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IMPROVING BRITISH TIMBER QUALITY BY TREE BREEDING **CREATING BROADLEAVES 2.0**



COVER STORY

The tiny Firecrest (Regulus ignicapilla), one of the smallest birds of the UK, can be found in coniferous forests. Image chosen for illustrative purposes only. ©Shutterstock





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Chill winds

STUART GOODALL CHIEF EXECUTIVE, CONFOR

s I write this, lockdown continues to ease and although there are local flare-ups, new cases are at pre-lockdown levels and the 'R number' remains below 1. There is news of a vaccination, though questions remain whether enough of the population will volunteer to take a fast-tracked medical treatment to keep the virus in check.

There certainly won't be any vaccination for the economy from the chill winds that are set to blow, and the possibility of a second wave this winter is a fearful thought, both for the health of the population and of the economy.

On a positive note, elements of the timber market are performing strongly. Sawmills across the UK have reported very strong markets for fencing and Olly Combe's market report highlights that imports of carcassing material have been less than expected, providing some respite to UK mills.

> Balanced against that is an early decline in biomass markets, impacted by low oil prices, and continued weakness for some board material.

With so much beetledamaged timber in central Europe, we need the Chinese and US economies to keep growing. While the former is reporting decent growth with the latter it's anyone's guess whether the worsening pandemic will see the economy hit again, and will Trump gamble on economy or action on health ahead of the November election?

In this issue of FTN we report on our 2020 business plan. Progress has been affected by Covid-19, but then it's our job to respond quickly to events and refocus resources in support of Members.

As we resume 'normal business' I'm pleased to say that we've recruited an excellent Chair which we'll confirm imminently and we'll continue to strengthen the Confor team following Andy Leitch's arrival mid-lockdown.

In the coming months we'll resume member meetings, either online or through a blend of online and in person events where that is requested and is safe.

I know that as well as information and the knowledge that Confor is fighting your corner, many Members appreciate the opportunity to network and I want that to continue as best we can.

This has been a difficult time for so many of us – both personally and professionally. As always, we seek to be there for you so please never hesitate to get in touch.

Confor

Biodiversity, Forestry and Wood

Confor's latest report highlights that UK wood production done right benefits biodiversity in all types of forest, and protects global forests.

nclosed with this edition of FTN is Confor's new report on Biodiversity, Forestry and Wood. The importance of forests in the UK as biodiversity habitat has been rising up the political agenda. This report seeks to explore how the forestry industry, through wood production, also sustains and improves places for nature.

The report answers three key questions:

- How do forests that are created and managed for wood production, mainly conifer forests, support biodiversity?
- 2 What role can wood production play in increasing the habitat value of broadleaf woodlands?
- In a global context, how will wood production in the UK help reduce global threats to biodiversity by supplying a low-carbon resource and taking pressure off valuable natural forests around the world?

Why is this report important for our sector?

The benefits of forestry in the context of climate change have been increasingly highlighted in the general media. However, there is always a backlash to sudden, positive media attention; in the case of forestry, environmental organisations have argued that commercial forests will exacerbate the nature emergency, and that native woodland should be planted instead.

Confor has never denied the value of native woodlands as habitats for wildlife; however, it was important to come up with evidence that productive forests can also deliver for biodiversity, and that managing native or broadleaved forests for timber can have a positive effect on wildlife habitats.

We realised that there was no comprehensive study to provide an evidence-based argument that would hold up in discussions with opponents of productive forestry.



The report is a tool to communicate to policy-makers and beyond what you, our members, are doing for biodiversity.

Biodiversity, forestry and wood

Confo



- Forests planted in the UK for wood production have significant biodiversity value
- 2 Wood production can help improve the condition of native woodlands
- 3 Home-grown wood is important for biodiversity beyond the local forest
- We already possess the knowledge, tools and frameworks to deliver wood production and biodiversity benefits simultaneously
 - Further research is needed!

The report is aimed primarily at policymakers, who are making key decisions about planting targets, wood use, environmental support, woodland approval processes, which will shape our forests for decades and centuries to come.

We went beyond research – we listened Environmental NGOs have not only received the report but some of them have been actively involved in its creation. This engagement will be especially important for our future relationship with environmental lobbying groups.

Eleanor M Harris, the author of the report, has not only gathered the most relevant evidence to show that commercial conifer forests can indeed represent valuable habitats for wildlife. She has done so in constant dialogue with researchers and environmentalists, taking on board all the comments and constructive criticisms she has received.

The resulting document offers a resounding demonstration that biodiversity, forestry and wood can go together, and is a great tool to communicate what the forestry and timber sector is doing well to policy makers and the wider public.





Managing a forest for timber?

Six simple measures to boost biodiversity in your forest

Put up bird boxes. Many UK forests, native or commercial, are simply too young to have veteran trees, so hole nesting opportunities are limted. Boxes for birds that usually nest in them, such as barn owl or pied flycatcher, can enable these often threatened species to re-colonise forest habitat. Invite local wildlife group and school children to do the work for you!

2 Identify future veterans and old-growth areas. If you are going above-and-beyond one UKWAS requirement, make it this. We don't have nearly enough old trees in our forests and woodlands, but you can change that for the future.

Deadwood is dead good. Stumps, fallen trees and standing deadwood are one of the richest habitats for fungi, invertebrates, mosses and other wildlife which underpin the food chain. Make best use of your harvest – but be strategic about what you leave behind as well, it's not waste, it's wildlife wealth.

Bring in recorders. If your forest is doing great things for wildlife but no-one knows it, no-one will follow your good practice or support your management. Get the local wildlife group or other interested groups to run a recording project in your wood or new woodland creation project and demonstrate the value of what you're doing.

5 Thin and coppice. Bringing an old coppice back into management, or thinning a young spruce plantation, are both great for wildlife by bringing light down to the forest floor, creating deadwood and diversifying the woodland structure. Even if you are 'only' producing firewood, it's firewood with a local conservation story that can sell at a premium.

6 Manage non-woodland habitats. Grassland, heathland, peatland and wetland habitats are all part of the forest ecosystem and add to ecological diversity 'ecosystem services'. Consider improving non-woodland habitats by a programme of ditch blocking on drained peatlands.

Why is this report important for our members?

The Confor report is a tool to communicate to policy makers and beyond what you, our members, are doing for biodiversity.

You know you're doing a great job but did you know just how much?

This report can give you detailed insight into the biodiversity benefits of the work you are doing every day, whether you are creating a productive woodland on bare land or whether you are managing an existing woodland. You will feel proud after reading it!

Communication 'ammunition' – be prepared when challenged.

The report gives you the communication tools and arguments to explain why productive forestry can deliver for biodiversity, and how you and your business contribute to it.

Whether you get challenged in a stakeholder conversation, have to defend your position in a pub chat or simply want to talk to dog walkers or local communities – you'll be glad to know the facts and background story.



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Confor business plan: six-month review



Stuart Goodall CEO Confor

he first half of the year has been dominated by the disruption caused by Coronavirus/Covid-19. Confor acted quickly to establish a Covid-19 online hub and provide regular information to Members. Signposting key information and providing letters of comfort - working to support those businesses that continued operating. Now that 'lockdown' is easing we're working to position the industry in a 'Green Recovery'.

The widespread positive feedback we received from Members has been a real boost for the Confor team, and I'd like to thank the many people who got in touch.

Confor continues to campaign and inform

While some parts of the business plan have been delayed or disrupted by the Covid-19 crisis, most of it has carried on. Notably, we have launched a Biodiversity, Forestry and Wood report which should transform understanding of the benefits of productive forestry and producing wood, and with our partners in Wood for Good we launched the Wood Co_2 ts Less campaign. This campaign is industry-wide and its aim is to promote the use of all wood products as low carbon Working with the Board, Confor's business plan is designed to target resources to deliver the best possible benefit to Members. For 2020 the following priorities were identified:

- Securing future wood supply
- Changing attitudes towards our industry
- Growing and promoting markets for timber
- Aiding the economic development of the industry
- Better industry statistical information
- Skills training
- Plant health

materials and illustrate how using wood can help reduce CO_2 in the atmosphere and contribute to slowing climate change.

This report and campaign are very timely, as governments across the UK seek to promote economic growth that helps make a step change towards meeting carbon targets and promoting nature.

A new Chair for Confor

We have recruited a new Chair and an announcement on that will be made imminently. I'm personally very excited as I believe the new Chair will add a great deal to our work promoting the sector. I'm also pleased to note that the Chair is keen to get to know more of the membership personally – though that is more likely to be virtually than in person for the foreseeable future.



Minister Zac Goldsmith

Our lobbying work across the UK In England, the Minister Zac Goldsmith has accepted my challenge to take personal leadership of delivering 30,000 hectares of new planting a year by 2020, and he clearly recognised the scale of the task when he called for a 'colossal endeavour' when he spoke to our All Party Group at Westminster. At that meeting he also spoke of his desire to see the UK produce more wood, helping to reduce our impact on fragile forests overseas, and using more wood in construction, recognising its carbon benefits.

In Scotland, forestry minister Fergus Ewing remains a strong supporter of the industry. In the last year, Scotland managed to plant nearly 11.000 ha in the face of poor weather and then lockdown at the tail end of the planting season. Encouragingly, over 9000 hectares have already been approved for planting in 2020/21 and 7000 ha more are in progress, meaning there is a good prospect of continuing to grow towards the Government's 15,000 hectare a year target from 2024/25. The governing SNP have also pledged to increase planting to 18,000 hectares a year by 2030. This year has also seen record funding of £8m for timber transport projects.

In Wales, Confor pressure helped secure £10m Welsh Government funding, £8m for Glastir Woodland Creation and £2m for restoration - up from less than £4m last year. We also secured significant change in the administration of applications to simplify the process and we have helped to set up the Welsh Forest Industry Partnership, supported by the environment, housing *Continued on p10*

Continued from p9

and circular economy portfolios in Welsh Government, creating a strategic crossplatform partnership for sectoral growth between public and private sectors.

I was very pleased to welcome Northern Ireland's target of planting 9000 hectares by 2030 and our local chair, James Hamilton Stubber and I met with Minister Edwin Poots to discuss how this can be achieved. The Minister wants to take a personal lead and will chair a newly established Afforestation Forum.

Skills development

Skills is likely to be a key area for the Green Recovery and Confor chairs the Scottish Industry Skills Group which is currently working closely with Skills Development Scotland to develop and publish a refreshed industry skills action plan for 2021-23. The English Forestry Skills Forum has its own action plan and is also represented on the Scottish based group to ensure they exploit opportunities for collaboration and sharing of best practice. Welsh Focus on Forestry First funding was used to hold a webinar to support contractors in understanding finance and financial support through Covid-19.

Changing perceptions

I am still acutely aware that negative perceptions and misconceptions about the sector undermine efforts to increase planting, manage more woodland sustainably and bring more wood to market. As well as the 'Biodiversity report', Confor has arranged for Forestry Commission England (FCE) to work more closely with Wood for Good and Wood Knowledge Wales to promote the carbon benefits of wood products in construction and we will work with FCE to set up a similar group to the Scottish Industry Leadership construction working group.

Tree health

Plant health, squirrels and deer remain key issues and I'm pleased to say that we continue to participate actively in Tree Health Action Groups, the UK Squirrel Accord, the Deer Initiative Partnership and other fora. New legislation has been introduced that sets stringent import restrictions for Xylella, Plane tree wilt, Emerald ash borer and Elms yellows, and we are working to ensure plant health support is included into the proposed Environmental Land Management scheme in England, designed to follow on from the CAP.

What's next in 2020

Looking ahead to the remainder of the year, the Board will present plans to further strengthen Governance in Confor. better representing the range and geography of Members and providing more opportunity for Member representatives to feed into Confor's work. We will continue to combine pressure on governments to deliver on their planting targets with practical solutions for how they can be achieved. Green Recovery planning is a major opportunity to promote what the sector can deliver from tree planting to greater use of home-grown wood. And the England Tree Strategy is a huge opportunity to drive our agenda of promoting the industry in England. Across the rest of the UK we will also begin preparation for the devolved elections in May 2021.

2020 has been a challenging year for everyone, but I believe it has also shone a clear light on the importance of a strong sector body and the individual benefits that Members receive from being part of it.

Confor's work on behalf of Members has helped the sector achieve new levels of visibility with many new opportunities which we are eager to secure – your continuing support is vital if we are to take advantage of these.

Good governance



Company secretary Roland Stiven explains how Confor as a membership organisation is looking to review its governance structure to ensure resources spent deliver for members' priorities.

ood governance is vital for any membership body and Confor had begun reviewing how Members are engaged in the work of the organisation, prior to the merger with UKF-PA when it was agreed a formal review of the Board of Directors would take place within a period of two years.

Confor has grown in recent years, and not just in membership. Turnover is now over £1.3m per year and we have a dozen staff members active throughout the UK. Alongside services to Members, Confor also supports the sector at large, bringing in grant and other funding to help deliver projects with sector partners such as FISA and UKWAS. In addition, we have a subsidiary company - the APF Exhibition Ltd - and Wood for Good Ltd, which is a joint venture with Swedish Wood.

The Confor Board is always mindful of how important it is that a membership organisation spends members' money on members' priorities and it is vital the company performs both transparently and well.

After reviewing current practice, the Board is proposing a move towards a new structure. There would be a small Management Board of eight Directors responsible for good governance and ensuring Confor meets its statutory obligations. The Directors will be responsible for managing our finances, for corporate planning and risk assessment, employing a Chief Executive and providing board-level support for the employment and management of staff.

Alongside this would be a wider Advisory Board of Member representatives from across the countries and the supply chain. It would act as a high-level forum establishing good communication with Members, identifying the priority issues of concern to the industry, and helping to set and monitor the business plan. The Advisory Board would be nominated or elected by Members and facilitate a more representative involvement of Members than is the case with the current Board.

The Advisory Board would also appoint the Directors of the Company who, alongside the Chair and CEO, would form the Management Board, aiming for a suitable range of skills and experience.

We are finalising a new set of Articles of Association along these lines which will be presented for member approval at the AGM in late September. In a normal year we would be holding our AGM at the APF show with food and wine. This year, we're planning a virtual AGM and will be arranging appropriate voting procedures. More details will be forthcoming. While a virtual AGM will undoubtedly be less fun, experience suggests that it may also result in higher attendance than usual which can only be beneficial for good governance.



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Confor calls for coherent way forward

he England Tree Strategy must link up planting, management and wood use effectively to map a coherent way forward for the forestry and timber industry, Confor's CEO has stressed.

Stuart Goodall made the comments at an online meeting of the All Party Parliamentary Group (APPG) on Forestry and Tree Planting – held shortly after the 12week consultation on the Tree Strategy was launched.

The deadline for responses is 11th September and Forestry Minister Lord Goldsmith encouraged "everyone to give their views to design a tree strategy that delivers the maximum benefits for our environment for generations to come."

Confor will publish a formal response before the deadline and members should make their voices heard too (*see panel*).

The Tree Strategy consultation document reaffirms the Government's target of 30,000ha of new woodland annually across the UK by 2025 - against current planting of just under 13,500ha a year.

"It will require massive collaboration and a sense of shared ownership - not just from the forestry sector, but businesses, local communities, farmers and landowners; all will have to join us in this colossal endeavour," Lord Goldsmith said.

Part of this meant showing woodland creation was a "viable financial option" to farmers and landowners, he added. This meant we would need "more private investment to ramp up to the kind of place we need to get to and give support to the private sector to make land available for planting".

Lord Goldsmith stressed that tree planting need not be delayed by the creation of the new ELM (Environmental Land Management) scheme. "People will not lose out if they go early," he made clear.

He said although this was an England Tree Strategy, devolved administrations would play a crucial role – including meeting targets. Scotland is currently planting 80 per cent of all new woods in the UK and Plaid Cymru MP Ben Lake, Chair of the APPG on Forestry and Tree Planting, summarised the latest planting figures as: "Could do better, but Scotland top of the class". Mr Lake reiterated the willingness of politicians across the UK to support new planting.

The UK also needed far more homegrown timber, Lord Goldsmith told the APPG, highlighting that we currently import 80% of timber for wood products – second only to China in net imports. He stressed the need to stimulate markets for homegrown timber and said this could reduce the amount of unmanaged woodland in England (around 40%), when answering a question from Lord Carrington, a vice-chair of the APPG.

