To incorporate new growth and yield models and to refine estimates of contributions from root and branch biomass.
- *WCC Cashflow Tools:* Improving guidance and tools to help landowners confirm whether their project meets the important 'financial additionality' test.

Improved tools will reflect the best science and help landowners be more sure of the eligibility of their projects before they plant.

Monitoring, Reporting and Verification: We're looking at ways we can make the future monitoring of WCC projects more accurate and efficient, using remote sensing methods as they become widely accepted and cost-effective. This will provide both buyers and sellers with more accurate and potentially more regular confirmation of the sequestration of their projects of interest.

UPCOMING KEY DATE: *There's a key dates coming up for anyone interested in being involved in the Woodland Carbon Market: From 1 July 2021, you must register your project with the WCC before planting commences. Until that date, you can still register projects planted in the last two years provided you can demonstrate that you have evidence from the planning stage that carbon finance was necessary to make the project viable.*

FOR MORE INFORMATION: *If you have any information or are aware of other projects, initiatives or technologies that could help as we make changes to the Woodland Carbon Code, do get in touch.*
www.woodlandcarboncode.org.uk
info@woodlandcarboncode.org.uk

Forestry investors poised to profit from soaring carbon credit market

Olly Hughes, managing director of forestry at Gresham House

In a bid to ensure the corporate sector is an active participant in the climate fight, governments have adopted the use of Emissions Trading Schemes (ETSs), which set a maximum amount of greenhouse gases that can be emitted by participating institutions. Carbon allowances are then auctioned off or allocated to companies and can subsequently be traded.

Businesses are increasingly participating in ETSs, with a number of regulatory bodies now formally requiring members to offset carbon emissions. However, the growing number of country and regional-focused carbon pricing initiatives only cover 20% of annual global emissions. Therefore, an increasing number of businesses are including net zero targets in mission statements and are taking action, offsetting unavoidable emissions through the voluntary purchase of carbon credits. Between 2017 and 2019, global carbon markets grew almost five times in value to Đ194bn.

As policymakers set more demanding emission allowances and societal pressure builds on companies to adopt climate conscious policies, the price of carbon credits is set to continue to rise – with some suggesting a price of $100 per tonne of carbon is needed by 2030 in order to drive a meaningful and sustainable drop in carbon emissions, compared to the current price of $68.

Forestry's critical climate role

With 45% of the carbon stored on land tied up in the world's forests, forestry has a huge role to play in mitigating climate change through the production of carbon credits. Owners of applicable forestry projects can make a claim for the amount of carbon removed by their forest, which is then audited externally and converted into carbon credits. A buyer will then purchase the credits from the forest owner, before the credits are 'retired' to offset the buyer's carbon footprint. As such, forestry is an important source of carbon credits for a growing number of companies, and forestry investors have the opportunity to benefit from the rising demand and prices of carbon credits around the world.

Carbon credit markets vary internationally, and while some ETSs exclude forestry, others specifically target carbon forestry – such as in New Zealand and California. These markets display strong demand and supply dynamics and set minimum pricing guarantees for carbon credits. Additionally, in some regions, existing forestry does not generate carbon credits. In the UK and Australia, for example, all existing forestry is counted as part of the country's national carbon budget, so its carbon capture benefits are already accounted for.

Uncorrelated and inflation proof

Meanwhile, purpose planted forestry projects can generate compliance credits and voluntary credits. Compliance credits are suitable for businesses legally required to purchase carbon credits in order to offset emissions generated by operations within a certain country's ETS or jurisdiction. This is particularly prevalent in industries such as energy and power. Such businesses are awarded an emissions allowance but must purchase credits if they exceed this level. With allowances typically reducing over time as policymakers work towards Paris Agreement commitments, the demand for – and price of – compliance carbon credits has increased.

Alternatively, voluntary credits can be purchased by businesses that fall outside of an ETS or have self-imposed stringent carbon emissions targets. These credits are typically bought and sold by carbon traders who match projects directly with clients. The number of businesses seeking voluntary credits continues to grow as the climate change agenda gathers pace – from sectors such as transport, technology, and financial services. Globally, between 2016 and 2018, voluntary credit transactions increased by 52.6% and 48.5% in volume and value terms, respectively.

By investing in forestry assets that are used to produce carbon offset credits, investors can benefit from the growing demand for both compliance and voluntary credits. These returns are entirely uncorrelated to other asset classes, while providing a positive correlation to inflation – and contributing to the global net zero agenda.

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Tractor mounted winches

Andrew Smith, Forestry Lecturer at National School of Forestry, UHI

Winches mounted on tractors have been synonymous with timber extraction since the early days of mechanisation. Boughton or Cookes winches mounted to Fordson Majors became the mainstay of many contractor fleets in the 1950s and 60s, prior to the introduction of purpose-built skidders. Indeed, some still make special appearances for recovery jobs – usually in a farmer's field pulling some very expensive and sophisticated piece of machinery out of the mire, much to the embarrassment of the operator!

The adoption of the shortwood or cut-to-length system where trees are felled and then processed at the stump, with harvesters and forwarders being much more productive, rendered many winch units redundant. Together with a view that skidding is more damaging to the ground and more damaging to the timber in certain circumstances all but finished skidding as a formidable force in timber extraction in the UK.

However, there are many circumstances where the tractor mounted winch can be of great value to us on a harvesting site. We can use them for winch assisted felling, for extraction of timber too large for conventional methods and for extraction from areas which are otherwise inaccessible, eg a steep banking to name a few. Many forestry businesses have one sitting in the yard, ready to be used, and a much cheaper alternative to a purpose-built skidder.

