Farm Woodland News

SRDP Farm Advisory Service

The newsletter for participants in Farm Woodlands Schemes • Issue Number 36 **Spring 2021**

Support for Woodlands Special

Future Woodlands Fund launched

South of Scotland Tree Planting Grant opens

New loans to help with woodland creation cashflows

Extra funding to support new and expanding tree nurseries

Demonstrator project to share knowledge and experience

Also in this issue:

Wildfire risk: what you need to know

FAS TV: catch up with the new programme for farmers

Plastic pollution: a more sustainable future for tree shelters

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SAC CONSULTING

Scottish Forestry
Coilltearachd na h-Alba

Scottish Government
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Contents

Editorial

It looks to have been another bumper year for new woodlands in Scotland. Despite the challenges we've all faced as a result of the pandemic, plus travel restrictions and working from home, landowners, forest managers, contractors and nurseries have worked as hard as ever to get trees in the ground.

Scottish Forestry has received record interest in woodland creation, showing there's great potential to continue meeting targets as part of the Scottish Government's commitment to reaching net zero carbon emissions by 2045.

In this special issue, we shine a spotlight on new forestry funding opportunities and the many ways that the forestry and woodlands are being supported. This should give us all confidence that the key role of trees as part of the rural economy will continue to be recognised.

It's a high-risk time of year for wildfires. How you manage your woodland can reduce the risk and having a comprehensive plan can make all the difference in the event of fire. Find out how to make your woodland more wildfire resilient on page 6.

Have you ditched the plastic carrier bags when you visit the supermarket? Maybe you've made changes at home to reduce your use of plastics. Do you find yourself picking up litter on the farm, or when you're out for a walk? There are millions of plastic tree shelters protecting trees across the Scottish countryside. What happens to these when the trees are established and no longer need protection? What are the alternatives to using carbon-intensive and polluting plastic in the first place? Could wool, cashew nuts and cardboard be the future of tree protection? We've taken a closer look at tree shelters, and plastic-free alternatives becoming available.

The Farm Advisory Service has been busier than ever, with the recent launch of FAS TV being a particular highlight. You can watch all the episodes so far and subscribe to the fortnightly programme on our YouTube channel.

As always, the Farm Advisory Service is here to help. Visit the FAS website to sign up to online events download guidance information and listen podcasts. We look forward to starting up on-farm events again when restrictions allow.

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Off-cuts

Study puts a value on natural capital of new woodlands

A study – the first of its kind in the UK – has provided quantitative evidence of the natural capital benefits of planting new woodlands.

Natural capital is the stock of natural resources, including plants, soils, air, water and greenspace, which all combine to provide benefits to people.

Commissioned by Scottish Forestry, Tilhill and SEPA, the study assessed a newly planted mixed woodland site at Larriston near Newcastleton which is managed by Tilhill.

The woodland was then valued to measure its natural capital potential over the next 50 years.

In addition to future revenues from selling harvested timber, the analysis revealed substantial benefits for society through CO_2 removals, flood alleviation and biodiversity from modern-day forestry.

The key future benefits were valued at around £20 million in today's prices, which included almost 200,000 tonnes of timber, just under 150,000 tonnes of CO_2 removals, and almost 3 million cubic metres of water stored in the forest.

The analysis showed timber to provide the largest source of financial revenue for the project at £2.5M over the next 50 years. The value of net carbon sequestration to society was estimated at around £9 million over the same period.

Dr. Pat Snowdon, at Scottish Forestry, who led the study said: *"This is a fresh approach to working with businesses in the forestry sector by putting a value on a range of natural capital benefits from planting new woodlands.*

"The survey provides important evidence about how woodland creation and nature supports a green recovery and will contribute towards our challenging climate change targets.

"The study will also be of interest to those in the forest products chain who will be able to see how well-designed woodland planting is a win-win for the economy, local communities and nature."

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AECOM consultants, who carried out the study in association with RDI Associates and Cumulus Consultants, worked closely with Scottish Forestry and Tilhill to apply the Forest Products Sector Guide of the Natural Capital Protocol for the first time in the UK. The Protocol aims to show the reliance between business and nature, including in this case, benefits that forestry can generate for the economy and local communities.

This type of analysis offers different practical applications in the future: whether as a way to examine the case for future forestry investments and markets; to assess different forest management strategies; or to monitor outcomes as woodlands grow and mature.

It offers complementary evidence to conventional Environmental Impact Assessments and serves to show how the forestry industry can support our economic recovery, while enhancing the natural environment. ■

New Grant for Small-scale Planting in the South of Scotland

Residents of Scottish Borders and Dumfries & Galloway can now apply for the South of Scotland Tree Planting Grant, worth up to £1000. This grant is for tree and woodland planting projects of less than 0.25ha, which are too small to be eligible for the Forestry Grant Scheme funding. The scheme provides support and financial assistance to plant individual trees or small clumps of trees for the benefit of people, communities and wildlife. Examples of eligible projects include: trees in school playgrounds, small copses, field boundary trees, tree lines, parkland trees and orchards. The planting will normally be of native species and be appropriate to the locality.

How much can I apply for?

Assistance can be given in two different ways to suit the specific project:

- **Up to 100% of material costs (ie: for trees and appropriate shelters, guards, stakes, fencing, mulch mats etc) for private applications from farmers, landowners and individuals (excluding VAT if reclaimable).**
- **Up to 100% of materials and labour costs for non-profit making organisations such as schools and community groups (including VAT if not reclaimable).**

The maximum grant available is £1,000 per applicant per year. This project is supported by Scottish Forestry, Woodland Trust Scotland, Scottish Borders Council, Dumfries & Galloway Council, National Lottery Heritage Fund and private donations and is administered by Tweed Forum, Borders Forest Trust and the Galloway Glens Landscape Partnership.

Who is eligible to apply?