Stuart Goodall, Confor CEO, said: "This Strategy comes at a really important time, with planning for a green recovery under way, and the opportunity to show the economic and environmental importance of trees and wood. It makes welcome reference to more planting, woodland management and use of home-grown wood. The three are totally inter-linked."

Mr Goodall continued: "We want to expand native woodland - we want to expand all types of woodland and see more wildlife, but also more jobs and growth in fragile rural areas. 95% of what we produce in the UK is softwood - we cannot just think about producing more hardwoods. We need to increase the sustainable use of softwoods as well if we are to make a real impact on domestic production."



HOW TO RESPOND

The England Tree Strategy asks for views on:

- how to expand, protect and improve our public and private trees and woodlands;
- the increased role that trees and woodlands can play in supporting the economy;
- how best to further connect people to nature;
- the most effective way in which trees and woodlands can be created and managed to help combat climate change.

The consultation ends on 11 September. Respond here: https://consult.defra.gov.uk/ forestry/england-tree-strategy/

If members would like to make suggestions for the formal Confor response, please call 0131 240 1410 or contact your National Manager.

Update on industry support post Covid-19

Budget lift for Scottish Forestry Grant Scheme – and opens up to supplying nurseries in England and Wales

The Forestry Grant Scheme offers financial support for the creation of new woodland and the sustainable management of existing woodland.

Within the scheme's eight categories, there are a range of support options covering planting, woodland protection, harvesting and more.

Scottish Government recently announced an update to their Harvesting and Processing category of the Forestry Grant Scheme. The budget for 2020 has been increased to £2 million in a joint initiative between the Scottish, Welsh and UK Governments, which will provide additional funding to help farm and forestry businesses increase capacity, diversify and become more resilient in their recovery from Covid-19. Applications are particularly welcomed, but not exclusively, from • Forest Tree nurseries supplying trees into Scotland

• Farm businesses wishing to diversify into forestry

For the first time tree nurseries in England and Wales which supply trees to Scotland will also be able to apply for the funding.

In addition, there has also been a further £1m added to the woodland creation budget of the Forestry Grant Scheme, sourced from the Agricultural Transformation Programme – whilst this will be targeted at farm and croft woodland, it will ease the pressure on the overall grant pot.

Find out more about the Forestry Grant Scheme here:

https://forestry.gov.scot/supportregulations/forestry-grants



Wales Forest Industry Recovery Scheme

Welsh government are considering a similar fund, and on 22nd July, the Minster Lesley Griffiths announced the creation of a new Forest Recovery Support Scheme for Wales. Further details and the launch of the scheme are expected in mid-August. Confor is currently consulting with Welsh government on behalf of members on the focus areas of this recovery scheme.

New Chief Forester for Scotland

Dr Helen McKay OBE has been appointed as the new Chief Forester for Scotland.

In her new role, she will provide technical and professional advice on forestry matters to Scottish Government Ministers.

A Fellow of the Institute of Chartered Foresters, Dr McKay has worked for Forest Research since 1988, with a seven-year spell in the Forestry Commission's Corporate and Forestry Support and a short secondment to the then Forestry Commission Scotland. She currently provides scientific and strategic leadership to the Centre for Sustainable Forestry and Climate Change in Forest Research.

In addition to providing technical advice to Ministers, the role of Chief Forester includes acting as Head of Profession for public sector foresters and promoting professional standards in the wider sector.

Delighted with her appointment, Dr Mc-Kay added:

"I am looking forward immensely to working as Chief Forester for Scotland. Times are undoubtedly challenging because of Covid-19 in addition to climate change, pests and diseases as well as



Brexit. On the other hand, such challenges can bring the sector together to further strengthen the forestry profession and demonstrate its value to Scotland."

Shireen Chambers MBE FICFor, Executive Director of The Institute of Chartered Foresters said:

"I'm delighted that Helen has been ap-

pointed to this role. She has been a real advocate of promoting professionalism throughout our sector and I look forward to working with her to showcase forestry as a modern profession to those seeking a green career."

Awarded an OBE in for her services to forest science and forestry, Dr McKay holds a BSc in Ecological Science and PhD from Edinburgh University and is also a member of the Institute of Chartered Environmentalists.

Dr McKay draws on her family connection with forestry in Scotland. Her maternal grandfather, Neil Hamilton, worked for the Forestry Commission after the WW1 in Glenachulish and her paternal grandfather, Archibald MacGilp, was the factor who helped to plant the mixed forest at Quinish, Mull.

The position of Chief Forester for Scotland is a requirement of the Forestry and Land Management (Scotland) Act 2018. Dr McKay will take up her appointment on 1st August this year and will spend approximately 1.5 days a week carrying out her duties as Chief Forester.



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A high-flying engineer and rally-aficionado makes his woodland deliver for economy, environment and – motorsport. **Stef Kaiser** reports

Multi-purpose forestry – with a twist

ooking at Richard Ceen's biography, one would surely describe him as a successful engineer and entrepreneur with decades of toplevel international business experience. However, Richard's heart beats for rally cars - and woodlands. Becoming later in life a woodland owner-manager has allowed him to engineer the perfect venue for both motorsport and the sustainable production of a raw material – timber.

Hailing from a family with a long tradition in engineering in North Wales and brought up in Holyhead port-town, it was no surprise that Richard was drawn to a career in electronic and marine engineering. Experience gained from the mid-70s was applied by him in developing commercial energy-saving systems for ship propulsion and liquid natural gas safety worldwide.

But life was not all work - Richard has always been the outdoors type - he has spent time travelling, orienteering, sailing, cycling and even Scuba diving whenever possible. At Bangor University, pre-eminent in both Forestry and Electronics, he chanced on what became a lifelong passion for rallying. Since then he has competed on and off as a driver or co-driver for 47 years.

"I drove a Landrover at Bangor but was unaware of stage rallying. Three Agri and Forestry student friends persuaded me to take them to watch the 1970 RAC Rally passing through Penmachno forest. The impression of works Escorts and Datsun 240Zs sliding and bellowing between the firs had me hooked and soon, I'd begged and bought enough parts to build a rally Hillman Imp. Practising and driving on probably 'illegal' 12-car rallies, sometimes on Forestry Commission forest roads at night was then, err...the norm."

Moving into forestry

In 2012, a Swedish multinational bought the marine technology group he had founded and it became time to invest in different assets. Richard saw this as a golden opportunity to turn his passions into his next business venture.

As well as the sea, Richard has always felt an affinity for the forest. He recalls how in the late 60s his family had renovated a house on a windswept smallholding just out of town. He spent his first winter holiday from University planting half the 3.5 acres with Jap larch and Scots pines for his mother. Forests have since played a big part of Richard's life – as the ideal venue for rallying, cycling and orienteering first, and as a family woodland business, Coedwig Pencelyn more recently.

From around 2008, he had been closely following the UK private forestry sector through John Clegg's sales and, having





been introduced by them to Tim Kirk, decided to invest a proportion of the proceeds of the company sale in forest plantations.

To a driver and former orienteer, forests were not only an investment asset, but an opportunity to construct a unique concept of multi-purpose forestry. For Richard, purchasing woodland would see his forestry venture exceed expectations in both growth in land asset value and crop yield. Bwlch y Mynydd (61ha) near Mold, Gorsedd Bran (106ha) at Brenig and Nant y Ffrith (98ha) Bwlchgwyn all within 30 miles of each other were acquired between 2012 and 2016.

A hands-on woodland owner from the start

Being an absentee forest owner was out of question for Richard. Keen to re-use his problem-solving skills, he was looking forward to actively managing the estate himself, professionally advised by John Ferguson of Tilhill Forestry who had managed one of the estate's forests for a previous owner.

Gorsedd Bran forest was a Sitka spruce



block planted mid 70s on a upland peat moor that contains two disused slate quarries within its boundaries.

Richard quickly realised that in the evenaged block, all trees would reach maturity together and while clear felling would yield a short-term return, his goal was to maintain the forest as an asset and habitat beyond timber production. Following a management concept to restructure the plot towards continuous cover, he initially clear-felled a 19ha compartment which was increasingly suffering wind-blow through poor drainage in wet peat.

Timber prices in 2017/18 were attractive and the clear-fell income funded the forest and road machinery outfit and infrastructure development.

Forest roads for both forestry operations and motorsport

As he had purchased a forest intended for intensive harvesting, the hard road network on the estate was limited and needed to be extended to allow for lower-impact extraction. A secondary objective became the build of a Forest Engineering specification rally test track.

So, with an outfit of used construction machinery and two operators, Richard upgraded 4.5 miles of existing tracks using 20,000 tonnes of raw and crushed slate waste from the TWO on-site quarry tips.

By improving and extending the forests' road network, Richard created a win-win situation for forest and motorsport. And the ready access has recently allowed accumulated windblow to be monetised.

But at the same time, having built a test track that suited Richards needs, it became sought after by everyone from World Rally Championship (WRC) teams to clubmen. Top names including Elfyn Evans, who led the WRC earlier this year have used the roads for practice, car set-ups and streaming video productions; one featuring Elfyn and Downhill MTB World champion Gee Atherton, followed by another with TV Chef James Martin in a Mille Miglia inspired rally F-type Jaguar.

To maintain the tracks in good condition and minimise the environmental impact, use for rallying is restricted to 10-12 days per year. Surfaces are graded and compacted regularly using an ex-Forestry Scotland Volvo motor grader bought from Huntly contractor Jim Currie in 2014.

Special stage rallying originated in rural areas and is of cultural significance in Wales. With a focus on environmental sustainability, there is no shortage of interest in the "rallying forest" from local schools to volunteer marshals at the motorsport sessions. In the other plantations, different activities are being explored from sustainable moss collection, wood milling to local yoga and forest mindfulness groups. And a local trials bike rider, in co-operation with some hitherto 'illegal off-road bikers' is developing a track to provide a local two-wheel motorsport resource which should selfpolice what had been a previous nuisance.

Future-proofing the business

Pencelyn's principal business activity is of course, return on timber sales. Continuous cover with additional handling is less profitable than the periodic clear-fell. Creation and necessary maintenance of road infrastructure by itself is an extra cost but income from alternative use does significantly offset this. Richard learnt from his engineering career that robust long-term relationships with suppliers, clients and partners are key for business success. As he moves towards closed canopy forestry, he will be felling smaller quantities of timber. He is now interested in establishing working relationships with local buyers and in finding intermediate routes to market smaller batches of timber.

Local contacts of buyers interested in volumes from a few tonnes to a few thousand are encouraged to contact Richard at **admin@pencelyn.co.uk.**



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Wood CO₂ts less The timber industry tackling climate change

e are facing a growing climate crisis. The Intergovernmental Panel on Climate Change states that the "continued emission of greenhouse gases will cause further warming and longlasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems." In response to the growing threat climate change presents. the UK Government has set targets to reach zero carbon emissions by 2050. This will need to be achieved through a combination of both capturing CO₂ from our atmosphere and reducing the amount of greenhouse gas emissions in the first place.

It will not be feasible for every industry to reduce or offset their carbon emissions. However, the forest and wood-based industries are in prime position to both capture and store CO_2 now and in the longer-term. Clearly, for the UK to reach net-zero, we must prioritise and promote increased tree planting and greater use of wood products.

The facts highlighted in the panel above form the core message of Wood CO2ts less, a new campaign to promote the key role timber has to play in reducing CO₂ emissions and slowing climate change.

The forestry and timber industry contribute to reducing CO, in three ways

- 1 Trees capture harmful CO $_2$ from our atmosphere and store it as carbon
- 2 Sustainable forest management with timely harvesting and restocking leads to continued capture of CO₂
- Using timber instead of more CO₂-intensive materials means carbon is stored for at least the lifetime of the building, and often longer when we use reclaimed wood for 'second life' products

Led by Wood for Good and developed in collaboration with Confor and Swedish Wood, the campaign aims to publicise the environmental and sustainable benefits of wood, making it a first-choice building product for legislators, planners, local authorities, developers, architects and contractors. The campaign and its message have already been adopted by other industry bodies, the Timber Trade Federation (TTF) and the Structural Timber Association (STA).

Wood CO_2 ts less launched to the timber industry on 13th July, and a further promotional launch is scheduled for September 2020, targeting a wider external audience. Our message is simple: if we want to reach zero CO_2 emissions, prioritise wood.

To achieve this, we must work together

to promote this message across the supply chain. The campaign's promotion of wood as a low-carbon and sustainable choice is inclusive of the entire supply chain, whether it is trees planted, wood products used in construction, or pallets used in packaging.

We are calling on those in the industry to join Wood for Good and its supporters in our promotion of timber as a low-carbon product. With the UK accelerating towards a green recovery post-lockdown, and a renewed focus on ensuring we work towards a carbon neutral society, now is the time for the industry to be shouting about how Wood CO₂ts less.

For more information about the campaign, visit **www.woodforgood.com/co2**

Wood CO₂ts less marketing resources available to Confor members

Wood for Good is governed by a board and takes direction from a committee of stakeholders. Its activity levels rely on the level of supporter contributions it receives. Its members are drawn from across the public and private sector, from organisations working within forest and land management through to timber merchants and trade associations representing the sector.

For the Wood CO₂ts less campaign, we have created a ready-to-use set of informative and engaging marketing resources. These are all available to Wood for Good supporters through an online members' area. This allows them to use the assets to promote the sustainability message of timber for their organisation, as well as stay up-to-date and connected with the campaign.

As part of its commitment to promoting the increased use of wood products, Confor's investment in the Wood CO₂ts less campaign means that Confor's members can access this members' area for a reduced fee. To discuss how to get involved and pricing, please contact Sarah Virgo, Campaign Manager for Wood for Good at **sarah.virgo@** woodforgood.com



Forestry in the time of Covid

FOREST MARKET REPORT **Fenning Welstead** John Clegg & Co

ou might think that with four months of lockdown not much has been happening in the woods. How wrong you would be.

At the start of Covid there were a number of effects. The Roval Institute of Chartered Surveyors (RICS) introduced a 'material uncertainty' wording to Red Book Valuations. This concerned some investors sufficiently to withdraw from bidding. Others were understandably reluctant to proceed with purchases when they would have to crystallise stock market losses in order to free up the cash. That still left considerable buying power in the market. Despite the practical difficulties of making inspections it was encouraging that forestry was seen by the Government as an essential activity and we were encouraged to keep going. We must thank Stuart, the team at Confor and the Scottish minister for their encouragement and support in this regard.

Scotland and northern England

As we entered lockdown, Whiteburn (right) had just been launched onto the market. Forming part of the extensive Kidland Forest in Northumberland and offering a range of crop ages together with a cottage it was attracting good interest. Some prospective purchasers withdrew as a result of the factors mentioned above but many stayed on course and a competitive closing date was held on 9th April. The sale has completed

at price of over £20,000 per stocked hectare.

During the last two months there have been other sales that reinforce the strength of the demand for productive conifer plantations. More on this to follow next time. We believe that part of this is due to a desire to secure assets that meet requirements for Natural Capital or ESG obligations.

Last December Lmentioned Ewich Forest, marketed through Bidwells, which went to a closing date in November. Crianlarich represents a meeting point of the road north from Glasgow and the road coming west from Edinburgh/Stirling. Add in the railway station and the popular West Highland Way and there must be some potential to consider developing this forest to cater for that traffic. The crops are now forty years old and with a balanced mix of spruce, larch and pine all seems set for a period of activity. This was an intriguing offer and the resulting sale at around £18,000 per hectare shows that several people saw the opportunity. Following the Covid pandemic the potential boost to the stavcation market makes this look like a perspicacious acquisition.

Further expansion of forestry requires land. The sale of Spittal Hill in Glenshee (below) offered 366ha of spectacular hillside with an approved planting scheme covering 157ha of mixed spruce, Scots pine and native broadleaves. This created healthy interest. There is good demand for planting opportunities and having an approved scheme in place removes uncertainty. This sold at approaching £8000 per hectare of approved planting. This should develop into a very attractive forest with adjoining open hill and in a spectacular setting.



In the south of Scotland there is a steady flow of small farms and parts of larger ones being brought into afforestation. Much of this changes hands off-market bringing back memories of the old Schedule-D days of the 1970s and 80s. Prices vary widely depending on whether buildings or houses are included and on the status of forestry approvals. If a whole farm is acquired this presents opportunity for subsequent dealing with neighbours to adjust boundaries and the potential sale of the farmhouse with a few acres.

This is the positive result of the strong confidence that has been engendered in Scotland by the fulsome ministerial support for forest expansion. Confor has done an excellent job in focusing minds and the Scottish government has responded with clear, sustained support for their policies. With that in place the market is rising to the opportunities this offers. If such a climate could be created in England life would get really interesting.

