WOODLANDS
NATIVE
DISCUSSION
GROUP

NEWS-LETTER

Autumn 2021 Vol. 46 (2)

Pines including a phoenix specimen (left) at Bridge of Grudie, Wester Ross. Photo: Sandy Coppins.

Surely the biggest hazel you've ever seen? Blenheim Park, Oxfordshire. Photo: Sandy Coppins.

Front cover photo: wych elm in woodland at Garvald, East Lothian, November 2021 (Ben Averis)

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EDITORIAL

Ben Averis

Welcome to the autumn 2021 Newsletter. In September I was thinking "heck – there isn't much material" so an email went out asking for any contributions, and the response has been brilliant. Thanks so much to all of you who have contributed to this bumper issue! For the next issue (spring 2022; deadline 15th April 2022), please email any woodland-related material, no matter how short, to me with your contact details included. To get a book reviewed, send a copy to me at 6A Castle Moffat Cottages, Garvald, Haddington, East Lothian, EH41 4LW. If you want to review a book, please tell me; we can often get a free review copy from the publisher, and if you review it the book is yours to keep. Please note that from spring 2022 onwards the NWDG Newsletter will be issued in electronic form only, as an emailed full colour pdf file (see also Alison's report about subscriptions on page 3). Best wishes to you all.

Ben ben.averis@gmail.com

NOTES FROM THE CHAIR

Malcolm Wield

Having the honour of acting as your Chairperson since our last AGM has been a fascinating experience. Far from reflecting the old curse of 'May you live in interesting times!' it has only brought home all the things espoused by previous Chairs – the sheer breadth, ability and catholic nature of native woods, everything to do with them and the people involved with them.

The Committee themselves have rallied behind the scenes, still having not met in person because of Covid but willing to devote a great deal of their valuable and valued time to organise, arrange and facilitate such an impressive range of things. Our first one-day event at Glen Finglas was a hugely enjoyable event. Led by Gwen Raes and assisted ably by Alison Averis, it could be said to have gone without a hitch. Lots of food for thought provided by Hamish Thomson of Woodland Trust Scotland and Paul at Green Aspirations. A separate and distinct, yet perfectly complementary contrast in woodland involvement so typical of what we are all about. We will go on to enjoy more of these as the Programme develops for 2022.

This bumper issue of the Newsletter, edited by the incomparable Ben Averis, continues to reflect this profile. So good to see the Native Pinewood Managers' Group continuing to advocate for our pinewoods, themselves so ably described in the on-line talk by James Rainey we enjoyed at our Annual General Meeting. Former and esteemed pinewood manager Basil Dunlop continues the theme with his article on Cairngorms rewilding. As we reflect on the outcome of COP26, 'rewilding' as a topical branding of environmental replenishment I'm sure will provide much discussion for the group in future, as climate mitigation so rightly assumes a higher and higher public profile. Julie Stoneman's report on the Amazonian people's visit to Argyll graphically and emotionally highlights their plight and perhaps reminds us of the challenges faced by our own temperate rainforest here at home too.

Well known foresters continue to give us their practical thoughts with Nander Roberston's and Bruce Spalding's take on spacing tubed trees. At the other end of the scale, the Association of Scottish Hardwood Sawmillers demonstrate how adding value to timber products can make so much difference to livelihoods and successful woodland restoration.

Historically, the destiny of our old woods was well known. Mick Drury describes some of the old productive trees of Moray and another article on historic timber production around Loch Ness shows how industry is not a new approach and that our landscape endures through very

substantial changes. People have always been involved in their woods, and so heartening to see community involvement continuing to come through so strongly today at Tarras Nature Reserve with Alan Crawford.

I've had the opportunity to be personally involved in four canoe-based beaver surveys now, led by NatureScot. On different rivers, beaver signs have been extensively present and environmental improvement is always so immediately and naturally obvious to me. So, I always read about Paul Ramsay's experiences with the feeling that beavers have already become a core part and co-creator of our riverine woodlands, as they should be. They are so much better at it than we are.

Enjoy the Newsletter!

Malcolm

[Editor's note: in the few days since Malcolm wrote this, I've actually received a few additional articles, so there's a bit more in this Newsletter than is mentioned above.]

NWDG ADMIN REPORT

Alison Averis

Welcome to everyone who has joined the NWDG in the last few months. We are delighted to have you in the group, and hope that we will be able to see you at an event soon.

We've currently got **183** paid-up members, compared with 185 in November 2020.

The group is in possession of **£18, 909.44**. This healthy balance is the result of not having held any events for two years – we haven't had to cover any financial shortfalls – and of producing the Newsletter as an emailed pdf file as the default.