The grant is open to any organisations or individuals who wish to carry out a small scale tree planting project that will enhance the landscape and biodiversity of the South of Scotland and make a contribution to improved public amenity. ■

Promoting Wildfire Resilience in Woodlands

Kerstin Kinnaird MICFor
Land Use & Climate Change Policy Support Officer, Scottish Forestry

With spring underway, we are moving into the period when the risk of wildfires is generally highest. Here we provide an overview of the risk of wildfire in woodlands, how to plan for resilience and where to go to find more information and advice about helping to prevent wildfire.

Fire is a natural process that can have beneficial effects in some ecosystems. Wildfires may start naturally but the majority are linked to human activity and can be started by something as simple as a discarded cigarette. Most are small incidents but hot and dry weather, wind, and a build-up of dry or dead vegetation all increase the risk of spread.

Some may escalate to major incidents that can have detrimental human and environmental impacts. Although wildfires in forests and woodlands make up a relatively small proportion of all wildfire incidents in the UK, their impacts can be large, costly to society and extremely dangerous.

The impacts of wildfires

As well as potentially endangering lives and biodiversity, wildfire can damage property and national infrastructure like transport networks and power lines. Economic impacts include losses to forestry businesses and the wood processing sector, as well as businesses linked with forestry, such as tourism or recreation enterprises.

The potential for wildfire is also a particularly important consideration in the context of climate change. Fire can result in the uncontrolled release of carbon from the entire forest ecosystem. This includes carbon stored above ground in the tree itself, deadwood and leaf litter, as well as below ground within peat soils.

A changing climate

Projections indicate that wildfire risk will rise over the coming decades across Europe (see Figure 1).

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While the risk level is predicted to remain relatively low in Scotland, there are a number of factors that could have an impact on this, such as rising summer temperatures and increased risk of extreme drought events.

Increasing production of vegetation during warmer and wetter winters could create higher fuel loads, also influenced by changes in land management practices. Other events such as pest and disease outbreaks and windthrow have the potential to increase fuel loads in the form of deadwood. The scientific evidence base on wildfire is constantly evolving and current research is focusing on improving our fire danger rating systems to incorporate local vegetation types and create models for future predictions.

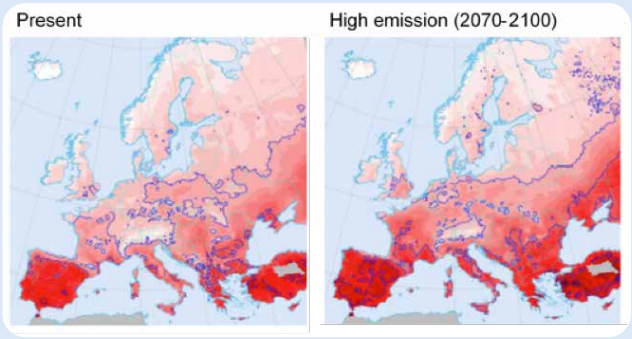

Figure 1.
Current and projected future forest fire danger across Europe, the darker colour represents a higher potential for fire (de Rigo et. al., 2017. Forest fire danger extremes in Europe under climate change.)

Wildfire risk

The management of land adjacent to or near woodlands is important in understanding fire risk. For example, open hill ground in close proximity to woodlands will increase the risk of forest fires, because fires often begin in more flammable grassland or moorland and then spread into woodland. Other forested areas at increased risk include: urban edge woodlands; areas with high recreational use e.g. popular barbeque spots; and woodland next to public roads.

Young woodlands (aged 5 to 20 years) and naturally regenerated woodlands are at the greatest risk of fire. Evergreen coniferous species are generally at higher risk than broadleaves. Fire risk can vary throughout the different stages of the forestry cycle, and is influenced by how the woodland is managed. The likelihood of fires is highest at the thicket stage and before first thinning, and is lowest at the post-thin stage. The risk of fire is highest during periods of dry weather in the spring before the growing season starts when the accumulation of dead vegetation, e.g. grass from the previous season, creates a high fuel load.

Planning for Resilience

Whilst wildfires cannot always be prevented, good woodland management planning can help reduce the likelihood of wildfires occurring and reduce the potential for spread if a fire starts. The UK Forestry Standard (UKFS) advises that managers should plan for forest resilience using a variety of ages, species and stand structure, whilst considering the risks to the woodland from wind, fire, and pest and disease outbreaks. The UKFS also advises that appropriate contingency plans should be put in place to deal with risks to the woodland, including extreme weather events and fire.

The associated Practice Guide (see Resources) sets out good practice, both planning and operational, for building wildfire resilience into woodland management planning at a

landscape scale. This is important to prevent small wildfire incidents escalating into large-scale events. The guidance applies to both new and existing forests and woodlands. It is not intended to be prescriptive and should be applied proportionately to the level of risk of a wildfire occurring in a particular forest or woodland.

Planning to prevent or manage wildfire in woodlands can be improved by selecting appropriate tree species and silvicultural systems, for example maintaining a range of age classes and structures across a woodland. In high-risk areas, vegetation should be managed to prevent build-up of fuel load. Timber and brash left on site after harvesting and thinning may present an increased hazard until they decay. Similarly, diseased, windblown, damaged, dead or dying trees and deadwood can increase the likelihood and severity of wildfires.

Resources and further information

Scottish Fire and Rescue Service:
www.firescotland.gov.uk
Forestry Commission Practice Guide: **Building wildfire resilience into forest management planning Building wildfire resilience into forest management planning**

How can you reduce the risk?
Key messages for woodland planning

- **Prioritising high risk areas, manage vegetation to reduce fuel loads e.g. swipe rides and road edges.**
- **Incorporate fire breaks into forest design, making use of natural features such as water courses.**
- **Increase structural diversity by planting a range of species and breaking up single age stands.**
- **Ensure good access for firefighting, e.g. avoid creating dead end roads, or install turning points.**
- **Keep an up-to-date fire plan with ponds and other water sources shown on maps. Share a copy with Scottish Fire and Rescue Service.**

FISA Guide: **Firefighting**
Scottish Wildfire Forum
www.scottishwildfireforum.co.uk

Local wildfire groups:
- North Grampian Forest Fire Protection Group
- South Grampian Wildfire Group
- Badenoch and Speyside Wildfire Group

Future Woodlands Fund launched

New pilot programme will offer additional funding for creating native woodlands

What is the Future Woodlands Fund?