England and Wales

Moving to the south the majority of sales appear to have been in Wales, with a handful in Devon. We have recorded a total of 560ha sold with a mean sale price of £11,000/ha. All properties have sold just over the guide price with the exceptions of a small property in Carmarthenshire significantly below and a large property in North Wales above. Two properties of note:

1. A second rotation spruce plantation in North Wales extending to 134ha launched onto market in early March just as the pandemic was ramping up. With a guide price of £1.3m an offer was accepted circa 15% over guide price. However, with Covid as a reasoning the buyer significantly reduced their offer at the last minute. The purchaser refused to accept this and put the property back on the market which was quickly under offer with no loss.

2. A 28-year-old, predominantly Sitka (with larch and some Douglas) plantation in mid-Wales was taken to a closing date and an offer accepted. Nearing completion, there was a possible report of Phytophthora ramorum in the larch, which was intimately mixed with a significant area of Sitka spruce. The purchaser was concerned by the loss of value due to premature thinning or clearfelling felling required by the anticipated SPHN and wished to devalue their offer substantially. However, further investigations revealed that a stem injection of the larch would be acceptable.



This would comply with plant health regulations; chemically thin the Sitka spruce crop and allow it to remain for full rotation age. The purchaser saw the wisdom and revised their offer by a marginal amount to reflect the costs. It pays to fully consider all options.

In the interest of a more diverse picture, it might be of interest to add that the highest values per hectare have been achieved, as previously, from small broadleaved woodlands in the south of England. Riland plantation (5.18 ha), a pretty beech wood in Devon complete with stream, achieved a sale price in excess of £20,000 per hectare. This mirrors Long Piece wood (5.82 ha) sold in Surrey late last year for a similar price, showing that acre for acre pretty broadleaved woodlands can hold their own against the most "commercial" of properties, albeit with a very different clientele.

In terms of COVID 19 impact, the broadleaved sales were not immune. Two sales came close to falling through in March at a late stage of conveyancing. A small reduction (3%) in price to accommodate the perceived risk of the purchaser settled the first – a 34.7ha leasehold wood in Somerset, still substantially above guide. In the second case, a 12.6 hectare wood in Devon, the vendor withdrew citing the need to redirect cash to support his businesses though the lockdown. John Clegg approached the underbidder, who was delighted to get a second opportunity, and the sale completed quickly at the original price.

In summary, we have seen forestry values continue to appreciate through the first six months of 2020. The Covid event has had an effect in removing some prospective purchasers from the market but has strengthened the resolve of others to secure woodland assets. Overall the message is positive. Much depends now on how the wider economy recovers and with it the demand/price for timber.

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Global markets show early signs of recovery



TIMBER AUCTIONS MARKET REPORT **Oliver Combe** Timber Auctions

Global scene

Covid-19 continues to cause huge uncertainty in global markets, however, we are now seeing signs of recovery. China's economy has bounced back into 3.2% growth in Q2 after record slump to -6.8% last quarter. This is highly significant as it means China avoids a recession (two consecutive quarters of negative growth) and points towards a V shaped recovery which is a sharp fall followed by a sharp recovery.

In America there has been a steady increase in timber prices since mid-March with £8m³ price increases in the first week of July. This is coming at a time when the market normally slows down for the summer holiday season.

The strength of the American market and the improvements in China have also had positive impacts on European and Scandinavian producers as they have increased their exports to these markets during quarter 2 of 2020 which has in turn diverted timber away from the UK market.

This has been an unexpected but very welcome development for the UK producers as the threat of European beetle timber continuing to drive the market down has been very real for the last 18 months.

Over the last five years, central European forests have been battling with the accumulation of 250m m³ of mainly beetle damaged spruce so far and potentially another 500m in the next 10 years. Germany's annual cut is forecast to reach 60 to 65m in 2020 after a record cut of 70m m³ in 2019 against a five year average of 54m m³.

On a positive note, little damaged timber remains in the Germany's forest due to a massive harvesting effort, the cutting volume is falling and the cooler summers of 2019 and 2020 have reduced the number of life cycles for bark beetles.

In the Czech Republic the situation is more serious with a forecast cut of 50m m^3 this year against a planned cut of 30m m^3 . Whilst 75m m^3 of damaged timber has been harvested so far there is forecast to be another 200m m^3 to be cut over the next five years.

These volumes have lead to an unprec-

edented glut of good quality spruce sawn wood hitting the market, and whilst initially this was pushed into the least demanding markets there are major investments going on in processing plants to increase both sawing, drying and planning capacity so the material can be targeted at higher value markets.

In the short term this will be a threat to the UK producers as it will restrict their ability to increase prices much above current levels where the USA and China are more attractive than the UK and so the bulk of the volume is heading there giving the UK processors a welcome opportunity to increase their market share again.

Longer term it appears there will be less spruce grown in Europe, especially in the lower lying and drier regions of Germany and the Czech Republic where there are huge volumes growing below 600m (805m m³ in Germany and 700m m³ in Czech).

The shift to growing species more suited to a warmer drier climate has begun with increases in planting of Doulas fir, Oak and fir species as well as changes in silvicultural practices to try and make the forests more resilient. In places where Norway spruce can still be grown, managers are looking at different provenances, smaller coupes, more intensive thinning regimes and shorter rotations of around 50 years as opposed to the traditional 80 to 100 years.

Could this be the beginning of an opportunity for the UK to become a reserve of spruce timber?

UK softwood sawlogs

Prices for sawlogs have stabilised in the first half of 2020 and have even shown very modest and cautious price increases towards the end of Q2 as demand has improved during June and July.

Sawlogs delivered	
Spruce £65-75t	
Redwood £70t (La, Df, Pine)	

With most mills now back up to full processing capacity there are now some shortterm concerns over availability of sawlogs, especially spruce. There appear to be a number of factors influencing this;

Machines have moved into lower production jobs and need to complete these jobs,

There has been less timber offered to the market by the private sector during



spring 2020 due to a combination of lower prices and uncertainty over the market.

In Scotland, Forestry and Land Scotland have stopped direct production during the lockdown period

Harvesting and haulage infrastructure has reduced over the last 18 months as the demand slowed down.

At the same time, increased demand for second-hand harvesting machinery from Central Europe for clearing beetle damaged timber has led to older machines being exported and not always replaced so this has also reduced the overall harvesting capacity in the UK

A modest upturn in demand has now put the supply chain under pressure and it may take several months for the supply of logs to increase in line with demand.

The merchants and processors appear to have reasonable stocks of timber bought ahead it is just proving difficult to suddenly increase output of sawlogs only!

In the past, shortage of supply has lead to price increases although currently, the processors are very wary about increasing round wood prices whilst the spectre of massive supplies of cheap wood in Central Europe hangs over their heads. Most seem to be looking for increased domestic market share with stable log prices to try and restore their profitability after a difficult 2019 and torrid start to 2020.

Small round wood

2020 seems to be repeating the pattern of 2019 where strong prices in the winter fell back throughout the summer as supplies increased, demand fell and markets reached saturation point.

In 2020, we seem to have hit saturation point in the markets very early in summer with most of the smaller markets now full of timber and the gates closed for deliveries.

The key factor in 2020 will be what impact the low oil prices we are seeing cur-



Felling of trees attacked by bark beetle in the Czech Republic

rently have on biomass prices over the next six months.

From a high of £50 to £55 per tonne roadside during the winter prices fell back to £35 to £45 per tonne at roadside depending on local availability as markets became swamped with wood. There are now signs that stocks are reducing in some areas and over the last four to six weeks there has been a stabilising of prices and in some areas increases.

Timber availability

After the steady decline in prices of the order of 25% during 2019 prices have stabilised during early 2020 however, volumes offered to the market appear to have been reduced and currently there are signs of raw material availability tightening and prices starting to increase.

Good quality sawlog-rich clear fell parcels are still fetching £40 to £45 per tonne standing and more mixed clear fell parcels £30 to £40 per tonne standing.

There is still uncertainty over poorer

quality mixed conifer clear fells and thinning with a high biomass content and owners are reluctant to accept prices of £20 to £25 per tonne standing for clear fell parcels and are prepared to not sell and wait for the market to improve.

It will be interesting to see if this leads to a shortage of small round wood in the final quarter of the year.

The Covid outbreak has significantly reduced leisure income for many rural landowners and it will be interesting to see if they look to their woodland to raise income and possibly carry out harvesting work in woodlands normally reserved for shooting. This may create some welcome additional volume from the private sector during the normally lean winter months.

Hardwood saw logs

The oak market was gone right off the boil in 2020 as Covid uncertainty has hit both supply and demand at a time when most buyers have good stock levels either in their yards or in the forest. As there has been more stock available in the midlands and southwest, recently the buyers here have pulled right back whereas over on the east coast, where the supply has been tighter, there is still demand but at a price level.

On a more positive note, there is little or no material coming in from Europe so hopefully once domestic demand picks up demand for sawlogs should follow fairly quickly.

The GB pound is hovering around the 1.10 to 1.12 rate against the Euro which makes imported material expensive and should favour home grown material.

The weak pound has benefited the export market and demand for export grade ash and beech is currently strong.

Export grade (roadside less any handling costs) Ash £70 -90m³

Beech £70-80m³

It should be noted that due to the requirement for export material to be loaded into containers the material often needs to be double handled which can cost £10 to $£15m^3$ and needs to be factored into the net roadside price.

Firewood

Firewood supply has steadily increased on the back of diseased ash felling at the same time as biomass demand has fallen due to cheap fossil fuels (oil and gas). This has lead to a build up of stock in some areas and falling prices.

In the south of England, low grade firewood is now grouped together with hardwood chip wood and is around £40t at roadside although this price should increase in the winter when demand increases and supply reduces.

As you move north, the prices have remained much stronger due to better demand and less supply and firewood prices remain around the £50 to £55t at roadside mark with ash demanding a slight premium.

Summary

The timber market has proved surprisingly resilient and it appears the market has bottomed out and is beginning a slow recovery, sawlog demand is strong and looks set to continue into autumn but there is now an oversupply of small round wood and energy wood which is unlikely to change until bio fuel demand increases in the autumn.

TIMBER AUCTIONS

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If you wish to discuss parcels of timber you would like to market, please contact Oliver Combe on 07771 958975, **oliver.combe@ timberauctions.co.uk** for free independent marketing advice.



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Norway spruce

A forester's perspective in Dumfries & Galloway



Dan Haslam, Scottish Woodlands, Castle Douglas

Plant health is undoubtedly one of the biggest challenges we face in the forest industry due to the UK's commercial forest resource consisting primarily of the single species, Ye 'Olde Faithful, Sitka spruce (*Picea sitchensis*). Of course, the logical strategy is to diversify as much as possible, consequently increasing resilience...

Diversifying conifer forests and pest resilience

In the majority of our commercial forests in Dumfries and Galloway (D&G), diversification means planting the closest possible species related to Sitka - Norway spruce (*Picea abies*). Larch (*Larix spp*) was previously the popular choice for its landscape and biodiversity attributes, its reasonable yield and good timber qualities. However, with *Phytophthora ramorum* having swept the region, infecting our much-loved larch, foresters are hardly left with a plethora of species to choose from.

Lodgepole pine (Pinus contorta) was often a natural choice in the region as it will withstand severe exposure, dry out peat soils and is far more tolerant of heather competition than Sitka. However, the importance of pines has diminished considerably due to the slow growth rates and the more recent spread of the fungus Dothistroma needle blight (D septosporum and D pini), which has suppressed growth rates and therefore reduced interest in establishing the conifer. Furthermore, pines are also the prime host of our most popular pine weevil (Hylobius abietis) which have certainly been flouting the rules during lockdown.

Most true firs (*Abies spp*) have a poor reputation due to their timber quality and are generally costly to establish. Douglas fir (*Pseudotsuga*)



Pines are the prime host of our most popular pine weevil which have certainly been flouting the rules

during lockdown

menziesii) does produce great timber (if of a suitable provenance), however, it is very site-specific and like all firs it is often first choice on the menu for any browsing pests. Western red cedar (Thuja plicata) has potential too but again, it is very site-specific, preferring to establish under the canopy as opposed to the relative exposure of a new woodland creation/restock site. Additionally. Western hemlock (Tsuga heterophylla) establishes best with shelter but it is very prone to butt rot (Heterobasidion annosum) so foresters tend to avoid it, influenced as well by its characteristic of prolific natural regeneration that poses more of a constraint than an opportunity. So what can we do?

In order to fulfill our UKFS 10%

mixed conifer obligation we resort to planting monocultures of Norway spruce (often on unsuitable sites) adjacent to our monocultures of Sitka spruce; is this really increasing our forests' resilience? In December 2018 there was an outbreak of the Larger eight-toothed European spruce bark beetle (Ips typographus) in Kent, a beetle that has decimated its prime host Norway spruce, all over Europe (also known to infect Sitka, firs, pines and larch). Although Ips is a secondary pest, preferring to infect stressed or dead trees, it is known to spread the blue stain fungus (Endoconidiophora polonica), both working in tandem which greatly increases its threat. Furthermore, the Great spruce bark beetle (Dendroctonus micans) has also developed cravings for spruce in Britain, with first attacks dating back to 1973, but only discovered here in south Scotland in 2003. One female beetle can colonise a single tree, lay up to 300 eggs and live for as long as 18 months. Fortunately however, there is a successful biological pest control system available to keep D micans in check.

Continued on p26



Continued from p25

Yet even with some successful pest control, and diverse genetics within our Sitka (see Forestart's article - Forestry & Timber News, February 2020), are we simply providing a stressed vulnerable host for these little critters? Live adult lps have occasionally been trapped in the UK during routine monitoring at sawmills and at ports that handle imported wood. In addition, Charles Beaumont (Trees Please - Forestry & Timber News, April 2020) confirmed that larger trees for the landscaping industry are still imported from the continent. If the coronavirus pandemic has taught us anything about the 'known unknown' (as David Richardson (Forestart) put it), it's not 'if', but when it happens.

Diversification in productive D&G conifer forests

The scope for diversifying commercial conifers in D&G is essentially slim. Few other conifers are suitable or commercially viable for the majority of sites unless and until higher quality land becomes available for afforestation. So, we are torn between choosing the correct species for the site and choosing a species that is commercially viable, leaving all fingers pointing to the one and only, Sitka spruce, and with the majority of the sawmilling sector dedicated to white wood it is difficult to justify a major shift away from what the market demands.

The Scottish Forestry Grant Scheme (FGS) has tried to facilitate additional diversity with the Restructuring & Regeneration Woodland Improvement Grant, and with some success, but in the majority of cases in D&G it's still far more economically viable to plant Sitka provided we don't see the 'known unknown'. Alternatively, the Conifer Breeding Coop is also trying to address this issue, but what is needed in D&G is to change the species site requirements, while still being commercially viable - as an example, can you breed a Douglas fir to grow on

an exposed peaty gley? Unlikely. Perhaps it would be quicker and more cost effective to selectively breed *Pyhtophthora* resistant larch so we can start planting that again? Whichever potential solution they pursue, the industry can't expect much progress on the government's limited budget. The private sector already supports the Conifer Breeding Coop and more help may be required to address this issue.

Whatever future challenges plant health and climate change bring to our industry, we must be flexible so we can adapt and work with the environment, ie flexibility within funding mechanisms (FGS), perhaps even embracing new management systems so we can better utilise the alternative species available but ultimately, Sitka spruce is very well suited to the majority of D&G. So, all we can do is continue to do what we know works, plant the good stuff and protect it from its known pests and diseases!

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Plant Healthy certification scheme salutes its pioneers

Back in April this year, Charles Beaumont of Trees Please Nurseries wrote about Plant Health and the recent launch of the new Plant Healthy Certification Scheme. Since then, due to COVID-19, the operational landscape of nursery businesses in the UK has undergone radical change. Unfortunately, in the world of plant pests and disease it remains very much business as usual. The parallels with human epidemiology are clear, often with similar biosecurity principles applying to people and plants.