Whereas the traditional method of mounting a winch to a tractor was a hard or semi-permanent mounting where the winch unit was bolted onto the back of the tractor and often coupled directly onto the PTO shaft, modern tractor mounted winches utilise the three-point linkage on the tractor. This makes them very versatile as the winch can be removed in a matter of minutes and the tractor utilised for another task – towing a timber trailer, operating a chipper etc freeing up a valuable resource. Great where a variety of tasks are carried out by the business. Lastly, we can shift tractors between sites relatively easily and if required, take them home at the end of the day.

Tractor mounted winches are usually driven by the tractor's PTO (power take off) shaft or sometimes by the tractor's hydraulic system. Many of the manufacturers also offer options such as remote control of the winch so that the operator does not necessarily need to stand at the unit whilst it is in use, a choice of winch rope diameters and other skidding accessories often complement the line-up.

Lastly, note that many of the manufac-

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UNIFOREST

Uniforest are based in Slovenia and also have vast offering of forestry products. They produce tractor mounted winches in three ranges – standard, premium and profi.

The standard range is available from 3-7 tonne pulling capacity in mechanical version and from 4-8 tonne in the hydraulic version. Tractor requirements are from a minimum 16-68hp depending on the model.

The premium range too is available as mechanical or hydraulicly controlled models. Mechanical models are available from 3.5-8.5 tonnes whilst the hydraulic models are available from 4.5-9.5 tonnes. All models in the standard and premium ranges are single drum winches.

The profi range has been produced for more than 10 years now and offers single drum winches in 6.5,8.5 and 12.5 tonne capacities, and double drum capacities of 6.5 and 8.5 tonnes respectively. Uniforest have also adopted a constant power concept for their 70 and 90GK models rated at 7 and 9 tonne constant capacity.

The Uniforest range of winches come, as you'd expect, with a variety of options including powered outfeed, autostop and remote control.

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turers will quote the maximum pulling capacity of the winch, often referred to as the "bare drum" pulling capacity, but this will be much reduced when the drum is nearly full of rope – sometimes by as much as 50%.

Igland

Probably the first name that springs to mind when we think of winches in the forestry industry nowadays. Igland equipment is manufactured in Norway, and along with the forestry winches they also produce trailers, snow equipment and various front loader attachments. The Igland range comprises both single and double drum winches.

The smaller 2501/3501/4501 models with pulling capacities from 2.5-4.5 tonnes. This range is suitable for tractors from 15-70hp depending on the model, making them usable behind alpine style tractors. Moving on, the larger models start at 4.2 tonnes pulling capacity (40hp required) on the Igland 42 up to 8.5 tonnes on the Igland 85 (90-140hp required) with a further five models in between. However, as well as pulling capacity increasing so too does weight, with the 85 weighing in at 880kg.

The double drum range is much smaller with only three models, the 5002/6002 pronto (5 and 6 tonnes pulling capacity respectively) and the 9002 Maxo (9 tonne capacity). Note that the stated pulling capacities are achieved on each drum. Power requirements start at 70hp for the smaller models and 80hp upwards for the 9002 Maxo.

Pfanzelt

A relatively young company, Pfanzelt Maschinenbau was founded in 1991 and

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Tajfun

Tajfun winches have been produced in Slovenia since 1979. Other equipment in their offering includes timber lorry cranes, cable crane equipment and firewood processors which you may well have come across.

There are thirteen winches in the range, with all apart from one being of the single drum design. The double drum DGV 2x55 AHK is 5.5tonne winch suitable for tractors 80hp and above. This model can be equipped with 10-13mm rope as required.

The single drum winches vary between 3.5-10 tonne capacity with power requirements of as little as 15hp for the smallest model up to 100hp+ for the largest EGV 105 AHK. The 4.5,5.5,6.5 and 8.5 models are available as either mechanical control or hydraulicly controlled units. As with other manufacturers, remote control is available as an option on many of the models.

As well as offering winches, Tajfun also offer a range of accessories to suit their winches including rope, sliders and snatch blocks. Innovative options are available, which include an end switch – which stops the winch pulling when the rope termination reaches the upper pulley. It is claimed to reduce damage to the pulley and prolong the life of the rope.

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now produces a variety of forest machinery including cranes; tractors; remote controlled tool carriers and winches to name but a few. Their three-point linkage winch range comprises the S-line winches and their Profi geared winches.

The S-line range comprises three winches from 5-7.2 tonne pulling capacity. All winches in the range are remote controlled as standard. The Profi range comprises 5 models from 6.1 tonnes to 10.2 tonne pulling capacity. Again, these winches are remote controlled as standard. Interestingly, the P163K and P173K Constant Traction models have no loss of pulling capacity between the inner and outer parts of the drum meaning that their rated pull (6.1 and 7.2 tonnes respectively) are available regardless of how much rope remains on the drum. All these winches are single drum units with weights varying from 510kg up to 650kg.

The Profi range also includes double drum winches from 6-10.2 tonnes capacity. Again, this capacity is available in both drums. There is one Constant Traction model, the P273K, where pulling capacity of 7.2 tonnes is available throughout the two drums. The double drum winches weigh between 590-850kg.

The Pfanzelt winches are available with various options such as storage compartments, cable payout and interestingly a reversing gearbox so that mounting the winch on the front or rear three-point linkage is possible.

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The Weetwood research area, forest on a drained peatland in South Iceland – the height of the Black Cottonwood trees are approx. 15 m at the age of 25 years.

Iceland's peatland project

Dr. Brynhildur Bjarnadottir of the University of Akureyri, Iceland, draws parallels between Iceland and the British Isles.

Iceland and Britain are both islands in the Atlantic Ocean, but with quite a different forest history. Today, woodlands only covers around 1,5% in Iceland whereas in Britain, the woodland cover is 13%. Both countries have set goals to reach carbon neutrality soon and carbon sequestration plays an important role in that process. Iceland´s current forests are young, as is the history of afforestation. A century ago, most Icelanders had never even seen a tree or believed that trees of any size could grow in Iceland. Today, forestry for timber production, land reclamation and amenity is being carried out by thousands of people all over Iceland. Carbon sequestration through afforestation has gained an increased attention during the last decades and authorities are requesting more scientific research on different land-use changes. Afforestation of drained wetlands has not been much practced in Iceland until now, but might be a feasible action where rewetting of peatlands is not an option. In order to get results on the outcome ot these two mitigating methods, present study was conducted.