The Future Woodlands Fund (FWF) offers landowners in Scotland a simple and low risk way to plant or regenerate native trees providing free advice and financial incentives. The fund will work alongside the Scottish Government's Forestry Grant Scheme (FGS).

The FWF will cover the costs of developing applications to both the FGS and the Woodland Carbon Code. Incentive payments for up to 20 years will be offered in return for verified carbon from the new woodlands. The FWF is being designed to help landowners with cash flow and financial security in order to encourage new woodland creation.

Financial Incentives for land managers are:

- **Full costs of preparing a FGS application and a Woodland Carbon Code Project Design Document.**
- **Bridging loans for scheme implementation (subject to availability).**
- **Area payments of £100/ha per annum for 20 years.**

The FWF is being delivered with £2m financial support from bp and will pilot an incentive-based approach aimed at encouraging the establishment of new native woodland and the restoration of 'ghost' woodlands, degraded former native woodlands that have high ecological potential.

There are three guiding principles for this fund:

- **Climate change – adaptation and mitigation**
- **Wildlife – ecosystem protection, enhancement and resilience**
- **People – partnership working and collaborations that deliver social benefits**

The pilot programme is being run by Future Woodlands Scotland (FWS). If successful, they aim to develop an ongoing scheme with significantly increased financial investment from bp and potentially other corporate partners.

How will it work?

The FWF will operate over a three-year period with application rounds in 2021 and 2022. Early applications are advised.

All schemes will be registered and validated in the UK Woodland Carbon Code by FWS at no cost to the land manager, who will assign the woodland carbon to bp in return for the financial incentives.

Successful applicants will be required to sign a 55-year legal agreement to maintain the woodland and ensure the carbon sequestration is delivered.

bp will use the carbon to support projects and partnerships that contribute to reducing Scotland's carbon footprint. The carbon will not be used to offset bp's own emissions.

Who can apply?

Essential Criteria – applications must meet all of these to be eligible for the FWF:

1. **The application must be for native woodland establishment or r estoration of formerly wooded sites.**
2. **The scheme must be a minimum size of 3ha and maximum of 100ha.**
3. **This must be a new scheme.**
4. **The land must be registered for Rural Payments with the Scottish Government.**
5. **The planting must not be a legal requirement (for example as a condition of planning consent, or restocking a harvested woodland).**
6. **The scheme must be eligible for the Woodland Carbon Code and meet the Code's additionality criteria.**
7. **The scheme must be eligible for the Forestry Grant Scheme.**
8. **The scheme must meet one or more of the Supplementary Criteria below.**
9. **The applicant must be prepared to sign a FWS agreement.**

Notes:

- **For restoration the site must be less than 20% canopy cover.**
- **Size exceptions may be made for high-quality schemes.**
- **Existing Forestry Grant scheme applications that are in progress but not submitted are eligible.**
- **See the Woodland Carbon Code website for information on legal requirements and additionality.**

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Supplementary Criteria

These are scored criteria that will be used to assess quality and to rank/prioritise projects.

Nature Based Solutions for climate change:

- Improve ecological and habitat robustness - especially woodland. habitat networks and connectivity.
- Increase carbon stores through halting degradation and loss of native woodland.
- Contribute to catchment scale river quality and natural flood management.

Woodland Expansion:

- Be located within one or more identified target areas for woodland expansion and conservation.
- Deliver objectives in regional or local woodland strategies (including National Park woodland strategies).
- Contribute to a collaborative or landscape scale projects.

Support for farmers:

- Help farmers to reduce emissions and adapt practices to tackle climate change.
- Integrate woodlands with farming.

Provision of Social Benefits:

- Promote and offering opportunities for community and corporate engagement.
- Offer future opportunities for recreation, amenity and landscape.

How can I apply for funding?

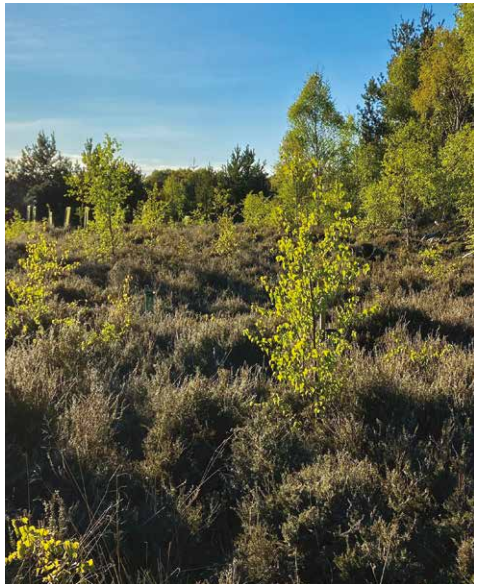
You can apply online. Register on the Future Woodlands Scotland website to start your application. You'll need to:

- provide a map showing the extent of area where you want to create the woodland
- describe your objectives for the new woodland
- state why you are applying for FWF assistance
- provide any other relevant information that will support your application.

Bear in mind the supplementary criteria, listed above, that will be used to assess and rank applications. Your application must fulfil at least one of these criteria, and will have a better chance of success if it fulfils more than one.

Check which of the criteria are relevant to your plans and make sure you demonstrate clearly how your proposal fulfils them.