The development of certification schemes for best biosecurity practice in the plant trade was proposed in Protecting Plant Health: A Plant Biosecurity Strategy for Great Britain, April 2014. Since then, many dedicated people from a range of organisations and businesses have contributed to the development of the Plant Health Management Standard and the Plant Healthy Certification Scheme. In addition, with 2020 being the International Year of Plant Health, Defra has placed great emphasis on the need for increased biosecurity in the plant supply chain. Both the trade and the government's desire for more homegrown plant material is an emerging aspiration to assist in avoiding further pest introductions



Planting stock needs to be biosecure and from a known origin

Despite the challenges of Covid-19 the Plant Healthy Certification Scheme is being adopted by a growing number of engaged and innovative nurseries, some of whom have worked with the certification bodies. to develop remote auditing techniques. All applicants that join in the first year will become part of the 'Pioneer Group' and will help to 'bed in' this new scheme. During this pioneer phase, the Plant Healthy website will keep an up-to-date list of all business that have applied to either of the Certification Bodies to become certified. This will enable businesses to demonstrate to specifiers and purchasers1 of plants, their commitment to adopting robust voluntary standards. The long-term aim is for groups of certified suppliers and traders to work together to improve plant biosecurity across entire supply chains.

Last month, Grown in Britain held a Plant Healthy webinar to introduce the scheme in more detail to tree nurseries. It looked at the drivers behind the development of the scheme and the need to raise the bar for biosecurity. The current regime of inspections and plant passports is vital for the industry but has still left us dealing with Ash die back, Oak processionary moth and a host of other pests and diseases that cost our country economically and environmentally. In addition, the news that the EU will not uphold our enhanced regulatory measures for Xylella and plane wilt means that our personal responsibility for implementing these measures via a voluntary scheme like Plant Healthy becomes increasingly important. Ed Birchall. APHA's Principal Plant Health & Seeds Inspector, expressed his hope, "that all sectors involved with plants, moving plants, trees and timber will take up the opportunity that Plant Healthy offers them, to look at their practices of what they buy and from where, to raise plant health bio-security to protect their business and the environment".

So how is Plant Healthy going to help businesses reduce the risks from pests and diseases? If we dig a little deeper behind the scenes, we find that the scheme is made up of 23 requirements that apply to the whole supply chain, from seeds or cuttings, to trees being managed in the landscape. Some requirements are statutory, some internal such as the company's plant health policy, company structure and who is responsible for each element of the plant health cycle. Other requirements cover how plant health is disseminated to employees and how the company keeps up to date with regulations. Essentially Plant Healthy certification revolves around an ongoing pest risk analysis which aims to ensure an appropriate level of protection for each individual business.

Key for the forestry sector is the impact that Plant healthy will have on the supply chain and the benefits of the assurances that certification will bring to those looking to purchase trees and seed from a range of producers. The recent English Tree Strategy consultation stated that, "To minimise the risk of future plant health outbreaks,

Biosecurity in numbers:

Figures, estimated values and costs relating to bioscurity and plant health



we need to maintain high standards of biosecurity in the supply chain. This is why we have supported the development of the Plant Healthy certification scheme, launched in February 2020, and the underpinning Plant Health Management Standard" (Rt. Hon Lord Zac Goldsmith).

Planting stock needs to be biosecure and from a known origin and with the certification mark awarded to businesses that meet a high level of biosecurity, this will give buyers and specifiers extra confidence when choosing their suppliers.

😵 Plant Healthy

If you are interested in joining the Pioneer Group, or simply want to find out more about Plant Healthy then contact Alistair Yeomans via **www.planthealthy.org.uk**

Chainshot – what is the risk?

Chainshot has been the cause of a number of fatal accidents around the world and a recent near fatal accident in the UK. Chainshot is the ejected pieces of a saw chain following a chain break which travel at ballistic speeds (700 mph). Chainshot has as much kinetic energy as a bullet fired from a rifle.

FISA would like to thank members of the FISA Plant & Equipment Working Group for their input to this article.



The protective windscreen will not necessarily protect you

In most of these accidents the chainshot has passed straight through the windscreen. A new test standard (ISO21876) is currently being written and this is likely to result in the requirement for protective screens to be at least twice as thick as they currently are.

Below: Chainshot embedded in or having passed through the protective screen



Above: Chainshot involved in a near fatal accident that became embedded in the injured party having passed through the protective screen.







Your responsibilities - reduce the risk of chainshot

Manufacturers/Suppliers/Importers/Distributors

Manufacturers of new (and new to the European market) machinery must design, construct and supply safe products (legal duty is set out by Section 6 of the Health & Safety at Work etc Act 1974 (HASAWA) and Supply of Machinery (Safety) Regulations 2008 (SMSR)).

This will require competent knowledge to ensure machines comply with the Machinery Directive 2006/42/EC. In particular machines must be designed and built to meet the relevant essential health and safety requirements listed in Annex 1 of this Directive. See www.hse.gov. uk/work-requirement-machinery/ new-machinery.htm and the free guidance leaflets INDG270 and INDG271 (available free @ www.hse.gov.uk)

Knowlege of relevants Standards: BS EN ISO11850 2011 (amended 2016) Machinery for Forestry: General Safety Requirements Section 4.3.2.3. and chain test Standard (ISO 11837)

Raise awareness of the risk from chainshot via manufacturer's safety information (as required by Section 6 HASAWA & SMSRs) and by providing information on retrofitting chainshot protective device to older harvester heads

Operators

Don't cut with the front or rear risk zones pointing towards the cab

Know the risks to you and those around you and how to protect against them (min 70m danger zones)

Understand the difference between a chain catcher ('cotton reel' and chainshot protective device)

Be aware of wear limits and how to check them: 0.6mm for sprockets and the least of 2mm or 50% of the thickness of the chainshot protective device

Know and check/correct chain tension/ guide bar force

Know and check chain speed Know and check the use of correct lubrication





How you can reduce the risk

Chain breaks which can generate chainshot can be minimised by good maintenance of the following:

Check the chain tension – avoid the chain being too loose

Regular chain maintenance. Repairs using proper tools (not just a hammer) eg: chain breaker/rivet driver and rivet spinner

Avoid damaged sprocket, bar and/or chain (as little as 0.6mm for many manufacturers. Follow the 'Rule of thumb' replace a sprocket every 10 chains or use Oregon wear marked sprocket)

Ensure chain and bar lubrication is working

Excessive chain speed – new chainsaws can drive chains faster than their design and harvesters can be adjusted to push chain to excessive limits. Check you're running at the recommended speeds!

The Standards (outlined below) require a chainshot protective device or guard to be fitted to harvester heads to prevent chainshot being generated (reduce whiplash of broken chain) or deflect it. There are several types integrated into the head or saw box by manufacturers, and you can often retro-fit to older machines – speak to your dealer.





Saw box type of chainshot protective device



Absorptive finger type chainshot protective device

Thanks to Oregon and manufacturers - John Deere/Logset/Logmax/Komatsu & Konrad - for illustrative details.



Avoid all too common sprocket wear (far left and centre)

Consider the use of Oregon wear indicator sprockets (right)



Chainshot protective device closely fitted around drive sprocket

Chainshot protective device (guard) must not become worn beyond the least of 2mm wear (or 50% of material thickness) (specified in ISO 11837)



Owners including Buyers

Buy new machinery that is CE marked and lists compliance with already listed relevant Standards.

A conformity assessment (to CE mark the machine) may be required in the following circumstances: • Where an existing machine has been significantly modified as it may be considered as a new

machine • Where an existing non CE-marked machine is brought into Europe

• Manufacturing your own machines.

Information generated and obtained during the conformity assessment procedure must be retained by the Responsible Person as part of the Technical File.

www.hse.gov.uk/work-equipmentmachinery/refurbished-modifiedmachinery.htm and www.hse.gov. uk/work-equipment-machinery/ conformity.htm

Ensure that safety information is provided to operators on the importance of chainshot protective devices being maintained in place and not overly worn, drive sprockets wear parameters and how to check and the other control measures already listed.

Replacement of screens when damaged by chainshot (check for 'melt' marks) and other causes.

FWM/Contract Manager

Check contractor's machinery is compliant and well maintained (protective screen damage? chainshot protectice device in place? worn sprockets? are good indicators)

Check that chainsaw safety zones have been identified and are adhered to (at least 70m as specified by the specific manufacturer)

Don't specify thinning or other work that requires the harvester operator to cut in line with cab due to space restrictions

Latest news on workplace fatalities:

https://press.hse.gov.uk/2020/07/20/figuresreveal-that-numbers-of-people-killed-have-fallenyet-agriculture-continues-to-have-the-highestrates-of-worker-fatal-injury/



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APF Diary summer 2020

Ian Millward

APF secretary

espite the postponement of this years show until September next year work is still going on towards APF 2021 on 23-25th September 2021. We want to keep the momentum going towards APF 2021 and use the extra year to plan new events and features for you to enjoy.

Since our announcement to postpone until next year we have had nothing but support and encouragement from both exhibitors and visitors. Everyone appreciated the situation and the early decision to postpone meant that exhibitors did not commit to costs for ordering stock, equipment, haulage, marquees etc. money they would have subsequently lost. As I write this article mass gatherings are still banned so the ultimate decision to proceed or not is entirely out of our hands whatever precautions we had put in place.

The Prime Minister has declared he wants everything back to normal by Christmas. A sentiment I am sure we would all agree with, but that decision may well be determined by events outside even Boris' control. We just have to keep our fingers crossed.

New Fencing Village at APF 2021

One of the new plans for APF 2021 is a Fencing Village, a show within a show, if vou like. Fencing obviously has close links with forestry with the need for rabbit and deer fencing, and the fencing industry has not got a show of its own. We are seeking to work with all the players in the fencing industry from small to large, whether they are machinery, equipment, wire or timber manufacturers and gather them together in one area. Not only will they be able to demonstrate their products in action on their stands but also have the opportunity to stage demonstrations in an arena at the heart of the village and showcase the latest equipment and techniques available. We are also hoping that this can include short courses on particular fencing skills that visitors can book and attend. The Fencing Village will also be the location for the UK Open Fencing Championship to be held on Friday 24th September 2021 sponsored by McVeigh Parker.

Learn something new at the APF The APF show has always been a great



place to come, look at and buy new kit and meet old friends but we would also like to offer more to our visitors and make it not a just a great day out but also an opportunity to add a day on to the visit and use the extra time to update their skills and knowledge and get refresher training. We are always keen promote education. training and skills competence and the APF Demo offers a great location for this. To this end we are talking to Lantra and NPTC City and Guilds to see if we can hold short one-day training and refresher courses on a range of skills and host these courses at the event. Courses will not be restricted to such things as chainsaws, brushcutters, pesticides etc but also rarer greenwood skills such as hay rake making, charcoal burning, willow weaving etc. Keep tuned and visit the website as we put more flesh on these bones. If you have any ideas about a course we can stage or would like to offer to run a course please get in touch.

If you have ever thought of becoming a Lantra instructor or a NPTC assessor we also hope to have technical verification demo's so you can see what level of skill is required and talk to them about the whole process.

We are talking to our colleagues at Confor and the Forestry Commission about hosting events highlighting industry developments, plant health, grant schemes, technical developments in the industry etc. In the past we have done this within a seminar type format. However, we appreciate that this format may not be the best method of passing on information at an outside event when your time at an event is limited. We are looking at shorter, bite sized and more practical formats. Again, we welcome any and all constructive ideas and suggestions We want the show to reflect what you want to see.

We are hoping our partnership with the Royal Forestry Society and their Young Forester programme will see a lot of youngsters visiting the event and encourage them to consider a career in the forestry or arboriculture industry.

You will also be able to gain further knowledge and skills updating at the Forest Worker and Tree Worker zones where a wide range of topics will be covered.

Great prizes to win on social media Thank you to everyone who continues to follow us on social media and enter our competitions. Our last competition reached over 17000 people and our Sunday Carvery post featuring one chainsaw carver a week has been very popular. We hope to follow on from this with profiles of Greenwood craft workers and their skills. Watch out for some fantastic competitions and prizes in the coming weeks featuring Husqvarna, Air-Seal, F R Jones, Brampton Valley Training and Komatsu with prizes as varied as a battery powered chainsaw, money off vouchers, air seal products for your tyres and a chainsaw maintenance and crosscutting course!

APF 2021

We remain open for bookings from exhibitors for APF 2021. Booking forms and maps are on the exhibitor section of the website and better still if you book now there is nothing to pay until January 2021. info@apfexhibition.co.uk www.apfexhibition.co.uk





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Contractors, test your knowledge!

The Forest Worker Zone (FWZ) is one of the highlights at both the APF and the Confor Woodland Show. We'll have to wait for it until next year, but for now, **Toby Allen** of Say it with Wood offers to test your knowledge with a short quiz on topics related to the FWZ workshops.

orking in the woods is a complex job. The contracting sector is often undervalued, but when the skills needed to carry out the practical tasks of growing and harvesting trees are considered, it's a career with many facets. A good contractor has to draw together different areas of knowledge to plan and execute tasks safely and effectively. They need a grounding in project management, managing risk, mechanics, hydraulics, electrics, computers, ecology, botany, business and communication skills, be up-to-date with the latest innovations, plus (of course) the expertise to carry out whatever job they have been paid to do. There are too many skills to list here, but you get the point. The Forest Workers Zone was set up to give us the opportunity to develop and hone these skills while having fun at the APF and Confor Woodland Show. The aim is to bring together experts in the different aspects of our job, to give free advice and training at shows. We can't do it this year, so we thought it would be a good opportunity to test your knowledge with a quiz, with questions provided by some of our experts due to attend this years APF. If you can get to the end without looking online, buy vourself a drink.

Hopefully our quiz stretches your knowledge a little. We look forward to seeing you at the APF next year. If anyone has any suggestions for the Forest Worker Zone, or would like to get involved please get in touch, **toby@sayitwithwood.co.uk**

See p47 for quiz answers

THE FOREST WORKER ZONE QUIZ 2020

1. On a standard hydraulic system, which motor would give the most speed, and which the most torque, 200cc or 400cc?

2. On a standard hydraulic cylinder, will the rod go fastest going in or out?

3. Explain your answer for question two.

4. What do the numbers on the head of a bolt refer to?

5. What species of bird lives in the nest in the picture?

6. Without seeing the bird, how can you tell if a raptor nest is active?

7. If a machine costs £50,000, you expect to keep it for five years, then sell it for £30,000, averaging 300 hours per year. What is the cost per hour, to the nearest 50p to own the machine?

8. If the operator is paid £100 for an eighthour day for the above machine, averaging 30 ton per day, what is the total cost per ton?

9. Assuming 20% downtime, what is the cost per ton?

10. What is the difference between the slewing mechanisms of Ponsse Ergo and John Deere 1070 harvester cranes?

11. The fruits of the small and large leaved limes are both covered in fine hair like structures (tomentum). What are the distinguishing colours?

Now to test your chainsaw knowledge with some tricky tests set by our top chainsaw trainer, David Rossney from ESUS forestry. Get your thinking caps on!

18. What is the most common depth gauge setting for most makes of professional chainsaw chain?

19. Match the chains below into pairs with similar cutting and fitting characteristics.

Stihl	63RMC3	36RSK 23	RS Pro	
Oregon	73 LPX	95 TXL	21 LPX	
Huqvarna	X cut C 85	S 93 G	SP 33 G	
Rotatech	B2 SFT	C3 SFT	B1 SFT	

20. Match the chain pairs to the correct saw and bars listed.

MS442, standard bar	
562 XP, standard bar	
560 XP, standard bar	
MS 261, Light 04 bar	
550 XP, Speedcut bar	
MS 231, Picco bar	

21. What is the current record of the 'Chainsaw Hold Out' competition, using a Stihl 361 fitted with 15" bar. Is it 60 , 120, or 180 seconds?



12. Dense shrub cover, 5 - 10m tall

is excellent habitat for dormouse.

13. Which quiet woodland bat

dormouse abundance?

available to students?

806, Welfare, contain?

-24 year old apprentice?

echolocates?

Which five species are associated with

sounds like a Geiger counter when it

14. In the new forestry apprenticeship

15. How many pages does FISA guide

16. How many pages does 603,

Mechanical harvesting, contain?

17. From August 2020, an employer

incentive payment is available. How

much is the payment for taking on a 16

scheme, what are the two pathways



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Fuelwood demo weeks in September and October

Following the cancellation of the APF show in September, Fuelwood will be hosting a demonstration week at their newly refurbished site in Warwick, from 21-26 September 2020. Fuelwood Scotland will also be hosting Demonstration Open Days at their premises in West Linton, near Edinburgh on 9 and 10 October 2020.