The study *Carbon and water balance of an afforested shallow drained peatland in Iceland*, published in February 2021, followed the carbon and water dynamics of a drained peatland planted with 23-25 year-old Black cottonwood in Iceland over two years. It found that a forest in the middle of its rotation is a strong carbon sink, mainly in the tree stock but also in the soil.

Key points of the study

- The history of forestation in Iceland is short. Before settlement (around 870), birch forest and woodland covered 25-40% of Iceland's land area. Today, woodland only covers around 1,5%. This rapid deforestation in the past ended around 1970 with increasing awareness of the importance of protecting remaining woodlands and the need for afforestation.
- Peatlands are a prominent landscape feature in Iceland and cover approx 8% of the land area. A large proportion of these peatlands were drained for agricultural purpose during the 80's and 90's but have fallen out of use.
- The balance between the CO_2 sequestration from afforestation and the CO_2 emissions from drained peatlands is of high importance when it comes to climate change and authorities are requesting research on this topic.
- Unexpectedly, the afforested drained peatland was a strong sink of carbon during the two years, with an average value of -714 g C m^{-2} yr^{-1}.
- Only 0.5% of the net carbon ecosystem exchange left the ecosystem through lateral fluxes.
- 91% of the observed carbon accumulation could be explained by the annual biomass increment of the Black Cottonwood trees and 1.3% by the ground vegetation.
- This means that the remaining 7.5% of the carbon accumulation most likely accumulated in peat soil and litter, contributing to the soil C-stocks.
- The results were quite unexpected since other studies have shown that drainage of peatlands gererally leads to losses of C-stocks for many years after drainage.
- A strong CO_2 sink at a drained site can either stem from an unusually high C uptake rate or an unusually low rate of C emission, or both – as was the case in present study.
- The high C-uptake rate of the ecosystem was explained by the fact that the introduced tree species Black Cottonwood has proven to be on the country´s fastest growing tree species.
- Low annual Ecosystem Respiration was

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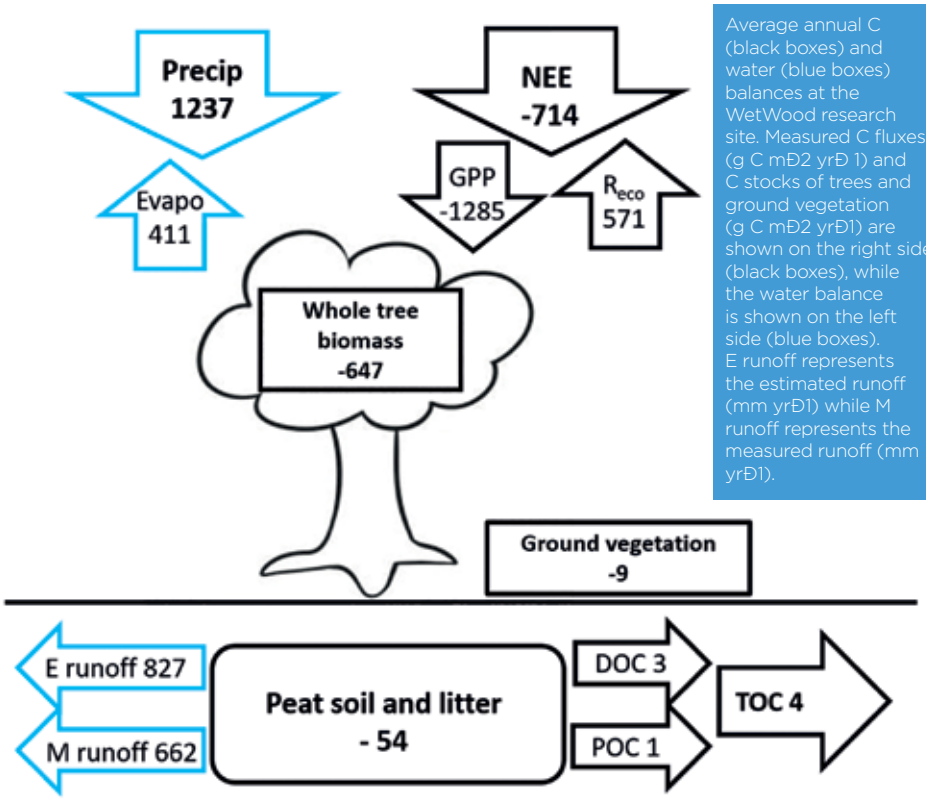
explained by the fact that the site was poorly drained, leading to a low winter CO_2 emissions.

- On average 33% of the annual measured precipitation evaporated back to the atmosphere through trees and ground vegetation.
- This left 827 mm as potential runoff, a bit lower than the measured runoff.

Altogether, the results show that during the age span of 23-25 years, afforestation with Black cottonwood is a valid method to reverse the expected negative C-balance of a drained grassland pasture in Iceland. Of course it can not be claimed that all afforested drained peatlands would show the same C sink capacity and more studies are needed to further confirm these results. But it can be said that at a certain age span, afforestation seems to be a valid method to reverse the expected negative C-balance of poorly drained pastures in Iceland that have been abandoned, but where conditions or landowners will not allow wetland restoration.