The scheme has not yet opened to applications for restoring ghost woodlands. However, if you own or manage a ghost woodland in that could benefit from this potential funding stream, you can express your interest on the FWS website now.



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New loan available for small-scale woodland projects

A new loan scheme aimed at supporting small scale woodland creation projects has been launched.

Under the Small Woodlands Loan Scheme, half of the upfront costs associated with planting a new woodland, including buying trees, ground preparation or fencing, can now be paid in advance by Scottish Forestry.

The aim is to remove cash flow barriers that crofters, farmers, and other small woodland owners might have when considering tree planting. The new loan works alongside the existing main Forestry Grant Scheme and is aimed at woodland creation projects up to 20ha in size.

Launching the new funding support at a meeting with the Scottish Crofting Federation, Mr Ewing said:

"There is significant interest in tree planting from smaller woodland owners, crofters and farmers. At the moment almost 200 of the 320 woodland creation schemes that are being funded by Scottish Forestry are for smaller projects.

"I have listened carefully to feedback which has suggested that many smaller scale land managers are worried about the upfront costs in getting trees in the ground. The new Small Woodlands Loan Scheme aims to help remedy this and give a helping hand to assist with the costs of starting a woodland project.

"We are on track to meet our tree planting targets this year. This new funding arrangement should give further confidence to the smaller businesses who want to get trees in the ground and help us deliver future planting targets."

"This is a very practical measure," said Donald MacKinnon, chair of the Scottish Crofting Federation.

"We have been asking for a loan element to crofting grant schemes to ease cash-flow, as this is always a problem for crofters, especially young folk. A grant is very generous but can be impossible to utilise without up-front funding.

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Funding help to support new tree nurseries

Could setting up a tree nursery have potential to diversify your business? An additional £1.5 million funding has been pledged through Scottish Forestry's Harvesting and Processing Grant, which helps with the costs of specialist forestry equipment.

The funding could go towards seed trays, seed storage and sowing equipment, poly tunnels, cold storage facilities and irrigation systems. Adaptations to vehicles, machinery and premises to allow tree nurseries to continue safely under COVID-19 are also supported.

Announcing the financial support, Rural Economy Secretary Fergus Ewing said:

"Scotland has very ambitious tree planting targets which are important to our green recovery and helping us meet our climate change targets.

"To prepare for this increase in planting, we need to increase the capacity of tree nurseries so that they can produce more stock. The funding will not only assist Scottish nurseries to gear up but also others in England.

"I'm very pleased to be working with the UK Government on this funding agreement which will help more woodland to be created in Scotland."

The funding is made up of nearly £1 million from Defra and £500,000 from the Scottish Government. Tree nurseries are to be the main beneficiaries of this additional funding, however forestry businesses based in Scotland can also apply to get financial support for a range of specialised forestry harvesting and processing equipment.

"It is gratifying to see this element included in the woodland scheme, which crofters are keen to use. Crofters want to plant trees and contribute to the national targets that will help alleviate climate change. This will go a long way to helping that happen."

The payment will be provided once the applicant has an approved Forestry Grant Scheme woodland creation contract and associated Loan Agreement in place. Further details of the Small Woodlands Loan Scheme are available on the Scottish Forestry website.

Integrating trees demonstrator project

If you are a farmer or crofter and want to find out more about tree planting, then you can't beat seeing and hearing from those doing it practically on the ground.

That's the aim of the new Integrating Trees Network which is in the process of setting up a network of farm woodland demonstration sites.

The initiative is being led by farmers and supported by Scottish Forestry and the Scottish Government.

At the moment there are two sites in the demo network – one in Peeblesshire and the other in Lanarkshire. Both are run by family farming businesses. More hosts are to be announced in the coming months.

Scottish Forestry's forestry and farming development officer Lyn White said:
"It's great to get this new network up and running with two great farming hosts who are willing to share their practical experiences, discuss their objectives, challenges, and benefits of their tree planting projects.

"As this is a farmer led network, we want hear from land mangers about what topics they want to discuss so we can bring in expert speakers to present alongside our farmer hosts.

"We are currently in the process of setting up a network of demonstrator sites across Scotland. The aim is to have a site in each geographical region linked to a Scottish Forestry office.

"Obviously during COVID we can't go visiting, but when restrictions allow, these demo farms will be available for us to arrange visits so all those interested can see them first hand."

Farmers and crofters have become more aware of the multiple benefits that woodland creation can have for their business. These benefits might include: providing shelter for livestock; habitat for wildlife; reducing the business's carbon footprint; providing future income from timber; and the prevention of flooding.

On track to meet tree planting targets

Rural Economy Secretary Fergus Ewing has hailed the news that Scotland is on track to meet its yearly tree planting targets as a "remarkable achievement."

Despite the challenges of Covid, Scottish Forestry's staff have been working at a record rate. They have approved applications for over 13,000 hectares of new woodland for 2020/21.

It is now down to foresters, farmers and land managers to get their projects planted this month and help make this a record year for tree planting in Scotland.

The yearly planting targets were increased to 12,000 hectares last year and will rise to 18,000 hectares in 2024/25.

Speaking in March, Rural Economy Secretary Fergus Ewing said:

"This really is a remarkable achievement by all those concerned and I would like to pay tribute to everyone working in the sector – public and private – who are out there right now, working hard to deliver our planting targets.

"In a year of unprecedented adversity with COVID, Brexit and heavy, persistent snow at the beginning of this year – this is such positive news.

"And this is not all down to the large forestry companies. We have had significant interest from smaller woodland owners, farmers and crofters who are planting almost 200 of the 320 woodland creation schemes we are funding this year.

"There are 13,000 hectares of projects approved this financial year, and over 6,000 hectares for next year already approved. It's great news that we are on track to deliver on our planting target."

The increase in tree planting is set to help in the global fight against climate change and to aid Scotland's green recovery. The forestry sector supports around 25,000 jobs in Scotland and generates £1 billion to the economy each year.