These free events will enable all visitors: discussions with the team; to see full working demonstrations and have hands on experience themselves, of Fuelwood's entire range of machinery including:

- Heizohack chippers
- Plaisance mulchers
- FTG Moheda and Avesta Vagnen timber trailers and cranes
- Mecanil grapple saws
- Exac-One tree shears
- Blacks' cone splitters
- Lucas Mill sawmills
- AMR saws and log splitters
- Japa and Fuelwood firewood processors and kindling machines.

Accessories on display will also include: timber grapples; new timber decks and racks for processing firewood; dust extraction systems with optional cyclone collection; processor mounted, free standing and bulk loading log cleaning systems; and much much more....

With Valtra, Fendt, Predator, Caterpillar and Kubota machinery also on working display, these events promise to be the most comprehensive working displays of forestry and firewood machinery available in the UK during 2020!

The Warwickshire event will be open from 9am-5pm on all days with the exception of late night opening until 8pm on Tuesday 22 and Friday 25. The Scottish event will be open from 10am to 5pm on both days.

All those interested in attending are asked to either register their interest. Venues are Beausale, Warwickshire, CV35 7AF, and at Fuelwood Scotland, West Linton, EH467HL. sales@fuelwood.co.uk





Easy way to net logs

John Wilson recently took a side step at Jas P Wilson to allow him to develop a new and affordable mechanised log bagging system. The potential profitability on retail sales of logs in nets is enormous especially if you consider much of it is softwood which is normally cheaper to buy and easier to process.

The Eazipak consists of a storage hopper which after loading delivers logs over a cleaning screen to a bagging table where one, two or three operators call manually fill. The delivery feed speed is instantly adjustable which allows the operator/s to work within their comfort zone and for long periods using the minimum of effort. Output depends on a number of factors but rwo operators should easily manage 500 60x45 nets in four hours.

As it is powered by single phase electric motor it is quiet enough that operators can hold a normal conversation while working. The hopper can also be left loaded to utilise any free staff time at the push of a button. The company has built 15 of these machines since last October which have been sold to customers as far apart as Inverness and Exmoor. The main comment from buyers has been they obviously expected to increase production but were not prepared for the increase in staff morale and motivation.

For further details contact John Wilson on 07730581291 or **john@multi-log.co.uk**

Videos of the machines working can be seen at www.multi-log.co.uk







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Arborist finds way through lockdown with Husqvarna battery power

Running a successful arborist business, Arbor-Venture Tree Care, Josephine Hedger, outdoor enthusiast, Husqvarna H-Team ambassador and multiple World Tree Climbing Champion, faced one of her biggest challenges yet, navigating her business through a global pandemic.

Establishing her own business in 2005, there were many obstacles Jo knew she could expect, but a global pandemic was not one of them. With eight members of staff and a busy working schedule ahead, Jo and the team quickly adjusted procedures to follow government guidance, reducing large rigging and removal jobs to adhere to social distancing measures.

With quieter roads and an increase in people working from home, efforts to reduce noise pollution was of great importance, and Jo turned to her Husqvarna battery products in an effort to reduce disturbance to her customers and their neighbours.

Jo explains: "As lockdown began and the nice weather made an appearance, more and more people began spending time in their gardens, and jobs that needed doing became apparent. Our workload began increasing but thought of disturbing residents became a concern.

"With more people than ever staying at home, there was the worry of disrupting those working from home and home schooling their children. I was also very conscious of the fact that we wouldn't know if we would be working near NHS workers who had worked a night shift and were trying to sleep during the day. The thought of starting up noisy petrol machines and disturbing the peace for everyone was too uncomfortable, so we knew using battery power was the right choice for us."

With a range of professional battery-powered handheld equipment, Husqvarna allows arborists to continue their work, without the worry of fumes and noise pollution. Lightweight and designed for comfort and ease of use on long shifts, the tools are quiet enough to use anywhere, at any time.

Gaining feedback from her customers, Jo was relieved to find out minimal disruption was made from her work. Jo explains: "Many of our customers were unaware of battery products being available in a professional capacity and were extremely impressed about the little noise they produced. They were amazed that we were able to carry out such large jobs with minimal disturbance. Initially, I was nervous about how we would be perceived, but thanks to being so quiet, it actually made us more noticeable, in a great way!

"We've been loyal Husqvarna battery users since 2013, and throughout lockdown our love for these machines has only increased further. The battery hedge cutters, leaf blowers and chainsaws have been such a big help over the last few months, in particular, the new T540i XP and 540i XP chainsaws which I had the





If it wasn't for battery power, we'd have had to be a lot more selective in where we were able to work

pleasure of being involved with from their initial design through to their launch. With such a high cutting performance and power, along with the other benefits that battery offers, I never had to consider switching to the petrol equivalents."

Delivering power and performance for full-time, heavy-duty and professional use, Husqvarna 500 Series battery products have been developed with long, demanding workdays in mind. Durable and robust to withstand heavy, professional usage, and provide a power output that matches, and even exceeds, their petrol equivalents.

"If it wasn't for battery power, we'd have had to be a lot more selective in where we were able to work. With many customers living in tight knit residential areas, we'd have had no choice but to be reduce the number of hours we worked in order to limit disruption. Thanks to the benefits of Husqvarna battery products we've been able to keep our customers happy and continue business in this new 'norm'."

www.husqvarna.com/uk/products/battery/

Though things may be a little different for a while, we are looking forward to continuing our work and taking part in activities next year such as attending the APF exhibition in 2021, where lots of exciting events will be taking place including the Husqvarna World 25m Pole Climbing Championship.





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BED EXTENSIONS

The practicalities of woodland carbon

Alex MacKinnon, Tilhill

veryone seems to be talking about it at the moment, but what does planting a woodland look like practically?

The Woodland Carbon Code (WCC) held its first reverse auction over January and February. Could the Woodland Carbon Guarantee have done just as it intended and stimulated the carbon market to create a reliable and valuable source of additional funding for woodland creation?

Such funding may be exactly what is required to push many struggling planting projects over the line. Doing so would edge us ever closer to the monumental planting targets that have been set, but as time passes the reality of reaching, or dare I say it, superseding, the targets, seems less and less likely.

Tilhill has carried out a number of woodland creation projects focusing on carbon sequestration.

One such project was a property situated on the eastern edge of the Cambrian mountains in mid-Wales. The site takes up 47.68HA and is a pleasant mix of broadleaved and conifer planting.

The WCC has been an important

part of this vison. The Tilhill Forest manager has registered the new woodland with the WCC and the owners plan to sell woodland carbon units for the carbon the trees sequester. This will provide a valuable source of income to help fund existing and future investment in the project. The income could come in two ways, Pending Issuance Units (PIUs) or Woodland Carbon Units (WCUs).

In this particular case study, a total of 123,000 trees have been planted with 32 different species. The trees were planted in an intimate mix to avoid homogenous groups of the same species. Capital funding for the planting was received from the Welsh government via their Glastir Woodland creation scheme.

Species include Sessile oak, Pedunculate oak, Wild cherry, Birch, Rowan, Alder, Small leaved lime, Aspen, Hawthorn, Grey willow, Goat willow, Beech, Field maple, Sweet chestnut, Hazel, Dogwood, Hornbeam, Viburnum, Spindle and Crab apple. While the array of conifers includes Sitka spruce, Douglas fir, Scots pine, Lodgepole pine, Norway spruce, Coast redwood, Western red cedar and Noble fir.

The wide variety of species will

Pending Issuance Units (PIUs) = pre-sequestered carbon

PIUs are a pending issuance of the carbon, aka before it has been sequestered. Essentially, this is a way of selling the carbon before it has actually been absorbed by the trees and giving the woodland owner a lower but quicker return.

Woodland Carbon Units (WCUs) = actually sequestered ton of carbon

WCUs represent one tonne of carbon that has actually been sequestered by the trees. Every 10 years the WCC projects are verified, this is where the PIUs are verified to have actually been accumulated and can then be sold as WCUs.

benefit biodiversity greatly but also mean a proportion of carbon is seguestered guicker by the fast-growing conifer species and proportionally more slowly by the broadleaves. Naturally, the conifer species will be more suitable to the sawmilling industry to be transformed into wood products for the construction and landscaping sectors. These products create a second life for the carbon within the trees. Products such as construction timber can lock away the carbon for decades further and. if sustainably recycled after that, decades more.

Continued overleaf





Continued from previous page

Other slower growing trees such as broadleaves will sequester carbon more slowly, and as such will be suitable for a whole different range of products. Not all of the trees will be harvested, many will stay on at the site and continue to draw down carbon for many years to come.

The WCC calculator tells us that the planted trees are expected to draw down and store 20,760 tons of CO_2 (tco₂). After the buffer has been removed, the total tons of saleable carbon is 16,608t. A buffer helps to account for any changes, unexpected events or differences in estimations used when calculating the carbon that will be sequestered by the trees.

Whilst financial details of this project are not publicly available, the table below gives an indication of what values could be achieved in similar projects.

The potential WCU values in the table are totals and could only be sold once they have been verified. Naturally, this will be a smaller proportion at the first verification (Year 10) and grow over time throughout the project's lifetime.



Location	Size (Ha)	Number of Trees	CO ₂ sequestered	Principle species employed	Potential planting grants (Yr 1)	Potential PIU value (Yr 1 to 5)	Potential WCU value (Yr 10 to 40)
Cumbria	7	10,080	2,206	Mixed Broadleaves	£29,030	£16,545	£55,150
Cumbria	34	44,880	18,891	Mixed Broadleaves	£129,254	£141,683	£472,275
Invernesshire	50	105,838	13,597	Birch and Conifers	£211,676	£101,978	£339,925
Aberdeenshire	13	20,624	2,158	Conifers	£41,248	£16,185	£53,950

FSC Pesticides Policy update - extension to transition period

Recognising the impacts of the Covid-19 pandemic on the work of Forest Management certificate holders, FSC has extended the deadline for complying with ESRA requirements for these chemicals from 1 August to 31 December 2020.

You only need to comply with the ESRA requirements for newly listed HHPs (eg glyphosate), those HHPs that did not require a derogation under the previous regime (eg acetamiprid), and non-HHP chemicals from the end of the transition period, although we recommend that you start to implement the requirements sooner.

www.fsc-uk.org

UKWAS review announced and call for stakeholder input

The beginning of a formal process to review and, if thought necessary, revise the UKWAS certification standard was announced 1st July 2020 by the UKWAS steering group. The current 4th edition of the UK Woodland Assurance Standard, known as UKWAS 4, has been in effect since 1st April 2018 and in accordance with the UKWAS procedures, it is reviewed on a five-yearly basis.

An independent multi-stakeholder working group chaired by Peter Wilson will take forward the initial review phase to determine whether a full revision is necessary. A decision on whether to continue to a revision phase will be made towards the end of this year. If so, the working group will take forward the revision with the objective of a new UK-WAS 5 version of the standard being in effect from 1st April 2023.

Standard-users and stakeholders from across the UK forestry community and beyond are now asked to help us by submitting their initial thoughts and recommendations to the working group by the end of August to **ukwas@ukwas.org.uk.**

Views of users and stakeholders are now being sought.



See also Bracken control and Asulox, Pesticides Notebook p60

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Improving British timber quality by tree breeding

Gustavo Lopez, Paul McLean and Helen McKay,

Forest Research

round 60% of the softwood grown in Great Britain goes to sawmills to produce sawn woodbased forest products, including timber for use in construction. Construction grade timber offers the best economic returns to the supply chain and is an important consideration for the forestry sector due to its longterm storage of carbon. It is hardly surprising therefore that growing construction grade timber is a key objective for many forest managers.

Sitka spruce is the most prominent timber species in the British Isles and currently in the region of 665,000ha of planted Sitka spruce forests are managed for this purpose. Because of the relative importance of the species to timber production, a Sitka spruce breeding programme at Forest Research has existed for over 50 years. This breeding programme has focused on individuals derived from seed originally collected in Haida Gwaii (formerly the Queen Charlotte Islands) in British Columbia. The aim of the programme has been to improve growth, stem form, branching and wood density in Sitka spruce. It is a testament to the success of the programme that at least 95% of the Sitka spruce seedlings planted in Great Britain now come from genetically improved parent material.

Based on over 20 years of research carried out by Forest Research and Edinburgh Napier University, it is now recognised that the wood quality of Sitka spruce grown in Britain is limited by wood stiffness rather than wood density. Wood stiffness is the main limiting factor affecting the grading of the timber and usually determines that British Sitka spruce is graded at C16. Alone the other two properties affecting the grading of the wood, strength and wood density, would be sufficient for Sitka spruce timber to be graded as at least C18. An improvement in the stiffness of Sitka spruce would therefore be a major boost to the quality of domestic timber and bring positive impacts for the whole supply chain. Improving wood stiffness in Sitka spruce has therefore become the most interesting aim for tree breeding.

Assessing stiffness in an extensive collection of Sitka spruce provenances

At the beginning of 2019, Forest Research undertook a preliminary investigation of the variability in



stiffness in an extensive collection of 25 provenances of Sitka spruce covering most of the natural range of the species in the Pacific West Coast of the North America (Figure 1). This experiment was originally

Selected trees for stiffness were grafted into root stock by Forest Research at North Research Station. © Forest Research







Resonance assessment used to estimate the stiffness of the first three 3.1m long logs from each felled tree in the Farigaig trial. © Forest Research

made possible thanks to international funding and the participation of IUFRO (The International Union of Forest Research Organizations). The experiment was established in 1974 at Farigaig near Foyers, southwest of Inverness. The work that took place in January-February 2019 was jointly funded by Forestry and Land Scotland and Forest Research. A second phase of work in February 2020 completed the assessment of candidate plus trees from all provenance plots in the trial.

The locations of seed collections for the provenances that form part of this experiment are shown in Figure 1. They came from the US states of Alaska, Washington and Oregon, and the Canadian Province of British Columbia. Five different provenances came from Haida Gwaii.

During the first investigation, individual tree diameters and mortality were assessed in one replicate of the trial for all 25 provenances. The work was done in only one replicate due to the limited time available. Then, within each provenance, nine trees, which had been selected as being the best in terms of growth, and a nondestructive test was used to estimate the stiffness of the first three 3.1m long logs from each felled tree. Log volumes were also measured. In February 2020, all provenances in the second replicate were assessed.

form and branching, were felled

In 2019 scions (cuttings) were collected from the three trees with the best stiffness score out of the nine felled trees in each provenance. In the following year, we focused our effort and took cuttings from only the individual trees with the highest stiffness regardless of the provenance. These scions were grafted on to young rootstock so that we retained genetic stock with improved stiffness which we can revisit in the future as part of our ongoing Sitka spruce breeding programme.

No trend of variation in stiffness in relation to seed origin

The initial results from our stiffness assessments showed that there was more variation in estimated stiffness within a provenance than between provenances. Nevertheless, there were significant differences between some provenances, with the top provenances appearing to be closer to a C20 grading and the poorer provenances close to a C16 grading. There was no obvious regional trend in estimated stiffness, and there was no relationship between stiffness and latitude - more northerly provenances did not have higher stiffness - but provenances from the northern BC mainland (Skeena) generally seemed to have lower stiffness. In the meantime, these results imply that many provenances may be able to contribute to improved stiffness in any future breeding programme, which could be good news for genetic diversity.

Mean estimated stiffness by provenance is shown in Figure 2. All of these provenances were grown in one place. Provenances are arranged in order of increasing stiffness, not by location of origin. For British spruce, mean stiffness determines the structural grade, three of which are indicated by horizontal bars in the figure.

The Farigaig experiment has al-Continued on p47

CONFORGUR CONFORGUR

Below:

Experiment of

25 provenances of Sitka spruce (Picea sitchensis [Bong.] Carr.) organized by IUFRO (The International Union of **Forest Research** Organizations) and established in 1974 at Farigaig near Foyers, southwest of Inverness. Scotland, for the assessment of stiffness. © Forest Research



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Continued from p45

ready provided very interesting information about the possible natural genetic variation in Sitka spruce stiffness. It should give us the opportunity to breed sublines of Sitka spruce with improved wood stiffness. It can also be used to improve the timber quality of the current elite Sitka spruce breeding population. Doing so would keep gains in the quantity of the wood production but also add to the quality of the timber in the United Kingdom.

Resilience to climate change It is also possible that the grafted scions will be a valuable source of genetic diversity for traits other than stiffness because those trees are from a wider range of provenances than the original Haida Gwaii provenances. Currently, there is a lot of concern about the predictions of climate change; broadening the genetic variation will in theory increase the resilience of genetically improved Sitka spruce to changes in climate.