For a copy of the research paper, please contact Brynhildur Bjarnadóttir at brynhildurb@unak.is



Average annual C (black boxes) and water (blue boxes) balances at the WetWood research site. Measured C fluxes (g C mÐ2 yrÐ 1) and C stocks of trees and ground vegetation (g C mÐ2 yrÐ1) are shown on the right side (black boxes), while the water balance is shown on the left side (blue boxes). E runoff represents the estimated runoff (mm yrÐ1) while M runoff represents the measured runoff (mm yrÐ1).

Developing an innovative platform to support Woodland Creation

Sylva Foundation is developing a Woodland Creation platform to support the development of Defra's Environmental Land Management (ELM) scheme. From 2021 it is also working with Scottish Forestry and the Croft Woodland Project to run a Woodland Creation pilot in Scotland. Can you help test the new platform?

The team at Sylva have built on the success of the existing myForest Suite by developing an innovative platform for woodland creation. The new platform allows landowners and advisors to access mapping tools as well as collect information necessary when applying for grants and permissions. The aim of the new creation platform is to help ensure, in the rush for the creation of new woodland, that these are well thought through and have purpose to help meet sustainable development goals.

One of the main outputs to date has been the development of a new Woodland Creation Plan template to support the design and establishment of woodlands ensuring that they are complaint with the UK Forestry Standard. In 2020, the first year of the project, a working beta version of the platform was developed and tested across the Northern Forest area of England in partnership with Forestry Commission and Woodland Trust, with dozens of agents and landowners taking part.

Progress to date and future plans

After a busy first year, excellent feedback was received from testers.

The beta platform was well-received by testers and a helpful list of additional features and functions have been drawn up. Testers particularly liked the simple yet powerful mapping tools, with the ability to measure areas and perimeters, calculate open space, and create sub-compartment polygons linked to a detailed inventory of tree species.

During 2021, the scope of the platform will be widened to add new tools (including importing RLR land parcels in England), support natural colonisation and potentially agroforestry, while linkages with the Woodland Carbon Code are also being explored. It will support the completion of forms required by grant bodies, as well as exploring how to support the gathering and dissemination of information necessary to complete an Environmental Impact Assessment.

There is a landing page which explains more about the Woodland Creation project at www.sylva.org.uk/woodland-creation but note that the working platform is not yet accessible without the user completing some initial training.

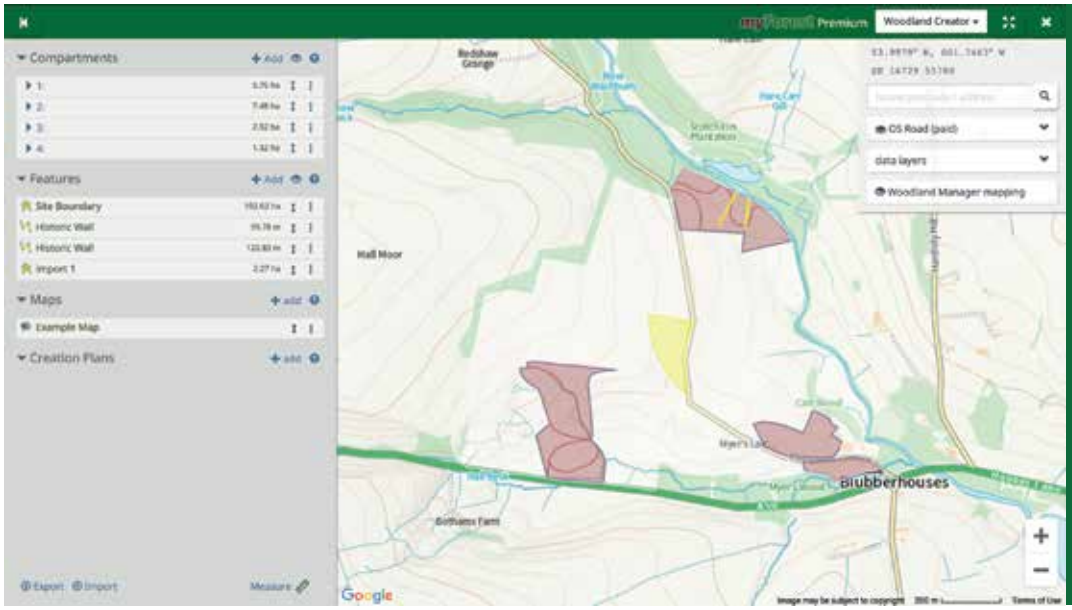
How can I get involved?

Sylva Foundation is seeking interest from landowners and agents interested in testing and providing feedback on the Woodland Creation platform. A good range in size, purpose and location of schemes is required so that the tool can be tested as to how well it supports varying needs, while also exploring what additional support would be required alongside this to ensure that all new woodlands are designed to the highest standard.

In England, some 50 schemes are required in the test and trial, this time anywhere across the country. The pilot in Scotland will be slightly smaller, testing a minimum of 14 schemes. However, in both cases the more testing that can be undertaken, the better the final outcome will be.

Those interested in testing the platform, whether in England or Scotland, will need to attend a free training webinar. These will be taking place online throughout July. To express interest, please email: george.d@sylva.org.uk

Woodland Creation is a two-year project funded by the Department for the Environment and Rural Affairs (Defra). Sylva Foundation's project partners are the Forestry Commission and Woodland Trust. Additional funding has been provided by Scottish Forestry.



myForest

ABOUT MY FOREST

More than 130,00ha of woodland has been mapped across the UK by some 7,000 owners and 1,400 agents to:

- create detailed site and sub-compartment maps, which with Premium includes OS Mastermap backdrop;
- develop UKFS-compliant woodland management plans;
- produce outputs compliant with Forestry Commission and Scottish Forestry.

https://myforest.sylva.org.uk/

Screenshot of the Woodland Creator mapping tools, illustrating compartments and sub-compartments drawn. A number of additional layers can be toggled on and off by users, including alternative mapping tiles (e.g. OS variants, Google Maps etc). and layers showing

What can the SFT do for you?