Support for Woodlands Special

FAS TV is now live!

A new agricultural show which recreates traditional on-farm visits has been launched by the Farm Advisory Service (FAS).

FAS TV is a fortnightly show designed for farmers and crofters to replicate the knowledge sharing that traditionally happens at local on-farm meetings, lost due to Covid-19 restrictions.

Each 30-minute programme will deliver technical messages in a palatable and enjoyable format, with real farmers demonstrating advice in practice.

Jennifer Struthers, FAS TV Producer and Senior Consultant at SAC Consulting, said:

"Lots of rural TV shows are not intended exclusively for farmer audiences. We believe there is a gap in the market for TV made from a farmer's perspective."

Throughout 2021, 25 episodes of FAS TV will cover a wide range of topics across sectors, as well as regular updates on regulatory and policy changes.

Filming is taking place across Scotland, giving farmers the opportunity to visit farms from Stranraer to Shetland from the comfort of their own homes.

FAS TV began with a five-episode Spring Special, including:

- Economic and environmental benefits of calving at two-years-old
- Utilising grazing systems when milking with robots
- Protecting your soils: use of high flexion tyres
- Fit-to-farm: advice on physical and mental health
- Colostrum management at lambing time
- Woodland for shelter

@FASScot

FASTV

Catch up on episodes so far via www.youtube.com/fasscot or on our Facebook page.

Subscribe to the Farm Advisory Service YouTube channel for future episodes.

Woodlands on FAS TV

Episode 2 looked at the benefits of woodlands for livestock, both within the woodland and the shelter effect on neighbouring fields.

Forestry Consultant Malcolm Young visited Tom MacGregor's farm near Doune to see how the wooded areas on the farm helped improve livestock condition and reduce lamb mortality crucial to farm business.

Funding for a specialist adviser to help with woodland creation

If you are a farmer or crofter you can apply for up to £1,000 funding through the Farm Advisory Service (FAS) to enlist the help of a specialist adviser to help with woodland creation.

The adviser will work with the land manager to add value to under productive land by reviewing farm-specific opportunities and financial incentives available to create or manage woodland.

To apply or for more information, call 0300 323 0161 or email advice@fas.scot.

Diversifying with Forestry Machinery: Farm Woodlands Information Note

The Forestry Grant Scheme (FGS) comprises a wide range of forestry-related grants, including Harvesting and Processing (H&P) grants. These grants are for the purchase of small-scale, non-industrial machinery with the aim of bringing woodlands back into management, adding value to local economies and to encourage farmers to diversify. This Information Note summarises details on these FGS grants for Aim 1 applicants, (diversification) and show-cases two farmers who have utilised it.

SRDP Farm Advisory Service

National Advice Hub
T: 0300 323 0161
E: advice@fas.scot
W: www.fas.scot

Woodlands Online Events

Buying into Forestry

Previously recorded webinar, catch up on the FAS website

How can farmers make new commercial woodland work for them? Reap the benefits and maintain control of your land by buying into forestry rather than selling out to pension companies. This webinar discussed forestry financial performance, timber markets and future demand from a sawmiller's perspective, the value carbon credits can offer, and a success story from a farmer who has expanded their business by growing timber crops. Speakers included:

- Matt Thompson, Director, Munro Harvesting
- Simon Hart, Director (Head of Forestry Scotland), John Clegg & Co
- George Hepburne Scott, Business Development Director, Forest Carbon Ltd.
- Malcolm Young, Forestry Consultant, SAC Consulting

Trees, bees, rivers and trees

6pm, Wednesday 9th June, check FAS website to sign up

This webinar will look at what tree species are best for pollinators, including honey bees. In a world where bees and other pollinators are badly in decline all types of vegetation need to be considered. The webinar also look at similar aspects of riparian planting, and it's role in water management and pollution. Speakers include:

- Dr Lorna Cole, Agricultural Ecologist, SRUC
- Alex Pirie, Agricultural Consultant, SAC Consulting
- Ayrshire Rivers Trust representative
- David Eadie, Forestry Consultant, SAC Consulting

Practical issues with establishing trees in agroforestry systems

6pm, Tuesday 20th July, check FAS website to sign up

This event will look at the practical issues of establishing trees in agroforestry situations. The different forms of protection that can be used, temporary fencing or individual tree protection, suitable planting patterns and species to use, weed control and ongoing maintenance. Speakers to be announced.

Innovation in Tree Shelters

Is the end in sight for forests of plastic?

Leona Baillie
Forestry Consultant,
SAC Consulting

Trees can provide many environmental benefits but why do so many start their lives inside plastic tubes? Creating new woodlands and reducing the use of plastics are both key environmental objectives to help combat climate change, yet tree-planting often uses a lot of plastic. Why are plastic tree shelters used, and how can we reduce their negative impact?

Why use tree shelters?

The first few years after planting are the most critical. In most large-scale projects, trees are planted when they're between 15cm and 60cm tall. Most broadleaved tree species are particularly vulnerable to animals such as rabbits and deer – it doesn't take much browsing damage to kill a young tree. The size of tree shelter to use will depend on what wildlife are present. If only rabbits are of concern, 60cm would be sufficient. If deer are present, shelters of 1.2m or taller would be necessary, depending on the deer species. Shelters are usually 8cm to 12cm in diameter and must be secured to a sturdy stake driven firmly into the ground.

Plastic tree shelters create a 'greenhouse' effect, enhancing the growing conditions. Trees inside shelters will tend to put on height more quickly that those growing in the open. Tubes offer some protection from weeds too. Fast-growing vegetation that might otherwise shade out or collapse onto the tree is kept away. Shelters also make weeding easier, keeping the tree safely away from herbicide spraying or hand-cutting.