Forest Research are working with Forestry and Land Scotland and the Scottish Forestry Trust on a more detailed investigation of these trees, including obtaining more reliable measurements of stiffness and growth rates.

Acknowledgements

This work was made possible by many of our research predecessors many of whom we don't know by name, but to whom we are eternally grateful for collecting the seed and

16. 2

planting the experiment. The work described in this article was jointly funded by Forestry and Land Scotland. It is important to acknowledge the valuable contribution from Forestry and Land Scotland staff Doug Mitchell and Graeme Prest and the professional support from the local forestry staff including Kenny Hay. Many thanks to Forest Research staff Andrew Price, Richard Whittet, Colin Gordon, Ruben Manso, Rachael Davidson and Thomas Baer for their professional participation.

Further information on Forest Research's work on the selection and testing of conifers: www.forestresearch.gov.uk/ research/tree-improvement/ selection-and-testing-of-conifers

THE FOREST WORKER ZONE QUIZ 2020 ANSWERS

- 1. 200cc = speed, 400cc = torque
- 2. In
- 3. Because there is less volume to fill
- 4. Hardness
- 5. Goshawk
- 6. Look for wash (bird poo), around the base of nearby trees
- 7. £13.50/hr
- 8. £6.93/ton
- 9. £8.31/ton
- **10.** JD have slew pots (rack and pinion), Ponsse have a slew ring
- 11. SLL = Brown, LLL = White.
- 12. Honeysuckle, Yew, Hazel, Birch, Willow
- 13. Brown long eared bat
- 14. Harvesting or establishment
- **15.** 7



C3 SET

21. 180 seconds, give it a go!

36 RSK



MS 441, Standard

Creating broadleaves 2.0

Future Tree Trust CEO **Tim Rowland** outlines the charity's programme to enhance broadleaved species for better disease resistance, carbon sequestration – and economic viability.

here isn't much that Greta Thunberg and Donald Trump agree about. But both have made much of the fact that the planet needs more trees to help avert the predicted climate crisis. In a world of often bitter divisions and clashing opinions, the need for more trees is universally accepted. Yet planting rates in the UK have stalled and landowners are finding it difficult to justify planting native broadleaved trees from an economic perspective - the returns are too low because the trees mature too slowly and often only produce firewood.

Not only does the world need more trees, but we have to ensure that the trees planted now and in the future deliver the maximum benefits for society. To do this they need to be healthy, disease resistant and productive. They need to be 'better' trees than are currently available.



That's where Future Trees Trust is making a difference to our world, right now. Our work aims to increase disease resistance, carbon sequestration and timber yield in seven species of broadleaved trees by up to 20%.

Such increases in timber yield have been achieved with other species across the world – Sitka spruce and eucalypts to name just two. We still have a way to go before we can claim such yield increases, but all the early indications are that we're heading in that direction.

By making the planting of broadleaved trees more economically attractive, many more, much better trees will be planted in the future, with all the associated benefits and advantages these trees will bring to our society, environment, wildlife habitats and the very look and feel of our countryside.

Improving the economic viability of our broadleaved woodlands is a fundamental driver of our work. An old forestry saying is "The wood that pays is the wood that stays". Our work will help to make our broadleaved woodlands pay so that the trees in them stay to provide all the benefits to us that they can.

Why should we improve our broadleaved trees?

Because our climate is changing

Predicted changes to our climate – increased average temperatures, dryer summers, wetter winters - will have an impact on our trees and we need to make sure that future trees are best adapted to thrive in the climate they will experience.

Because it has huge social benefits

Broadleaved woodlands play an important role in the quality of our lives by providing ecosystem services and associated health benefits. Our work aims to make the very most of what they can offer us, by producing strong, healthy trees to plant and by advocating good management of our woodland.

Because it benefits our economy

Our broadleaved woodlands can contribute to local, regional and national economies in several ways:-

Producing a sustainable source of high quality timber products - our broadleaved woodlands are generally of low quality and often the end product is firewood, meaning that the UK imports 95% of the hardwood timber it uses

Supporting rural economies - woodlands provide many opportunities to support rural economies, from mountain biking centres, adventure playgrounds and wildlife encounter experiences. These activities generate significant income and provide considerable contributions to local rural economies and employment.





Selective breeding

Since 1991, we have been identifying superb individual trees of seven broadleaved species – ash, birch, cherry, oak, sycamore, sweet chestnut and walnut – and have been selectively breeding them from either cuttings or seed. These 'parent' trees are mainly selected for their timber-producing characteristics:

- Pest and disease free
- Rapid growth
- Straight, circular stem
- Fine branches
- Horizontal branches
- Desirable wood properties.

Growing broadleaved trees for timber



Potential benefits:

• Increased income from higher timber yield and quality – improved trees are bred for their form - light, horizontal branching and strong apical dominance - meaning fewer knots and timber defects and far greater volumes of high quality recoverable timber.

• Lower establishment and maintenance costs – improved trees will establish and grow more quickly than unimproved stock, needing a shorter period of protection, spraying and mowing.

• Shorter rotation period – improved trees can reach their economic viability several years before unimproved trees, meaning that the value of a woodland can be realised more quickly.

• Greater carbon sequestration – the increased timber yield from improved trees means that they are more likely to be converted in to valuable timber products which locks up more carbon, rather than releasing it to the atmosphere if burnt as firewood.

Left: The end result - high value oak timber

We have now identified more than 1400 'plus' trees and have taken either cuttings or seed from them. We either graft the cuttings or plant the saplings grown from the seed into replicated trials across the UK.

Over many years, we assess their growth, form and disease resilience, remove the lesser-performing trees and leave only the best trees (those with proven resilience, good growth rate and form) free to breed with each other.

After successive removal of all but the best trees, we are left with trees that will produce seed that will grow into superior trees.

Next research objectives We have set ourselves some challenging objectives to achieve by 2025:

- Plant progeny trials for silver birch and sycamore
- Establish four oak grafted seed orchards
- Continue work on the Living Ash Project to find ash trees resilient to ash dieback
- Identify 50 more birch trees in England and Wales and sessile oak plus trees
- Collect grafting material from all newly identified plus trees
- Establish four demonstration plots across the UK to showcase our achievements.

www.futuretrees.org

Our ash seed

orchard

at Little

Wittenham

birch trees

ready for

planting

Left: Grafted



Support Future Trees Trust

To ensure we achieve these challenging outcomes, we need support from everyone with an interest in growing trees for timber, to help us maintain our ambitious research programme, our ever-increasing profile and our growing lobbying influence. Making a donation to support our research will help us breathe new life into our woodlands. Please send cheques made payable to Future Trees Trust to Future Trees Trust, 3 Queen's Square, Chalford Hill, Stroud GL6 8EG.

The creation of Snowden Close

Chris Hamill MICFor, Pryor & Rickett Silviculture

S nowden Close in Cumbria was conceived and delivered as a precursor to Forestry Commission's Forestry Investment Zone (FIZ) pilot. It was acquired for a client seeking to add forestry to their investment portfolio. Yielding a return on investment was an important consideration in terms of appraising potential opportunities, but the client also attributes value to natural capital features.

This double management aim sparked their interest in a site which, for a wholly finance-driven client, would have been deemed a challenge. The site is bisected east-west by the King Water, an important river for invertebrates and a designated Site of Special Scientifc Interest (SSSI). North-south it is crossed by the Maiden Way, a Roman Road running North from Hadrian's Wall to what was once the most northerly outpost of the Roman Empire, and a scheduled monument. On the northern boundary there is open land on deep peat.

The key constraints of the site formed an integral part of the overall design at the outset, around which the productive elements were aligned. The northern edge of the forest, adjoining the peat, is planted with very low-density planting of a 'Black Grouse mix' of juniper, hawthorn, birch, hazel and rowan.

Next comes higher density mixed broadleaves, phasing into lodgepole pine, and finally the Sitka crop. This



Location: north-east Cumbria, near Gilsland.

Total size: 208ha

Composition: 122ha Sitka spruce, 42ha diverse conifer/ broadleaves, 44ha open ground

Planted: 2019-2020

Management aims: Establish commercial forest asset with capacity for high quality conifer timber production, while enhancing natural capital for sporting and recreational interests

Manager: Chris Hamill MICFor, Pryor & Rickett Silviculture (PRS)

Left: final woodland creation design plan for Snowden Close creates a long diffuse boundary between open ground and forest. The site is bordered by older plantations, so this will become the softened edge of a much larger forest area.

The SSSI river, while designated in 'good condition', had banks much degraded by grazing. Animals are now excluded, and existing riparian woodland has been extended while also leaving extensive open space. Where there was previously the occasional ancient hawthorn, the habitat is expected to see substantial improvement. Natural regeneration of oak is already occurring, less than 9 months of stock exclusion. There is an excellent opportunity for local wildlife organisations to come and monitor how this habitat changes over time

Roman Road

The Roman Road, while scheduled, is in a variable condition. In some places it is little more than a ditch while in others it is covered by a concrete road. The forestry planting, set back from either side of the road, defines its route so that visitors can easily see and follow it. However, the monument exerts its influence be-

OBITUARY



There is a strong historic sense of place in particular where the road crosses high points. yond the designated area: there is a strong historic sense of place in particular where the road crosses high points. To preserve this, two a large areas of open space were left where it crests over a ridge, and where the road goes through the forests trees were taken back at other high points to ensure views remained open. The existing right of way, enabling the public to access the road, has been preserved and hopefully visitors will consider their experience enhanced by the structure and diversity provided by the forest.

The forest is establishing well and is expected to grow at yields in the high 20s or even 30s, producing quality construction timber. Some grazing has been retained in the internal open space at the crest of the Roman road, but the deep peat and riparian areas have been taken out of productive management and will be allowed to rewild.

The delivery of this new woodland scheme was an extremely slick process. PRS's professional and creative approach to the design was matched on the Forestry Commission side, by Jim O'Neill and Rachel Sparks who did a tremendous job of ensuring positive stakeholder engagement.

Pryor & Rickett have several more similar projects in progress, so hopefully this is the first of many more similar schemes which create shared value for investors, nature, people, and the green economy. www.silviculture.co.uk



A founding figure of the modern forestry and timber industry

Sandy Brownlie (1935 - 2020)

Confor has paid a warm tribute to Sandy Brownlie CBE, one of the founding figures of the forestry and timber industry, who has died at the age of 84.

Sandy was the driving-force behind taking the family sawmilling business in the Borders, A&R Brownlie, and creating what became the largest wood processing business in the UK, BSW Timber Ltd.

Stuart Goodall, Confor Chief Executive, said: "Everyone at Confor is very sad to hear of Sandy's passing. He was a major figure in the development of the UK sawmilling industry - from initial modest beginnings to a modern manufacturing industry with businesses like BSW that can hold their head high on the international stage.

"Personally I always enjoyed catching up with Sandy. He would



never shy away from being challenging, but always with a friendly, open manner. His legacy is clear to see."

Sandy Brownlie was born on August 24, 1935 into the family sawmilling business based in Earlston in the heart of the Scottish Borders. After a brief spell in the office of a Liverpool timber broker, he began working full-time in the business in 1953, returning again in 1956 after his National Service and a period working for the company's auditors in Edinburgh. He was appointed a Director in 1959.

In 1970, Sandy led a large investment in new equipment and a transport fleet, reviving a business his father had come to believe was in decline. In July 1981, A&R Brownlie bought Western Softwood, based in Wales, and became a major force in the UK softwood producing industry.

Thomas Smith & Sons (Kirkoswald) Ltd, based in Ayrshire, was acquired in 1988 and BSW Timber PLC formed on 4 July 1988. Sandy was BSW's first Chairman and by 1991, the firm had built a major new stateof-the-art sawmill at Carlisle.

Sandy was awarded the CBE at Buckingham Palace by the Queen in 1994 for his services to the industry. He served on many trade associations boards, always driving and promoting the forestry and timber industry.

In 2006, BSW acquired the former Arjo Wiggins paper mill in Fort William, where the UK's most technologically advanced sawmill now operates. Sandy retired as chairman in 2009, and for more than a decade, watched BSW continue to grow - creating an entire supply chain business with the acquisition of Tilhill Forestry and then Maelor Forest Nurseries, as an admired elder statesman of the industry.

Sandy Brownlie is survived by his wife Maude, son Alex, daughters Jane, Kate and Clare and stepdaughters Liz and Trish.

Making use of the Bounce Back Loan Scheme



Following on from the Confor Business Support Webinar "Get to Grips with Finance", **Gareth Price** of Pegwn Finance is taking a more detailed look at one of the Government support mechanisms.

he Bounce Back Loan Scheme (BBL) is a new Ioan scheme introduced to help smaller businesses impacted by COVID-19. It aims to assist those businesses to borrow from £2000 up to 25% of the business' turnover (the maximum amount available is £50,000).

Unlike other loans that may be available to your business, in this case the Government will cover any interest payable in the first 12 months, and no repayments will be due during the first 12 months. The interest rate for this loan is fixed at 2.5% per annum and the repayment term is fixed of up to a period of six years.

The application process is quick and simple with businesses required to complete a self-declaration online application form, which is expected to be assessed by their lender within a matter of days. It is open to most businesses, regardless of turnover, who meet the eligibility criteria and who were established on or before 1 March 2020.

At this point you may be asking why take on debt in an uncertain market. It's still got to be repaid and times are tight enough already. For any business with borrowing or finance it is certainly worth checking

how much that current debt is costing.

Due to the low interest rate and interest support in the 1st 12 months, the BBL could be a very effective way of improving cash flow or reducing borrowing costs immediately.

There are pitfalls to consider, such as the fixed term of the loan - it can be paid back sooner but no extensions are allowed. Using a BBL to restructure private loans, business debts on credit cards or even vehicle or machinery finance costs may see business pay less in finance costs than on existing credit plans. That means better cash flow, greater business flexibility and maybe even investment opportunities.

The next step then is to consider how a BBL could work for your business. Reviewing what finance or borrowing can be repaid earlier, what the costs of early settlement are and whether given the interest rate and the term it will make the business better off.

There are many free finance calculators available but it is important to consider using an independent financial advisor. Be aware that, as independent financial advisors will not receive commission on the BBL,



ELIGIBILITY

To be eligible for the loan, businesses must:

- Have been trading or have evidence of commercial activity in the UK at the date of the application, have been in business on 1 March 2020 and have been adversely affected by COVID-19.
- 2 Be a business entity established in the UK, or tax resident in the UK.
- 3 At the time of submitting their loan application, be neither in bankruptcy, liquidation or similar.
- Gain more than 50% of the income from its trading activity although confirmation is not required if the borrower is a charity or a further education college.
- 5 Be using the loan only to provide economic benefit to the business, and not for personal purposes.

they may charge a fee or may not be offering it within their services.

It is important to understand that this is a loan and any businesses remains 100% liable to repay the full loan amount, as well as interest, after the first year.

The Scheme is initially open until 4 November 2020, with the government retaining the right to extend this. There is significant interest in the Bounce Back Loan Scheme and processing times will vary from lender to lender as a result. If this is the case, please be patient as lenders are working hard to respond to demand and to prioritise support where it is needed most.

It's certainly a useful loan to consider which offers flexibility and opportunities for businesses to review their finances with a degree of economic uncertainties ahead.

HOW TO APPLY

If you choose to proceed with an application, search for "Bounce Back Loans" or go to **www. british-business-bank.co.uk** and look at the list of accredited lenders. Follow the online application process and the money could be available in just a couple of days.

CPD for hauliers – introducing Forest Haulage CPC +F module

Neil Stoddart

Creel Consulting Ltd

s Henry Ford famously said, "The only thing worse than training your employees and having them leave is not training them and having them stay." Most chartered foresters and those across other professions will recognise CPD (Continuous professional development). It refers to the process of tracking and documenting the skills, knowledge and experience that you gain both formally and informally as you work, beyond any initial training. It is a record of what you experience, learn and then apply. Development is often informal and has a wider application, giving you the tools to do a range of things and relating to capability and competency.

However, in the haulage profession, all HGV drivers must formally undertake 35 hours of periodic training every five years in order to retain their Driver Certificate of Professional Competence (CPC / Driving licence).

This normally takes the form of a sevenhour ratified course once per year. Courses can cover a wide range of topics from Tachograph management to Fuel efficient driving, but there are not any specific to the forest sector. Just as First Aid requirements have developed into the +F standard, with a real focus on forestry, the FISA Forest Haulage Working group recognised that a seven-hour Forest Haulage CPC +F module would bring benefits to both existing and new HGV drivers. Not just timber... forest haulage includes drivers of roundwood timber trucks, but also low loaders, materials deliveries and fuel tankers.