What is the Scottish Forestry Trust?

The Scottish Forestry Trust is a charitable trust (Scottish Charity Number SCO08465) which provides funds by way of grants to support research, education and training in forestry throughout the UK. Established in 1983 by a gift of share capital the Trust distributes investment income along with funds on behalf of other partners. Over the last 38 years funds in excess of £3.5m have been distributed to almost 300 projects of varying sizes.

What type of projects are funded?

The Trust supports a diverse range of projects across the UK provided they demonstrate a direct benefit to improving knowledge and practise in UK forestry and woodland management; the woodland ecosystem; timber processing and products; forestry and related training and education.

What funds are available?

The Scottish Forestry Trust will fund both small and large projects, some such as training events may last just a few days with some of the longer research projects running over 6 years. The level of funding available varies but will typically be between 10% and 30% of the total costs. SFT will accept in kind contributions as match funding.

How to apply?

The Trustees consider applications three times a year with submission deadlines in February, May and October. All applications are first considered by the Projects and Research Committee who then make recommendations to the Board of Trustees. If anyone is interested in finding out more about how to submit an application then details of how to do that are available on the Scottish Forestry trust website (www.scottishforestrytrust.org.uk).

Get involved – become a trustee

You can help shape the future of The Scottish Forestry Trust as the Trust is looking to appoint up to five new Trustees to take up position on 1 January 2022. The Trust would like to hear from individuals with a broad range of skills and experience including; Climate Science, Technology and Innovation as it applies to Forestry Management and Timber Processing, Financial and Risk Management, and Marketing and Communications; the skillset and experience required for the 5th Trustee position is not specified but should be related to the forestry and timber technologies sector. Those with a background in Climate Science or Innovation and Technology as it applies to Forestry Management and Timber Processing should have a track record in academic or applied research.

Experience of charity governance or being a non-executive director is desirable but not essential and training will be provided.

Applications from those living and/or working in Wales and Northern Ireland are welcomed as at present only residents of Scotland and England are represented on the Trust.

A full applicant pack can be downloaded from the news section of the SFT website or by contacting Amanda Bryan on Director@scottishforestrytrust.org.uk. Applications close on 16th July 2021.

Read more on the Scottish Forestry Trust funded project MySafety app on page 29

These are the kind of things we have funded

Acetamiprid Run Off in Young Trees: This project led by Forest Research completed in spring 2020 monitored the impact of chemical run off from pre-treatment and top up spraying of young trees planted on a restock site in upland Wales subject to high rainfall. This was undertaken with a view to ensuring adequate guidance is provided for this type of treatment. This project was supported through the Reducing Insured Risks in UK Forest and Woodlands Research Fund which is supported by QBE and Tilhill.

Improved pre-treatments and fractionation of soft and hardwoods to access feedstock chemicals: Using funds from the SFT's Research Student Bursary Scheme which is jointly funded with the Forestry Commission, Scottish Forestry and Natural Resources Wales, a PhD studentship is being supported at the University of St Andrews to develop a process to extract high quality lignin from Sitka spruce and both hard and softwood waste material. This will enable these products to be used as chemical feedstocks adding value to waste materials. The work commenced in 2020 and will be completed in 2024.

Future Foresters – England and Wales: Led by the Royal Forestry Society in 2017 this work mirrored a similar piece of research looking at future workforce requirements undertaken in Scotland in 2016. The final report set out current and future skills and workforce needs and produced an action plan to address the gaps and barriers.

Genetic Diversity in Juniper: Also funded through the Bursary Scheme this PhD studentship at the Centre for Ecology and Hydrology is currently addressing fundamental gaps in the understanding genetic diversity in Juniper in the UK and aims to translate that into management actions securing the future Juniper resource.

The Scottish Forestry Trust

Long-term Forest Management Plans now available for Welsh landowners

Nick Fackrell explains more about the benefits of Long-term Forest Management Plans and why they've been introduced in Wales.

When it comes to forest and woodland management, there are a diverse range of requirements that need to be balanced in order for the land to be managed sustainably; including but not limited to, felling operations, habitat conservation and restoration work as well as considering bigger issues such as climate change which can be challenging.

Natural Resources Wales, are encouraging foresters across the country to take up our recently piloted Long-term Forest Management Plans (LTFMP).

Long-term Forest Management Plans can help to pro-actively and strategically manage for long term sustainability and we are keen to support more foresters in Wales to embrace the benefits they can bring:

1 Adaptive, multi-purpose management and building resilience

As part of their sustainable forest management practice, land managers frequently look to restructure woodlands seeking multiple benefits and where appropriate, realising the commercial benefits of integrated land management.

Although felling licences offer proportionate and expedient regulation to suit many UK situations – particularly where management activities are of limited scope, modest impact or infrequent occurrence – the licence does not extend to the wider context and area covered by a forest management plan and are confined to the discrete operational area within the felling boundary.

The level of assurance provided by a long term forest management plan will therefore extend to all the UKFS elements of the Forest Management Unit as defined within the plan.

2 Greater degree of freedom

LTFMPs can offer a greater degree of freedom when it comes to felling, as your timing of restocking can be linked to your vision and management objectives and to factors you identify in your plan, such as whether your woodlands are upland and large scale.

Typically, stand-alone felling licences in Wales are usually only valid for two years for clear-felling and five years for thinning. This presents little capacity to adapt quickly in response to unforeseen circumstances such as wind-throw or disease.

A LTFMP will provide felling permission for your proposed thinning, felling and restocking for the first five years of your plan and outline approval for the following five years. This builds increased confidence for land managers as the permissions are resilient to external changes which are out of the land managers control.

There are also tolerances available within a forest management plan that allow for reasonable adjustments that are not afforded through a standard felling licence process; for example, felling boundaries and timings of management interventions.