Tree shelters need to be durable enough to protect the tree until it is established, and most are intended to last at least 5 years, depending on the site conditions. They need to be tough enough to withstand the elements but not so strong that they will girdle the growing trees. Most plastic tubes have a perforation down their length, allowing them to split open when the tree's stem has outgrown it.

Generally, shelters work best for broadleaved tree species. Conifers tend towards heavier side branching in the first few years than broadleaves do. Side branching is restricted until the tree reaches the top of the tube. For the same reason it's best to use smaller tube sizes (eg 60cm) for woody shrubs. Species such as holly, hazel and hawthorn naturally take a bushy form so need space to grow sideways from early on.

What's the problem with plastic shelters?

When the trees no longer need protection, the shelters can be removed. Unfortunately, this often doesn't happen. Like any other plastic product, tree shelters break down extremely slowly, over hundreds of years.
Tubes that have reached the end of their service life are effectively litter. Tiny fragments and microplastics are a form of pollution that can persist in the environment and even enter the food chain.

When old shelters are removed and collected, they can be difficult to recycle. Many have a twin-walled design for strength and insulation, but dirt trapped between the walls can be hard to clean out. Although most are made from polypropylene, which is widely recycled, specialist processing is usually necessary (see Tree shelter collection and recycling scheme). If they're not recycled, disused tree shelters end up in landfill.

There's a good reason we use plastic for many things, tree shelters included. It's easy to produce in any shape you want, it's light and flexible but rigid, and relatively cheap.
We use millions of them and are set to need even more. Scotland's tree planting targets are ambitious with the aim of planting 15,000ha of new woodlands per year from 2024/25.

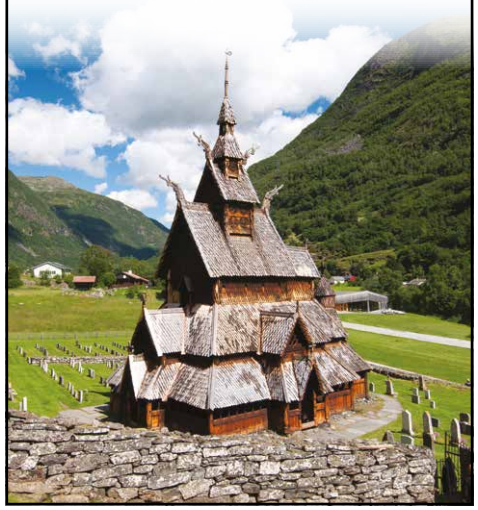
In addition to new woodlands, all harvested woodland areas need to be replanted. Although the vast majority of these trees won't require shelters, the demand is still set to increase at a time when we also aim to reduce our reliance on plastics.

DID YOU KNOW?

Wooden stave churches, 'stavkirker', have stood for centuries, thanks to a specific technique used to prepare trees for harvest. It's thought there were once thousands of these types of churches in Norway, mostly built between the 12th to 14th centuries.

Those which still stand today owe their longevity in part to the natural preservative effect of resin. Old growth pine trees selected for construction of the churches had their branches removed in the spring but were left standing. As the still-live trees emerged from dormancy, the sap would rise as it did every year before. In the absence of branches, resin would emerge from the wounds. By the end of the growing season the heartwood would be saturated with resin. After the first frosts, the trees were felled, ready to be used in construction.

Timber prepared in this way is known as 'ore-pine' or 'malmfuru' in Norwegian. The enduring stavkirker are testament to the durability of this simple, natural method of preserving timber.



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What are the alternatives?

The simplest solution would be to not use shelters at all. This is possible where deer, rabbits and hares can be excluded with fencing, or are very well managed. Where fencing isn't practical or cost-effective, the level of wildlife control necessary to protect young trees is not always possible or desirable.

It's also important to note that vole guards are usually still needed for broadleaved trees inside fences. These are short, narrow plastic tubes that prevent rodents from nibbling the bark at the base of young trees. Vole numbers can be limited by removing ground cover vegetation and encouraging birds of prey. Again, trying to limit vole damage without physical protection requires high vigilance and commitment to avoid major loss of trees.

Some silvicultural techniques, such as planting or allowing trees to regenerate at extremely high densities, can be a way of allowing for some losses to browsing damage.

Some tree species are less palatable than others, although growing only these species would be very limiting. Some particularly palatable species may be planted as 'sacrificial' trees, encouraging wildlife to browse on them instead of the main crop species.

These techniques require careful and skilled management of the woodland to ensure the target stocking density and species mix are achieved.

In many situations, shelters are still the most efficient and effective way to protect young trees. Although plastic tree shelters are fairly ubiquitous, there is drive within the forestry industry to find viable alternatives with less environmental impact. A number of companies have developed different solutions to this problem. Some new shelter designs are already on the market, and yet more are currently being trialled.

Standard plastics are made from petrochemicals, refined from crude oil and natural gas. It's said that anything you can make from oil, you can make from plants. There is a great deal of ongoing research and development around bioplastics for all sorts of uses. These are materials with similar properties to conventional plastics, but they can be produced from renewable resources and will eventually decompose harmlessly. You may already be familiar with compostable 'plastic' bags from the supermarket or lining your food waste bin. The alternatives are all intended to either break down completely in the environment, or decompose in industrial composting.

Tree shelter collection and recycling scheme

If you have plastic tree shelters that have reached the end of their service life, you may now be able to participate in a scheme to recycle them. Tubex, one of the main manufacturers of plastic tree shelters, has launched collection and recycling programme for their products. After joining the scheme, you can order bulk sacks to fill with the old shelters – each sack holds 350-400 1.2m tree shelters. Filled bulk sacks can then be collected and taken to a recycling plant. The old shelters will then be washed and recycled into polypropylene (PP) pellets. These pellets can then be used to manufacture new tree shelters or other recycled-plastic products. This will avoid the old shelters from remaining in the environment as litter, or ending up in landfill. Recycling also contributes to a more circular economy, where re-using plastic reduces the need for virgin plastic.