The course was successfully piloted last year at a session delivered in Lockerbie where the attendees were a mixture of drivers, Forest Works Managers and observers. The module is wide ranging and covers topics such as load security, forest roads and mental health. The day also provided a forum for all participants to discuss issues affecting both drivers and managers. It was this key positive outcome, that has seen the FISA working group recommend that Harvesting FWMs undertake the training to better understand haulage issues and that this is classed as Continual Professional Development (CPD).

There are plans for an up-to-date haul-

age training video to be professionally produced, that can be used as a resource for the course. This will have spin off benefits including a basic Forest Haulage induction film for new and crossover entrants, and some social media content which can hopefully be used attract new drivers into the industry.

A core FISA recommendation to the industry is that over the current five-year CPC window, all HGV drivers entering the Forest environment should endeavour to include undertaking this Forestry module as part of their statutory 5 x 7hr CPC training requirement. It is anticipated that drivers will be issued a +F card/sticker display in the truck window so their training (and commitment to safety) can be instantly recognised by landowners and FWMs.

Having been delayed due to Covid-19, at the time of going to press, the courses which are provided by CPC experts Benslie Training, will be commencing in October 2020 and will run with a full schedule of dates each year to allow access from drivers and FWMs across the UK.



TO BOOK A PLACE: https://www.ukfisa.com/training

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	24 Oct 2020	LOCHGILPHEAD	50000000 - 1.
	7 Nov 2020	GALASHIELS	
	28 Nov 2020	KIELDER	
	23 Jan 2020	CAMPBELTOWN	
	30 Jan 2021	N WALES	
	16 Jan 2021	INVERNESS	SCANIA
L	6 Feb 2021	CASTLE DOUGLAS	
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	TBC 2021	LOCKERBIE	HSE/FISA Accident Reporting
	TBC 2021	BANCHORY	Maintaining Road Worthiness
	TBC 2021	STIRLING	Workplace Safety in the Forest
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Bracken control and Asulox

For once, some good news about the use of Asulox for bracken control in forestry this summer. But first some background to the saga.

Asulam, the herbicide in Asulox, can currently only be used for bracken control though the granting of an Emergency Authorisation using the EU Article 53 procedure. These have been applied for, and gained on an annual basis by the Bracken Support Group, of which Confor is a supporter.

However, when the 2020 Emergency Authorisation was issued earlier in the year by the Chemicals Regulation Division of the HSE, it was restricted to helicopter application only, with ground based application excluded. The reasoning here was that as glyphosate could be used through ground based and

hand held applicators, then no emergency existed as an alternative product, glyphosate, could be applied by these means.

In addition, the aquatic buffer zone was increased from 50m to 90m, meaning that it would be impracticable to spray bracken

Authorisation notice

The authorisation notice, does, though, have some apparently confusing requirements, includina:

a) Explanatory Notes

(6) This emergency authorisation is for use on conservation areas until 14 September 2020

b) Advisory Information

In order to facilitate future Article 53 authorisations the following information/ data is required:

(i) Data on the types and numbers of bird and mammal wildlife that nests and/or feeds in and adjacent to the areas to be treated during the treatment period from 1 July to 14 September.

(ii) Records to show ground-based use has occurred only on areas with a statutory conservation designation.

(v) Information on an annual basis on the habitats and environments where 'Asulox' is sprayed, and estimations of the quantity/volume of product applied to each habitat/environment, including details of the conservation area treated and the conservation body which agreed its use. (vi) Eurther research on the alternatives to 'Asulox'. In particular, further data on the efficacy of such applications should be generated to support future applications for authorisation for use of alternative plant

Key conditions for ground based Asolux application

- Asulox may be used between 1st July and 14th September.
- The land based situations authorised for spraying are Rough Grazing, Moorland, Amenity Grassland and Forestry (establishment phase only).
- The forestry maximum rate is 10 litres/ha
- The maximum dilution rate for hand held sprayers is 1 part Asulox to 4 parts water. ie the minimum water rate is 40l/ha.
 - Horizontal boom sprayers must be fitted with three star drift reduction technology and applied at a water volume of 400-500l/ha

• An aquatic buffer zone of 1m is required for hand hand equipment, and 5m from flowing/static water, or 1m from a dry ditch for horizontal boom sprayers.



other than in extensive, mostly moorland, areas.

Also, this ruling failed to take into account the fact that glyphosate is very capable of killing establishing trees, and that in areas

of conservation interest, glyphosate will kill favoured plant species at risk from bracken invasion

A further meeting was arranged with CRD by the Bracken Control Group to highlight these problems, and I am pleased to report that a revised Emergency Ap-

protection products in conservation areas. (vii) Further research on the tree species sensitive to amidosulfuron to support a permanent solution.

Other Specific Restrictions

(7) Use is restricted to "Conservation Areas", as part of SSSI's and Agroenvironment schemes including: Countryside Stewardship, Environmental Stewardship, Agri Environment Climate (Scotland, s16 Environment (Wales) 2016, Welsh Agri-Environment schemes and

Welsh Rural Development schemes. Fortunately, it has now been established through communications between Forest Research and CRD that forestry is EXCLUDED from the requirements noted in (i), (ii), (v) in italics above, confirmed by

CRD as follows: "Other Specific Restriction 12 relating to

conservation and agri-environment scheme areas applies only to the use on rough grazing, moorland and amenity grassland. This OSR is not noted against the forestry use in the table in the authorisation. 'Asulox' may be used in forestry in the establishment phase, irrespective of the designation in OSR 12". OSR refers to "Other Specific Restrictions" on the authorisation notice. However there appears to be no OSR 12!

proval 1570/2020 was issued on July 9th which additionally authorised the use of Asulox by hand held equipment and horizontal boom sprayers on conservation sites to include forestry.

Asolux authorised for forestry again

So, the welcome points are that forestry is now once again included in the Asulox authorisation (see also panel. Authorisation notice), and the water rates for hand held equipment have been reduced from 1:100 to 1:4. This means that the previous requirement of 1000l/ha no longer applies, and a more typical water rate of 100-250l/ha is now achievable.

Further research

The requirements for further research in (vi) and (vii) are being addressed by the industry and the Bracken Control Group.

This has been a long and difficult journey, and thanks are due to all concerned for arriving at an acceptable outcome. Finally, note that because the original authorisation was for helicopter use only, Asulox will only be available in 20 litre containers. Not ideal, as any unused quantity has to be returned at the end of the season.



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Sustainable drainage schemes and forestry

Nicola Abbatt Tilhill

focus on the application of the sustainable drainage regulations in Wales was thought to be of interest following a number of questions from forestry managers on this topic.

Concerns have been raised in relation to the additional bureaucracy and cost implications in Wales where applications for Sustainable Drainage Systems (SuDS) are required for any new tracks or loading bays alongside the prior application for determination of permitted development under (Town and Country Planning (General Permitted Development) Order (GPDO) 1995.

This requirement for SuDSs in Wales was introduced in January 2019 when the Sustainable Drainage (Approval and Adoption Procedure) (Wales) Regulations 2018 came into force. This makes provision for procedure in relation to the determination by approving bodies of applications for approval of sustainable drainage systems and for adoption of such drainage systems in accordance with Schedule 3 of the Flood and Water Management Act 2010, Under this legislation County Councils in Wales are established as Statutory Approval Bodies (SABs). Note, the Flood and Water Management Act 2010 applies in Wales and England only.

SUDS regulations in Wales In Wales, from 7th January last year, all new

developments of more than one dwelling house, or where the construction area is 100 square metres or more, are required to have a sustainable drainage system for surface water. The SuDS must be designed and built in accordance with Statutory SuDS Standards published by Welsh Ministers¹. All new schemes have to be approved by the SAB.

This means if a forestry manager wishes to put new tracks or loading bays into a forest and these tracks equate to 100 square metres or more (full track width x track length) SuDS is required alongside the prior application for determination under GPDO. These additional SuDS application forms provided by the Councils are approximately 30 pages long and the fee in the region of £950 per hectare.

Therefore for 475 metres of new track the fee amounts to £700 and for a new loading bay another £400, that is without accounting for management time completing the application.

The Welsh statutory SuDs standards cover not only the hydraulic management of surface water runoff, but also water quality management and the delivery of amenity and biodiversity benefits.

The SuDS Manual CIRIA, 2015² helped develop the original voluntary Welsh SuDS standards on which the new legislated version is based and closely follows the best practice guidance outlined in the SuDS Manual.

SUDS regulations in England

In England, drainage is approved by the planning authority as part of the planning approval process, but there is no formal adoption body and England hasn't yet put any specific secondary regulation in place for this area; it remains covered in the National Planning Policy handled by the local authority. Wales has pursued statutory SuDS adoption far more vigorously than England.



Careful planning is key to take account of drainage standards and avoid water pollution

SUDS regulations in Scotland

In Scotland, new rules in relation to discharge of water run-off to the water environment from construction sites, including forestry access tracks came into force in September 2018 when the Water Environment (Controlled Activities) (Scotland) Regulations (CAR)³ were amended following changes brought in by the Water Environment (Miscellaneous) (Scotland) Regulations 2017.

I spoke to John Gorman of SEPA, Forestry Specialist, to see whether any further changes were expected in Scotland. John confirmed that the changes in regulations in Scotland relating to discharge of water run-off to the environment from construction sites including forestry access tracks were consulted at length with Scottish Forestry (then FCS). A full application and licence is only required for sites that contain a road or track length in excess of 5km; or include any area of more than 1 hectare, or any length of more than 500 metres on ground with a slope in excess of 25 degrees. Full information on this including Questions and Answers were published on the Confor website in October 2018⁴ The partnership approach to consultation with the forestry industry has meant that Scotland has a more pragmatic approach to the requirement for Construction site SuDS licences for forestry tracks and other structures under the revised General Binding Rule (GBR) 10.

Unfortunately, the situation in Wales where a lengthy SUDS application is completed alongside a fee feels like another layer of bureaucracy, with the potential delay for further delays and associated costs for forestry management. There are exemptions to SuDSs in Wales but none for forestry.

Surface water is a valuable resource, the philosophy of sustainable drainage systems is about maximising the benefits and minimising the negative impacts of surface water runoff from developed areas.

We should certainly keep an eye on what may be ahead for England and ensure the forestry industry is fully consulted with in order for us to influence the adoption of a more pragmatic approach similar to the SEPA model.

REFERENCES

1 Statutory SuDS Standards are available at https://gov. wales/sites/default/files/publications/2019-06/statutorynational-standards-for-sustainable-drainage-systems.pdf 2 SuDS Manual (CIRIA)

3 SEPA CAR: A practical guide

4 Guidance on pollution control and management of surface water run-off for specific forestry activities in Scotland (Q&A) http://www.confor.org.uk/media/247165/ guidance-on-pollution-control-and-management-ofsurface-water-run-off-1-.pdf

The Tree Charter – for trees, woods and people



Charter for Trees, Woods and People

The Tree Charter is an environmental movement across the UK that reimagines our relationship with woods and trees to envision a society that has sustainable, community-led woodland areas. The movement is driven through a network of Charter Branch groups who actively implement the Tree Charter's ten principles in their local areas. In this article, three of the principles are explained.

TREE CHARTER PRINCIPLES

- Grow Forests of Opportunity and Innovation
- 2 Sustain Landscapes Rich in Wildlife
- 3 Plant for the Future
- Protect Irreplaceable Trees and Woods
- 5 Combat the Threats to Our Habitats
- 6 Plant Greener Local Landscapes
- Celebrate the Power of Trees to Inspire
- 8 Recover Health, Hope and Wellbeing with the Help of Trees
- Make Trees Accessible To All
- Strengthen Our Landscapes with Trees

1 Grow Forests of Opportunity and Innovation

The Tree Charter advocates for sustainable timber production and encourages people to find new ways of using forestry products, with the hope to increase the market value of woods and trees in a way that benefits people, wildlife and the planet.

For example, timber can be used in construction projects for the frames of building structures as an alternative to steel and iron. Rather than releasing carbon into the atmosphere, timber locks carbon away for decades. Innovative technologies are also forming new types of materials from forestry products such as converting cellulose from plant cells into a plastic replacement.

As the demand for woodland products increases, we can increase the supply of wood by expanding UK woodlands and managing existing woodland better, taking even greater amounts of carbon out of the atmosphere. Investing in small scale woodland management can bolster local markets for wood and create green jobs.

In order to create a resilient sector, we must also care for the environment in which trees live. We will explore below how we can grow forests of opportunity and innovation through the Tree Charter Principles in a way that benefits trees, people and wildlife.

2 Sustain Landscapes Rich in Wildlife

Each tree is a world within itself, teeming with life. A fallen branch is a feast for beetles, fungal-rich woodland soil is a wildflower bed. Woodland must be managed in a way that promotes biodiversity to ensure holistic ecosystem resilience.

When you bring woods that are already in decline under sustainable management, it can encourage wildlife to flourish and improves biodiversity. It is important to not disturb ecosystem complexity as this links to the soils ability to store carbon, reducing the risks associated with climate change.

In the UK, 326 species are completely reliant on oak trees for survival, highlighting why it is important to promote native species in your woods to make sure these habitats can continue to thrive. It is also good practice to leave deadwood on the woodland floor as it can produce a home for fauna and flora that will in turn feed the soil and make it carbon rich, perfect for growing future trees!

5 Combats the Threats to Our Habitats

Common risks facing woodland habitats include invasive species, pests and disease, and climate change. All of which can reduce production rates in the forest without proper management. To create a resilient environment, forestry production sites should include a mix of native broadleaves and nonnative species. Native species are adapted to the UK woodland environment and their populations have great potential for further adaptation to cope with these threats, because of the high level of genetic diversity within native tree populations. Having a variety of native and non-native species will also create resilient timber production sites, as if a singular species is threatened with a disease, other species can still survive.

If trees are regularly thinned then it will also reduce the risk of spread from tree to tree and get light to the trees so they can grow more. In order to stop diseases spreading across sites, all seeds bought should be certified UK and Ireland Sourced and Grown to reduce imports of pests and disease. Other strategies include having an early warning system for pests and disease and invasive species through observing and reporting mechanisms to stop the spread of disease early on. If a woodland is open access, site owners should encourage visitors to report signs of pests and disease or invasive species with signage around sites. https://treecharter.uk



SMALL WOODLAND OWNER PROFESSOR JULIAN EVANS OBE FICFOR

Woods and wildlife

last wrote a piece about biodiversity in FTN five years ago. In re-reading it I listed the main interventions every woodland owner can take to encourage biodiversity, but didn't enlarge on them. So here we will look at each one a little bit more.

Have plenty of open areas, glades, and ride-side stacking areas. Light reaching the woodland floor both encourages wildflowers and the nectar they offer and also many insects, but notably butterflies, to gain warmth. We've all seen a lovely red admiral or peacock butterfly sunning itself with wings 'akimbo'! The dappled shade idea is a good one to bear in mind, as is the thought that bays for stacking timber wonderfully double up as large glades and can be sun-traps.

Encourage an understorey to provide more structure and some edge effect low shrubs, tall shrubs, small trees. Open areas provide edge effect where different layers are present, but so will some understorey. Bird and insect species occupy different niches from the ground upwards and variety leads to variety. An obvious example is that wrens nest in shrubbery or even a pile of old brash no more than one metre off the ground whereas buzzards nest halfway or higher up a tall tree. Some butterflies stick to shady glades like the speckled wood others fly high into the canopy like some fritillaries and, of course, the fabled purple emperor at the top of a great oak.

Cut tracks and rides in alternate years to allowing flowering and seed-setting of wildflowers. This is self explanatory and is a way of ensuring that annuals flower and shed seed and also adds a little more structure. Frequent ride cutting through a single year, mostly leads to grasses.

Thin stands well. This should be self-

evident from what we have said above, but a bonus from regular thinning is regular influx of light to the woodland floor.

Leave some standing dead trees – snags, the Americans call them. Health and safety considerations must always be borne in mind, but standing dead trees provide perches for raptors, holes for nesting, and sloughing bark and crevices for numerous insects and invertebrates.

Accumulate dead wood on the forest floor. Don't be overly tidy but allow more dead wood habitat to develop on the forest floor for fungi, beetles, and a host of other micro-fauna and flora. Compared with natural forest, plantations often have low levels of dead wood because we are harvesting timber. Deliberately leaving some piles of woody debris and detritus is generally a plus.