3 Improved collaboration and engagement

During the development of the pilot, the private forestry sector took on key elements of the process currently completed our Forest Regulations and Permitting teams. Examples include consulting with the statutory nature conservation body, liaising with stakeholders and agreeing mitigation for designated sites. Land managers are often best placed to communicate on these matters and have a better understanding of the likely operational and project level details which are being planned.

LTFMP also set proposals in a broader context, both in the area covered and over time. By providing a clear statement of intention they can reduce conflict and provide stakeholders with increased confidence and reassurance through better communication.

4 Evidence to support independent certification

If you are seeking an FSC accreditation, a LTFMP is a key requirement providing evidence to easily demonstrate your woodlands compliance with legal obligations.

They're also a useful way to seek and process complex information and can be used to inform key decisions if you:

- Intend to clear-fell woodland within an at risk or failing acid sensitive catchment
- Your management has the potential to affect European or UK protected sites and you need to consider mitigation or avoidance measures
- Are managing a long-term change in tree species diversity because your forest or woodland is on an area of restorable deep peat or has areas of PAWS (a plantation on an ancient woodland site)

5 Preventative action for Tree Health Issues

Ash dieback in Wales is a significant issue for land managers. Forest Management Plans can provide a proactive way to strategically manage the disease. By proactively seeking felling permissions up front, appropriate forest management interventions can take place at the relevant time.

Nick Fackrell is Senior Officer Forestry Operations for Natural Resources Wales.

For more information on LTFMPs and details on how to apply, visit the Natural Resources Wales / Forest Management Plans. Contact fellinglicence@naturalresourceswales.gov.uk

FINDING THE RIGHT BALANCE

Winston Churchill of Winston Churchill Venison explains why balancing deer and woodland management is not always easy

Deer in woodlands has always been a contentious subject. For some, deer are a source of income and sport, for others they cause many problems and are little more than a pest. To be able to balance the interests is not easy and we will inevitably always be faced with differing opinions on what is acceptable on both fronts.

Deer heaven

Why have deer been so successful in our woodlands and why is it so difficult to control them? The answers are really, quite simple – the natural predators were removed by man 300+ years ago, we have a favourable climate and we have planted tens of thousands of hectares of perfect habitat. Deer have responded very successfully to all of this and it is believed that they are still on the increase in many existing woodlands. With even more woodlands now being planted, the logic is that, despite fencing (which has a relatively short shelf-life), we can expect colonisation to continue and density increase to follow.

We ain't as effective as lynx & Co

We must then ask, why do we find it so difficult to control deer numbers when nature would attend to it easily? We have tools which allow us to kill at long distances and have developed techniques that allow us to see in the dark; and I am sure that it is only a matter of time before we are legally allowed to use thermal imagining telescopic sights to kill deer at night but I do not think that will resolve the problem either. Again, the answers are simple – we impose seasons upon ourselves and there is not a unified approach to the problem.

Let's think about seasons. A very radical approach would be to kill hinds all year round – after all, nature would. We do not see deer in the same way that we see foxes, rabbits, rats and vermin – we kill the female of these species all year round and it is not a problem!! Maybe it is because deer are such beautiful animals and the UK's largest land mammal. To take this approach would cause an uproar in the stalking world, and, most likely, trigger significant public and political opposition! I would not partake in this policy and I do not know anyone else who would.

Sporting and deer control

I can only comment on this in commercial woodlands in the west of Scotland where the land use is mainly commercial forestry. However, there are some estates here in the west where deer contribute on a sporting basis to the annual income. FLS are very clear about deer control. Their policy is to employ rangers and culling contractors in an attempt to reduce deer numbers and minimise damage – no sporting! The private sector (generally speaking) lease forest land out to sportsmen for recreation. Due to the fact that it is impossible to cover the cost of culling through venison income, leasing must be based on recreation. Recreational stalkers want sustainability in their sport and almost all sporting tenants will be part-time.

Change is needed and the private sector should reconsider their policy to having full time deer control. Late autumn, winter and early spring should be full on deer/damage control. Some sporting income can be generated during late spring (roe bucks), summer (roe bucks) and early autumn (stags) to offset the cost of winter control (there maybe additional income generated during winter by competent stalkers assisting the full time team). Forest agents/managers sometimes have difficulty in persuading their investor client that this is the best and most responsible way forward because it is difficult/impossible to quantify the benefit whereas it is very easy to quantify the rent.

Difficult venison markets

Wild venison (carcasses) values are now half what they were 40 years ago – why? The cost of collection (logistics in Scotland are not easy), processing, packing, labelling & distribution continue to increase at a pace not equalled by the selling price. This is not helped by cheap imports! Dealers are fewer and older – I see no new blood coming into the trade – unless there is change, the future does not look good. We are close to a situation where carcasses will be left on the hill to rot. Often the cost of carcass recovery outweighs the value of the carcass!!!

Government support is needed

Where does the government stand on this? There is government pressure to reduce deer densities for the best interest of the public, ie to protect biodiversity and address climate change. However, the reintroduction of sporting rates defies logic as it taxes the process. Also, government should become involved in the venison trade – firstly to look into the importation of venison and to grant assist community larders and marketing. If there is not government assistance there is a real risk of collapse of the venison industry as we have known it for decades!

I would like to add that the above is a reflection of things as I see them – and some of the radical thoughts and predictions are certainly not what I would like to see but we have to face facts and the deer world is currently not in a good state. In some parts, there should be a review on seasons. Government should insist on professional deer control linked to woodland grants and should assist the venison industry. Government cannot insist on deer density reduction without contributing to a failing industry.

www.winstonchurchillvenison.com

Forest nurseries expand operations

Last summer Scottish Forestry allocated £2m in grant funding through the Harvesting and Processing Grant principally to support expansion in forest nursery tree output to help them gear up and play their part in creating more woodland across Scotland, and to support the forestry sector to respond to Covid-19. For the first time, through a new agreement with the UK and Welsh Governments, tree nurseries in England and Wales which supply trees to Scotland were also able to apply for the funding.