What plastic-free tree shelters are available?

The view from a tree shelter supplier

Tom Sollitt
Technical Sales Rep, Green-Tech

Green-Tech supplies 10 million tree shelters per year. Demand is growing with increasing government tree-planting targets. Forestry projects account for the largest share of their tree shelter sales – around 40%.

Plastic shelters remain the most popular option for protecting individual trees. They are the familiar and established product, and currently the cheapest option due to the scale of production.

However, demand for plastic-free alternatives has increased substantially over the last 2 years, now accounting for 5% of Green-Tech's tree shelter sales. While the higher cost of more sustainable options is a barrier for many large-scale projects, there has been a particular increase in sales for projects where environmental considerations are the main objective.

Unlike plastic tree shelters, plastic-free options will start to degrade after 3 to 5 years. The process of degradation is likely to happen more quickly in more exposed locations.

The tree shelter market has made good progress to offer viable alternatives to plastic tree shelters. Over time, the non-plastic options will become more refined and the costs will reduce if increasing demand supports larger-scale manufacture.

Tubex, Nature Tree Shelter

Tubex was the first large-scale manufacturer of plastic tree shelters and remains the market leader. They're now preparing to launch a biodegradable alternative to their plastic shelters, in time for the 2021/22 winter planting season. Tubex say the product offers the same characteristics as their plastic shelters and is expected to last 5 years in-situ. It's durability has been laboratory tested and it's currently in testing to certify that it meets the European Standard for compostable bioplastics.

Green-Tech Bio-Earth Biodegradable Plastic-Free Guard

Sales of Green-Tech's own non-plastic tree shelter offering began this planting season. Developed in response to increasing

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interest in biodegradable shelters, this product is made from water-resistant coated board.

These are expected to last 3 years on site, although this is likely to be less in more exposed locations and extreme weather conditions. Results from field trials across the UK have so far been positive and encouraging.

Green-Tech foresees increasing demand will allow production to expand and reduce the price of these plastic-free shelters.

GreenGuard Biodegradable Tree Shelter

Made from water-resistant kraft paper, the GreenGuard shelter can be composted or recycled after use. Around half the price of other biodegradable options, these shelters could offer a more affordable alternative to plastic.

Currently these shelters are only stocked in shrub size (60cm height) but can be made to order in larger dimensions that would be suitable for trees.

Wool: the new plastic?

Gary Hurlstone
Founder and MD, NexGen Tree Shelters

How can sheep farmers benefit from tree planting, without actually planting trees? One of the potential new materials for creating tree shelters is in fact a very old one – wool.

Tree shelters made from wool are currently being trialled all over the UK. Creating a biodegradable tree shelter has been a personal mission for NexGen founder Gary Hurlstone – Gary's father founded Tubex and created the first mass-produced plastic tree shelters that have been the industry standard for the last 35 years.

NexGen currently source their wool from a co-operative of 1200 UK sheep farmers. So far, interest in the shelters has been promising, with foresters in the UK and around the world expressing interest. If wool shelters could replace even a fraction the current demand for plastic tree shelters, this would offer a significant new market for the 50,000 tons of British wool produced every year. The wool is processed in Yorkshire, and the shelters are manufactured in Lancashire.

How can wool provide the strength and durability required of a tree shelter? After cleaning, the wool is combined with a biodegradable resin made from sustainably sourced cashew nut shells and castor oil.

The cashew nut shells are a waste product of the food industry that would otherwise be buried or burnt. The resulting material has 70% transparency and allows through the wavelengths of light required to support early tree growth.

While tests are ongoing, the wool shelters are designed to last around 5 years before starting to break down, which allows the tree to get well and truly established.

Their durability will be tested against high levels of exposure and the challenges of Scottish weather at trial sites in northern Scotland and the Isle of Skye.

Untreated wool exposed to the elements breaks down in around 18 months. Combining it with the resin protects the wool, until UV light and microbial degradation eventually starts to degrade the resin.

As the resin breaks down, moisture enters the material, and begins to degrade the wool. It's hoped that product testing will prove these shelters can break down completely, and safely, in the natural environment. This would offer an advantage over plastic materials that need to be collected and commercially recycled.

If testing and trials prove successful production will be ramped up, with these shelters potentially being available more widely for the next winter planting season.

They are likely to cost around 50% more than standard plastic tree shelters. It's worth noting that this additional cost could be offset over the lifetime of the product by avoiding the costs of collection and disposal. ■

Forestry Grant Scheme Update

2020-21 saw a 33% increase in the volume of Woodland Creation applications compared to 2019-2020. Scottish Forestry (SF) approved applications at a record rate and were predicted to hit the 13,000ha target for new woodlands.

There were delays in processing applications towards the end of the 2020-21 financial year due to the high volume of work, Covid-19 working arrangements, and Brexit changes. SF are increasing their capacity through recruitment and IT support systems.

What does Brexit mean for FGS?

Future applications: FGS remains open to applications in its present form until at least 2024. SF will continue to evolve, improve and simplify FGS during this period.

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Existing contracts: whether your contract falls under UK or EU legislation will depend on when it was agreed. This is the date when the status of the application was recorded by SF in the Rural Payments and Services (RP&S) portal as 'Contract Agreed'.

Contracts agreed before 31 December 2020 will have a legal basis of the current EU rules for the lifetime of that contract.

Contracts agreed from 1 January 2021 will be based upon new legislation following our exit from the EU.

High demand for Woodland Creation grants continues in 2021-22

If you are thinking of applying for a Woodland Creation grant in this financial year, the sooner the better. In February, SF already had agreed contracts for more than half the year's planting target of 13,500ha.

At that time there were also a further 7,500ha worth of applications being assessed. It's best to discuss and resolve any potential issues with Scottish Forestry before submitting your application. This helps SF to process your application smoothly and efficiently.