Get the

Get the structure right, and wildlife will mostly follow.

If all the above are done, the species of tree you are dealing with is actually not especially important. Get the structure right, and wildlife will mostly follow. The eminent woodland ecologist, George Peterken, writing in this July's Quarterly Journal of Forestry about Lady Park Wood in the Forest of Dean, says, 'Minimum intervention guarantees losses of species dependent on open spaces and perhaps young growth, but does not guarantee gains . . .' He concludes that, 'woodland nature reserves should generally be managed.' We would agree for all woodland and encourage all of us to be active in our woods. Little is gained and much lost by doing nothing.



On our daily lockdown walk yesterday my wife and I enjoyed a lovely illustration of what we have been saying. On a lane through a wood in a sun filled glade full of bramble and nettles there were butterflies a-plenty - meadow browns, red admirals, tortoiseshells, peacocks, skippers, several whites, a blue, a comma, and a silver washed fritillary – all spotted in no more than a couple of minutes. It was wonderful.







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In March, The Guardian online published an article which claimed that planting conifers was not a suitable activity to store carbon.

The article was based on a report commissioned by RSPB and included quotes implying that most harvested conifers ended up in short lived products that had little or no carbon benefit and that new planting is taking place in the Flow Country in Scotland.

Unsurprisingly many Confor members were angered by the article. Both they, and many others in the sector who made contact with me, were also critical of the report it was based upon Woodlands for climate and nature: A review of woodland planting and management approaches in the UK for climate change mitigation and biodiversity conservation (Feb 2020).

In response, I wrote a letter to The Guardian, which was published, and asked Dr Andrew Cameron, Senior Lecturer at Aberdeen University to undertake an analysis of the report. This is reproduced here. *Stuart Goodall*



Response to the report commissioned by the RSPB Woodlands for climate and nature: A review of woodland planting and management approaches in the UK for climate change mitigation and biodiversity conservation

Dr Andrew D Cameron, Institute of Biological and Environmental Sciences, University of Aberdeen

General comments

The report examines the potential impacts of woodland planting and management on carbon sequestration and biodiversity under the general headings of mineral and peat soils, 'nature-based' forestry, and fate of the harvesting residues.

While there is much of interest in this report, there are a number of significant deficiencies. A major shortcoming is the limited remit of the report. By restricting the subject area to 'carbon' and 'biodiversity', the author has avoided the need to discuss the wider socio-economic consequences of the report's findings. The narrative is maintained at a UK level that does not address the wide regional variation in forest types and forestry practices resulting in a sense of ambiguity running throughout the report. It is unclear why afforestation on deep peat forms such a prominent part of the report given that this practice has not been forest policy for decades. The author acknowledges that only around 10% of blanket bog in the UK has been planted with commercial forestry (page 30), which would normally suggest that it is not a major environmental issue, yet its inclusion and prominence in the report suggest that afforestation of blanket bog is still taking place and by implication that the forestry industry is still involved in environmentally damaging practices. There is no mention of the long-term programme of peatland restoration being carried out by the forestry sector (e.g. Anderson, 2001¹; Shah and Nisbet, 2019²).

Many of the 'recommendations' such as increasing the amount of deadwood, planting broadleafs as part of productive planting, using species mixtures, retention of old trees and stands, are all current forest policy and have been for a long time, yet this is not mentioned in the report. It is also unclear why there is a section dedicated to coppice, which forms a tiny fraction of the forest area in the UK and can hardly be described as 'mainstream forestry'. The 'executive summary' tends to reinforce a narrow set of views that does not accurately reflect the wider issues and uncertainties raised throughout the report. This is particularly questionable since many readers tend not to read beyond the summary with the result that they will draw unrealistic conclusions.

Carbon

A large part of the report is dedicated to the impact of forestry on carbon stocks. The author acknowledges the positive contribution of afforestation to soil carbon stocks: "...general consensus seems to be that, except on peat soils, afforestation is likely to be beneficial for soil carbon stocks on the whole...' (page 11). However, the preferred approach to creating large and long-lasting carbon stocks in forests is by '...maintaining old-growth stands of slow-growing broadleaf tree species ... ' with the counter argument that carbon stocks in '...harvested, fast-growing forests have short residence times ... and harvested wood products only contribute to reducing atmospheric carbon if the total size of the carbon pool stored in them increases over time...' (page 15).

There are several concerns regarding these statements. Weak evidence has been presented in the report supporting the view that 'old-growth' broadleaved stands are more effective at creating large and longlasting carbon stocks than fast-growing conifers and broadleafs. No data are presented to support the suggested differences in carbon stocks in old growth broadleafs and fast-growing conifers. In spite of the lack of hard evidence, the author has consistently promoted the idea of broadleafs over conifers.

Impact on timber supplies

The report acknowledges that the UK is 'currently a net importer of timber' (page 16) yet fails to point out that it is the second biggest net importer of timber products in the world and will most likely remain a major importer in perpetuity. The author accepts that there is a place for 'efficient management of faster growing tree species' (page 16) and that '... any decrease in domestic production could simply result in increased imports, shifting the impacts on forest carbon stocks to other countries ...' (page 16). It is an inescapable fact that decreasing domestic production will result in increased imports, yet there is no wider critique within the report of the global environmental impact of a greater dependency on timber imports. This is a critical omission

Continued on p63



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Palms trailer range now cover single beam, ladder chassis and 'forwarder' chassis with a gross capacity from 8 to 18 tons. Many of the trailer are available with driven wheels with either Black Bruin hydraulic wheel motors, that can provide 2wd or 4wd or the traditional Hydraulic 'cage drive' 4wd. Palms is one of the few manufactures producing 4wd trailers using 'forwarder style' axles. Here there is a choice of mechanical drive using the tractors 'ground speed' PTO drive, or a variable flow hydraulic motor in the trailer chassis that is powered by the tractor PTO and uses sensors to match the trailer speed to the tractor speed.

Palms cranes come in 5 categories to suit the semi-professional to fully professional customers. Maximum reaches vary from 5.4 to 9.4 meters with a wide range of hydraulic control valves and choices of control levers, pilot operated mini joysticks and even full radio remote. Valves can be set up for open centre, closed centre or load sensing.

It is fair to say that Palms should have a trailer and crane combination to suit every user.



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Continued from p61

in the report.

Currently around five percent of the world's forest are plantations, yet they provide one third of global industrial roundwood. While the area of plantation forests is increasing, it is not expanding at the rate commensurate with global roundwood demand, and by 2050 it is predicted that the proportion of timber coming from plantation forests will have declined to less than one guarter of world demand (Indufor, 2012³). The gap between supply from plantation forests and future timber demand will undoubtedly be met by increased production from natural and semi-natural forests, many of which are already under severe pressure from human activity and rising demand for timber may well result in an increase in illegal logging causing further environmental damage and loss. It would be reasonable to expect that the RSPB, as the body commissioning this report and as a responsible organisation, will grasp the reality that reducing or limiting sustainable production of softwood in the UK will result in consequential environmental damage elsewhere.

Biodiversity

A key feature of this part of the report is the role of non-native species, which are generally seen in a negative light in terms of biodiversity. The author has cited a number of articles indicating a decline in biodiversity with afforestation with non-native conifers. However, comparisons between native and non-native species are often spurious. For example, the author cites a study in Czechia that compared the level of biodiversity between non-native Norway spruce and native sessile oak and found that species richness was greater in the oak stands in comparison with the spruce stands, although there was no difference between red listed endangered species (Horák et al., 2019⁴) (page 17). A problem with this study is that it compared a native broadleaved species with a non-native coniferous species confounding two very different groups of plants rather than comparing a native broadleaf with a

non-native broadleaf. Even if you accept the researchers' findings, a closer examination of the paper by Horák et al. (2019) indicated that the difference in biodiversity between the oak and spruce stands was very small (76.81% c.f. 68.57% of the total species respectively, P<0.05). In other words, the level of biodiversity between the non-native conifer is within a few percentage points of the native broadleaf. This was not mentioned in the report.

The report makes a number of statements (page 18) that reflect current forest policy such as planting broadleafs within coniferous forests to support a wider range of woodland species (forest policy since the late 1980s) and using species mixtures to support biodiversity and retaining seminatural woodland (e.g. UKWAS, 2018⁵). The report also highlights that *"...forest stands*" with less woody debris and standing deadwood can have significantly lower diversity and abundance of birds and invertebrates...* (page 28), yet overlooks the fact that the retention of deadwood in productive forests has also been long established practice (e.g. Humphrey and Bailey, 2012⁶).

The latter part of the following statement 'Choosing native broadleaved species for new plantations will benefit biodiversity (and may have additional benefits e.g. resilience to pests) ...' (page 18) is not borne out in reality given the spread of, for example, ash dieback (Hymenoscyphus fraxineus), acute oak decline (several biotic factors), oak processionary moth (Thaumetopoea processionea), Asian longhorn beetle (Anoplophora glabripennis), and Xylella fastidiosa affecting a number of native broadleaved species. Concerns over non-native tree species and the risk of becoming invasive has been highlighted with Populus and Eucalyptus '... have both shown invasion ...' (page 19) although there is no evidence presented that species from these genera have become a major problem. The risk of invasiveness among tree species has long been exaggerated by commentators given that only 0.5% of the world's trees are deemed to be invasive (e.g. Pyšek, 2016⁷). Three 'non-native' species (all broadleafs!) that show invasive tendencies in the UK are Fagus sylvatica (beech) outside its native range in south-east England (very shade tolerant and regenerates freely under canopies of native oak and ash), Quercus ilex (colonises semi-natural habitats such as chalk grassland, coastal habitats and lowland heaths) and Acer pseudoplatanus (observed to have colonised many semi-natural woodlands although evidence for its invasiveness is weak). British native broadleaved species within the genera Ulex, Betula, Salix and Rubus have been cited as invasive (e.g. Kendle and Rose, 2000⁸). None of the above-mentioned species have been mentioned in the report in the discussion on invasiveness.

Rotation lengths

It is widely accepted that lengthening of rotations of coniferous forest stands can improve carbon stocks and provide habitats for plants and animals associated with large trees, and this has been acknowledged within UK forest policy for many years with the recommendation to extend rotations where feasible within the limits of the site (e.g. UKWAS, 2018). However, even the author acknowledges that the literature on rotation length and biodiversity can be contradictory and is often down to specific sites and species of particularly birds (pages 21 & 22). While the report states that '...retaining mature trees within clearcut stands can mitigate this loss [of biodiversity] ...' (page 27), it overlooks the fact that 'long-term retentions' - stands left for extended or even biological rotations - have been UK policy for long time (e.g. Hibberd, 1991⁹).

The report also tends to view forestry at a 'stand' rather than a 'landscape' level. As a result, it overlooks the fact that productive forests in the UK are widely managed to comprise a range of age-classes from newly established to mature stands creating a wide range of habitats within the forest. In the UK, the extensive plantations of the 1960s and 1970s have been gradually 'restructured' into a mosaic of small stands/

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compartments creating a better balance of age classes from newly planted to mature all within a relatively small geographic area (e.g. Hibberd, 1991). This allows animal species to move relatively short distances to stands of a preferred developmental stage. This approach also greatly increases the amount of forest 'edge' improving habitats for birds that for example require mature trees for nesting and open spaces for feeding.

Irregular forestry (or 'continuous cover forestry')

While the report does accept that '...more evidence is needed on the impact of alternative forest management approaches such as continuous cover forestry and how these differ from traditional even-aged stands with respect to biodiversity' (page 27), it fails to explain the huge difficulties in achieving it. The main hindrance to wider adoption of irregular forestry is the limited number of forest stands that can be successfully 'transformed' from even-aged to irregular structures without suffering serious wind damage. Even where it is possible with younger stands on more sheltered sites, the process takes many decades to complete (e.g. Kerr, 2008¹⁰). The report again fails to report that there is broad acceptance within the forestry industry of the environmental values of irregularly structured forest stands (e.g. UKWAS, 2018).

Fate of harvested wood

Managing forests entirely for the purpose of biodiversity and/or carbon sequestration is the underlying theme of this report. For example: 'Some authors have concluded that the no-harvest scenario is preferable to harvesting for bioenergy or HWP (harvested wood products, i.e. that greater climate change mitigation can be achieved by leaving the forest standing and thus increasing its carbon stores' (page 53), yet this view is not challenged or critically discussed. Although the author does point out that the results supporting this perspective are limited, this view is disseminated throughout the report.

Leaving forests without intervention will eventually lead to significant if not catastrophic loss through biotic or abiotic influences. For example, North American old growth forests arose from catastrophic fires hundreds of years ago and although highly prized today for their diversity, it should be a lesson that nothing is permanent, and that these forests will eventually succumb to a regeneration phase that will inevitably lead to a huge release of carbon into the atmosphere (e.g. Oliver and Larson, 1996^{II}).

The report suggests that since only a relatively small proportion (20%) of all wood harvested in the UK is currently used as construction timber (long-term carbon storage product) (page 54), wood commercially grown in Britain is of inferior quality.

This view is flawed since the use of timber is primarily market driven and processors will secure sources even if these could be used for 'higher-valued' longer lasting products. There are also a number of factual inaccuracies associated with wood properties. For example, it is stated that "...wood density of some tree species (Norway spruce, Scots pine, European beech and sessile oak) has decreased significantly since 1900 due to the changes in climate and nitrogen deposition ...' (page 9). However, the author appears to interpret this statement: 'Lower wood density generally means a higher susceptibility to disturbance events such as high winds...' (page 9). This implies a causal relationship between wood density and risk of wind damage. There is no evidence of wood density being correlated with wind damage risk.

A link has also been made between wood density and timber quality: 'In terms of harvested wood, it [lower wood density] means ... inferior timber quality, which could result in more wood going to uses with shorter lifespans.' (page 9), and 'In Sitka spruce, there is a negative relationship between growth rate and wood density ... so management to promote fast growth may result in wood that is less suitable for long-lived HWP [harvested wood products].' (page 55). It is correct that there is a general, although relatively weak, negative relationship between growth rate and density (Dinwoodie, 200012); however, it is the 'Modulus of Elasticity (MOE)' or 'stiffness' that determines the suitability of timber for high value construction purposes. Density has only a very weak relationship with MOE with factors other than density such as microfibril angle are more important in determining timber strength (Dinwoodie, 2000). It is the high strength to weight ratio of Sitka spruce that makes in highly suitable of construction (the strength to weight ratio of Sitka spruce is superior to that of steel). The vast majority of sawn Sitka spruce meets the minimum strength grading requirement for general construction (C16) (e.g. Moore, 201113).

Conclusions set out in the report

The author has been careful to point out the lack of scientific evidence throughout the report, for example: '...an insufficient number of samples and high variability between sites.' (page 11); '...the question as to whether increasing tree species diversity per se will affect soil carbon stocks has yet to be answered.' (page 15); '... need for more studies that assess biodiversity more broadly at landscape scale and over the longer term... (page 29); 'The authors urge caution in interpreting these results due to limitations of the study...'. (page 53); '...but there is significant uncertainty in these estimates...'. (page 54). Yet, the conclusions drawn tend not to show such caution. For example, on biodiversity, in spite of the limited evidence and often conflicting studies, the author concludes; '... based on the findings of the current report, the following broad recommendations would seem to hold true. Protect old-growth semi-natural woodlands. Favour native broadleaved species for new plantations. Favour native broadleaved species for new plantations.' (page 29). There is no critique of this assertion.

The author does recognise two alternative options for sequestering carbon: 'For fast carbon drawdown and high timber and biomass production, plant fast-growing conifers and harvest by clearfell on a short rotation (i.e. harvest soon after the trees reach their age of maximum growth). For large, long-term forest carbon stocks, plant slowgrowing deciduous trees and manage under a low-intensity system such as continuous cover forestry or with a long rotation time.' (page 29). However, there is a complete lack of analysis under which circumstances each approach would be best adopted, and on the preferred proportion of the national forest area managed under each scenario. There is also a complete lack of discussion on the implications of these conclusions on socio-economic factors.

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Oak pollard (2020) by Stephen Davies has been shortlisted for the Changing Forests category of the 2020 Earth photo competition.

Stephen Davis is a retired ecologist, with a long career working for nature conservation organisations in both the UK and Europe. This photograph forms part of a documentary series of photographs illustrating the ancient oak trees of Savernake Forest in Wiltshire.

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