Over 60 nursery expansion projects have been supported ranging from cell trays and growing frames, polytunnels, to irrigation, lifting and planting machines and steam sterilisers to larger investment in cold stores, warehouse space and welfare facilities to increase production capacity and to allow for safe working during the Covid-19 pandemic.

Some nurseries have shared their plans:

CHRISTIES (FOCHABERS)

Celebrating 200 years, Christies Fochabers are supporting Scottish forestry expansion plans by investing £1.5million, with enormous help of 40% Grant funding.

Projects include conveyor belt graders with an output of 70,000 per day. A new 36m x 38m cold store, split as ½ humidity and ½ direct blast, with storage capacity of 15 million+ trees. Bed lifter, single row lifter, storage crates and planting machine.

All of the above will allow us to increase production from 22 million to 30 million trees over the next 3 years.

WYEVALE NURSERIES TRANSPLANT DIVISION

have invested in a lifting machine and cold store humidity system. A seedbed grit spreader from the Netherlands has been held up by Covid and Brexit with delivery now imminent.

J & A GROWERS

have welcomed the recent grant and have three projects supported.

Construction of a new reservoir – completed and lined at the end of March and will be filled during winter 2021/22, holding approximately 40,000 cubic metres when full, so should provide sufficient capacity for summer requirements. The excavator handlers soon realized their job wasn't just as plain sailing at that point, but we all knew the water was there!

With the loss of Basamid soil sterilant we made some swift decisions and bought a new five-bed CM Regero steaming machine. Buying the steaming machine is only one part of the requirement as it needs a constant water supply (around 1000 litres per hour) and re-fueling daily, so we have also bought a 10,000 litre water bowser and a 6,000 litre diesel bowser. The machine has just arrived from France and has been put straight to work.

We have also commissioned Jones Engineering, who specialise in the design and development of vegetable machinery, to design, develop and build a five-row, self-propelled, track mounted harvester to increase output capacity in-excess of three and a half times that of a single row harvester.

SAF WOODLAND MANAGEMENT

have continued their investment into equipment to increase the automation for cell grown tree stock. This follows two years of trials to reduce plastic use and natural resources, to develop a low carbon and sustainable biodegradable paper pot and peat free growing system. The equipment will allow the nursery to scale from 500k to 3 million trees.

ALBA TREES

A new production facility at Alba Trees is very nearly operational and majorly supported by grant funding. This has created an efficient and modern space for our sowing and transplanting operation, giving us the ability to transplant 1.5million trees per week.

A further £2m has been announced for the Harvesting and Processing Grant for 2021 – again a joint initiative between the Scottish, Welsh and UK Governments - for increasing GB forest nursery tree supply capacity.

What happens to nutrients in the biorefining, bioeconomy and biocarbons era

I am pleased to see that production of biofuels is moving away from direct competition with food. All living things, whether a plant, animal or ourselves require the panoply of 16 nutrients including the micro-nutrients. My understanding is that the annual agricultural cycles have stripped much of the planet of those nutrients to the extent that "natural" foodstuffs may no longer contain what we require. Agriculture has been able to mask the effect by industrial scale application of the macro nutrients enabling production to continue. The advent of the move to biofuels accelerated this depletion.

Some nutrients do not have any obvious replenishment cycle. What happens to each of the nutrients when material is burned, do any of them end up in a form in which they can be part of a replenishment cycle?

The articles on Biorefining and the Bioeconomy and in particular on Biocarbons seemed to indicate much of the residual "waste" material from timber production and processing could be re-processed to extract valuable materials. However, nature expects dead material from trees to fall to the ground and to decompose via fungal activity recycling the nutrients taken from the ground by that tree, precisely where they are required, in the wood where the trees are growing. Indeed on page 56 there is a diagram proudly proclaiming "no rotting"! Could we have an article explaining what happens to nutrients in this brave new world?

Patrick Mannix, Woodland Owner and operator, Sandhurst Copse & Sheepwalk in the Surrey Hills AONB.

Seeing the dormice for the trees

Ecologist and woodland manager **Tom Fairfield** explains why foresters should be paying more attention to protected species which might make more use of forests than we thought

One positive outcome from the Covid-19 pandemic has been a re-connection with the natural world for many of those furloughed or locked down. Interest in rewilding, afforestation, climate change and biodiversity must be expected to put the forestry sector under an increasing spotlight in the coming years.

In preparation for Brexit, a consolidation of existing regulations came into force in November 2017, called the Conservation of Habitats and Species Regulations 2017. February 2021 saw a clear Habitats Regulations Assessment (HRA) process published on gov.uk.

Many of you will have attended the Forestry Commission/ Bat Conservation Trust "Managing Woodlands in the Presence of European Protected Species (EPS)" events. FC continue to be a voice for the sector: researching the evidence base for the impacts tree and forestry works have on species, updating good practices, streamlining wildlife licensing for a sector that delivers long term woodland management leading to improved woodland conditions for priority species.

Different species will require different field checks. Published good practice guidance for the various woodland EPS, and the protocol for dormouse will help managers establish whether operations require a license or can proceed under good practice.

I have been monitoring the use of a Tilhill managed commercial forest by dormice for many years. The fact that dormice don't just spend their lives living in little boxes in hazel bushes comes as a surprise to many; some haven't wanted to know, either, or look. A well-managed commercial forest mimics the mosaic of habits associated with more traditional woodland practices. It's the disturbance resulting from large and sudden changes to dormouse habitat as a result of harvesting that foresters are required to understand and, if necessary, mitigate, to avoid temporary population decline. Loss of connectivity may force dormice to traverse large areas of open ground, falling victim to Tawny owls. Yet, well planned operations should see dormice and other priority species continue to thrive in forestry. Some baseline data, monitoring, and recording of checks made prior to and during operations will be crucial both in achieving this aim and, if the worst comes to the worst, demonstrating good practice in the event of a suspected wildlife crime incident being reported to the police.