There is currently still good availability across all Woodland Creation categories for the £54.4m budget. The total budget for all Forestry Grant Scheme funding categories in 2021-22 is £63.3m.

Availability is becoming limited for Woodland Improvement Grant (WIG) in the following categories: Restructuring Regeneration; Habitats and Species; Low Impact Silvicultural Systems (LISS). There is good availability for all other FGS categories for 2021-22 and 2022-23.

Harvesting & Processing Grant

The Harvesting & Processing grant is provided to promote economic development in rural areas by supporting new and existing forestry businesses. Grant support is based on actual costs with a maximum contribution of 40%.

The balance of funding must come from private funds. In any single application, the maximum grant award may be up to £50,000, applicants may make more than one application per claim year, and multiple applications for individual pieces of equipment relating to a single project are allowed.

There have been some changes to the Harvesting & Processing option in 2021. There is increased support under Aim 2 - Nursery, Seed Supply and Ground Preparation Equipment. This is a joint initiative between the Scottish, Welsh and UK Governments to help improve the capacity of nurseries to supply growing demand for forest trees.

The Harvesting and Processing option budget has been increased up to the value of £2m in 2021. A new application round will be introduced for projects that can be completed by 31st March 2022, and applications are invited for submission between 1st May and 30th June 2021. Contracts for work will be available for successful applicants by August 2021. Applications under Aim 1 – Harvesting and Processing and Aim 3 – Adapting and Recovering From Covid-19 are also invited during the May/June submission window.

Any costs incurred prior to returning a signed contract will be ineligible for funding support. Claims for completed work must be submitted, along with any supporting evidence, by 31st March 2022. ■

Timber Market Report April 2021

Graeme Ralph
Operations Director, North Scotland, Euroforest Ltd

What a year it has been for us all!

Like the farming industry timber harvesting and haulage was allowed to continue during lockdown, and whilst building sites were all closed down there was demand for the essential supply of biomass for power stations, and pallet wood for transport of essential items. The Nightingale Hospital in London was created using OSB from the Norbord plant in Inverness!

Because one day everything was working as normal, and the next we were on stop with many customers, it took a little while for things to settle down. We were forced to stop sites containing a high sawlog element as customers were simply closed, but at the same time it quickly became obvious that there was a demand for small roundwood and pallet wood.

As a business we made the bold decision that our primary aim was to support our staff and protect our business so that we were there when things returned to normal.

I am proud to say that none of our staff were furloughed, and as a result we were there for our customers as they started up after lockdown, and although the market was up and down from one week to the next it really picked up significantly over the second half of 2020.

Fast forward a year and we are now busier than we have ever been, with both timber harvesting and haulage sectors operating at full capacity. Sawlog prices are breaking records on a weekly basis, and are the highest they have been throughout my career.

Although partly caused by shortages due to the lengthy extreme winter weather in the early part of 2021, we expect this strong demand to continue as those industries that are the end users of wood products strive to make up for the business they lost during lockdown. Continued investment in extra capacity by sawmills across Scotland is great news for woodland owners.

Small roundwood is also in strong demand from both the traditional users as well as the ever-growing biomass industry, with ongoing investment in new capacity in both these sectors which will drive stronger demand.

Currently supply and demand are generally well matched throughout the industry, but many round timber users are bought ahead for a relatively short period, and hence will be keen to secure raw material for the second half of the year.

If you have woodlands that are ready for either thinning or clear felling now is an ideal time to put it to market, but please be aware that there are significant backlogs in felling permissions as a result of Covid, so make sure to allow plenty of time ahead of harvesting to get a Felling Licence. ■

Quick Guide to Woodland Creation Grants

The Forestry Grant Scheme (FGS) supports the creation of new woodland that will provide economic, environmental and social benefits. Payment rates for five of the nine grant support options for woodland creation are shown in the table below. Higher rates of payment are available for eligible schemes within the following locations: Central Scotland Green Network (CSGN); Cairngorms National Park Woodland Expansion Target Area; Highland Native Woodland Target Area; Woodlands for Water Target Areas; and preferred and potential areas of local authority Forest and Woodland Strategies.

Woodland Creation option	Total payment rate per hectare *for initial planting and annual maintenance for 5 years*	
	Standard areas	Target areas
Conifer*	£2960	£3330
Diverse Conifer*	£3840	£4320
Native Scots Pine	£3200	£3600
Native Broadleaves	£3200	£3600
Native Broadleaves in Northern and Western Isles	£6720	N/A

Central Scotland Green Network additional capital payment contribution

Within the CSGN Contribution Area additional funding is available to Woodland Creation schemes.

Core Area	£2500/ha
Outer Core Area	£1500/ha
Fringe Area	£750/ha

CSGN contribution capped at 40ha in Core Area and Fringe Area, and at 65ha in Outer Core Area.

Farm Advisory Service

National Advice Hub
T: 0300 323 0161
E: advice@fas.scot
W: www.fas.scot

If you need more advice on farm woodlands or any other topic, the Farm Advisory Service has a range of support and help available:

Advice line

For free telephone advice on a wide variety of topics including cross compliance, water framework directive requirements, climate change and other technical issues call us on **0300 323 0161** or email **advice@fas.scot**. The advice line operates between 9am and 5pm Monday to Friday.

Online

Our website contains articles, videos and much more at **www.fas.scot**

Capital Items Payment Rates

In addition to the initial planting grant there is support for capital items that may be required to successfully establish new woodland.

Deer fencing	£7.60/m
Stock fencing	£4.40/m
Rabbit-proofing of fence	£1.60/m
Tree shelters (1.2 to 1.8m)	£2.00 each
Gorse removal	£720/net ha
Bracken control	£225/ha

**If ploughing is used, reduced payment rates for initial planting apply to reflect the cost saving from this cultivation method.*