It's not just dormice which are more widely present in forests than we usually assume. Many of you will have experienced the "Goshawk moment". But Crossbills enjoy the same level of protection and they too possess a wicked looking bill, used to extract seeds from conifer cones. Crossbills from late summer right through the winter into early spring. Birds from the continent will boost the resident breeding population in irruption years. My mention of them being present in commercial forests as far south as the Welsh Marches is usually greeted with a quizzical look.

Explaining the use of a site by dormice, otters and great crested newts to some visiting foresters, all was going well until mention of bats drew a collective sigh. Most present had received a hefty invoice for bats in connection with a barn conversion or house extension. Identifying potential roost trees or other bat features and avoiding them is good practice and avoids these costs. It's also likely that somebody local knows the location of the important maternity roosts, and will ask questions they go missing.

Tree disease leading to the issue of a SPHN may see managers unable to deliver habitat management. Natural England (NE) Licences will need to be obtained before work commences. The forestry sector is exempt from licencing charges, but Woodland Officers will no longer process these: managers will need to deal directly with NE in the future when making a licence application.

With the increased footfall in our forests there is far greater public awareness of the wildlife inhabiting our forests. Anybody can make a freedom of information request as to the number of forestry licences issued per year, which should be a regular occurrence. We know the value of a well-managed forest for biodiversity. Yet if we are to continue to be able to operate in future, it is crucial that foresters know about the specific wildlife in a given forest, and have the evidence of monitoring and management plans to demonstrate that good management to an increasingly interested public.

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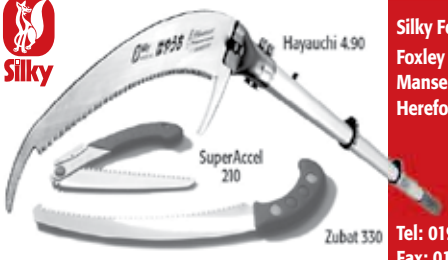

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SMALL WOODLAND OWNER

Professor Julian Evans OBE FICFor

Thoughts about firewood

It seems a long time since we last remarked about firewood not only as a fuel but a useful market for the small owner wanting to thin an otherwise unpromising stand. The challenge today is the greater restrictions coming in – and rightly so – on firewood quality to reduce pollutants when burnt.

As readers will know, the sale of woodburning stoves and the use of biomass in electricity generation has driven the market as others in FTN have remarked upon. For the woodland owner, this has led to improved prices for timber as lop and top from fellings becomes saleable alongside the log lengths. Early thinnings are also in the frame as small size or poor shape of produce are less of an impediment. It can be worthwhile to thin or even clean a hectare or two at the small pole-stage at no cost or even make a bit of income provided at least a lorry load or two of firewood are forthcoming. I don't need to add to these remarks, but what we must re-visit is how to get firewood really dry, and here I simply share my observations.

Getting your firewood dry

It's all about moisture content

Ash is famous as a firewood because it burns quite well even when freshly cut. This is because its natural moisture content (MC) is surprisingly low - Forestry Commission Booklet 39 quotes 48% for ash, around 70% for sycamore, a bit higher for birch, and close to 90% for both beech and oak. The lowest MC in conifers is larch at around 100% with most between 150-200%. To burn well with little smoke and few particulates firewood moisture content (any species) must be down to less than 20%. And this is the maximum MC permitted even for small loads of logs which DEFRA's certification body, Woodsure Ltd, will allow.

A mix of hazel and birch firewood cut in January this year

Quicker drying species

When drying, ash starts with an advantage of low MC at the outset, but my experience is that it dries slowly and even after a year well split logs still exude moisture when put on the fire. They burn well but still have moisture. Other species behave differently. Birch, one of my favourite firewoods, hazel and sycamore dry quickly with beech intermediate. Oak is another matter: it dries very slowly and for seasoning the old rule of thumb was 1 year for every inch of thickness. I can't resist commenting about eucalypts as the commonest species in Britain, E. gunni (cider gum), is cross-grained and dries very slowly and is difficult to split.

My experience with coniferous species is limited, but then their usefulness for firewood for the woodburning stove is less owing to lower basic densities and the resin spitting sparks.

How long to dry and how to hasten it?

The mantra is cut early, split all logs, store in the dry, and keep well ventilated.

- Cut early. Even for species which dry rapidly allow a year from cutting to using – fell one winter for burning in the next. For all species where drying or seasoning is slower, allow at least two years from felling.
- Split all logs. Before storing, cut logs to grate/stove size and split every one of them to maximise the drying surface. Only the smallest of logs (<2 cm) may be left in the round.
- Keep dry. Store all logs under cover and that does not mean a plastic sheet, but in a shed or lean-to.
- Ventilate well. Flow of air greatly aids drying. Ensure the log store is airy.

A final thought

I hope it's not too trite to say let's 'keep the home fires burning' not because of those returning from war, but as a tiny ingredient to aid silviculture and mitigate climate change.

TIMBER MARKETS – AN ONGOING BALANCING ACT

The title was unashamedly borrowed from Harry Steven's market report in this issue *(page 33)* – to add a touch of justification for this picture.

The reality is that this scene is the result of the FTN editor Stef Kaiser being turned upside by the sight of this stunning vintage yard machine at the TG Norman timber yard near Carlisle. Read more about the company in this month's member profile on Laura Jermy *(page 16)*. *Photo by Sarah Daniels. Text by Stef Kaiser*

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, brief description of yourself and the picture and a credit.

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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 August is 10 July 2021. If you would like to pitch an article idea, please do so by the end of June.

Paul Vidgen
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