On that note, you will recall that we are no longer going to be able to offer the option of receiving the Newsletter as a hard copy, even with an augmented subscription payment. With only sixteen members out of 183 desiring this option we have lost the economies of scale, and the extra £10 doesn't cover the cost of printing and posting two issues a year. We're sorry about this, but if you have changed your standing order to £28 for the hard copy, please can you put it back to £18 BEFORE 15TH JANUARY 2022. Those who pay by cheque or BACS will receive the normal subscription reminder in the New Year, so no need to do anything now.

We seem to have an up-to-date email address now for everyone in the group. Please help to keep things this way by **letting me know if you change your email address**. Ideally, please give us an email address that won't change if you get a new job or if your organisation decides to rename itself. Email addresses are never divulged to third parties, even other NWDG members, without your permission. Thanks very much.

NWDG VISIT TO THE TROSSACHS ON SEPTEMBER 25TH 2021

TROSSACHS 25-09-2021: REPORT ON THE MORNING VISIT

Gordon Patterson

A small but enthusiastic bunch gathered in light misty rain at the Lendrick hill car park and there was a fair bit of catching up with old and not so old faces before we started. We all felt that it was great to be back out in the woods as a group after more than 2 years!

The morning visit was a walking tour of part of the Woodland Trust Scotland's (WTS) Glen Finglas estate centred on the Lendrick hill area above the west end of Loch Venachar. We were led by WTS staff Hamish Thomson and Gwendolyn Raes who, as a member of the NWDG committee, had kindly offered to organise and host the day. On a previous visit a few years ago, the group considered wood pasture management on another part of the estate, further up Glen Finglas catchment. The group was returning to the area 25 years after WTS acquired the site in 1996.

Glen Finglas (photo: Malcolm Muir)

Hamish, who has fairly recently been appointed as estate manager, described how WTS is managing the estate, which was formerly a mix of extensive upland sheep farming and Forestry Commission conifer forest. Although the main aim of WTS in buying it was to create an extensive native forest, the Trust wanted to work with the existing community and workforce and so retained the farming enterprise on a smaller scale while adapting it. They have changed towards far fewer sheep and more cattle, with the latter used to graze for conservation in wooded areas. Now there are 200 ewes (down from 5000) and 90 Luing cattle with followers.

There is a large deer-fenced enclosure of nearly 700 hectares around the native woodland area; deer are present within it but controlled by a full time wildlife manager. Much of the impressively dense young native woodland that we were shown was derived from natural regeneration, much of it birch, after the acquired conifer crop was removed.

In the early period from the late 1990s there had been a lot of planting with a mixture of native species, carried out partly by volunteers. Then a major fire arising from an electrical fault on adjacent land destroyed a lot of it.

With hindsight Hamish wondered if this was maybe a blessing in disguise, because much of the early planting had been in large single species groups, with a lot more Scots pine than the site was perhaps naturally suited to; on a south- and west-facing glen at the southern edge of the Highlands on moderately fertile slopes it is naturally suited to broadleaved native woodland types. Most of what we saw today was an attractive mix of surviving mature birch and oakwood on the lower slopes, together with a mosaic of open glades, prolific natural regeneration and surviving planted areas near to the extensive light path network that has been created.

We walked on a circuit that allowed us an overview from an open area opposite the main hillside, before several stops in the woodland.

Stop 1. The open grass-heath area at which we stopped is grazed by cattle in winter. After several years this seems to have favoured scattered regeneration by juniper, probably from an old stand nearby, as well as some tree seedlings. The initial overview gave us a chance to explore the overall aims and how they are evolving – themes we returned to later at the woodland stops.

WTS are not prescriptive in what extent and types of woodland they expect; the aim has been to re-set the path of ecological development by conifer removal, notably in ancient woodland areas, sheep exclusion and deer control together with some planting. Then they are allowing natural processes to proceed within broad limits, using cattle grazing to maintain a balance of open and wooded areas and check bracken abundance.

The overall aim set was to enhance biodiversity, but as time has gone on staff have discovered more and more about the degree of changes through human land use over time in the area. Now, increasing thought is going into where and how to enhance the cultural and economic benefits from the woodlands in future as well.

The issue of silvicultural aims and methods to improve wood quality, and where these are worthwhile or indeed appropriate objectives, was raised here and again later. Members felt that other recently-planted native woods such as the Royal Scottish Forestry Society woods at Cashel are also facing these questions as they reach thicket and pole stage. The possibility of introduction of minor under-represented native tree and shrub species to act as a future seed source was suggested; so far it was felt that most minor species such as bird cherry and aspen were present somewhere on the estate and could eventually colonise.

Stop 2 was in the margins of the old formerly coppiced oakwoods and patches of young planted and natural regeneration. A small re-usable temporary enclosure, made from plastic netting and nylon cord wrapped around stems and a few posts, had been created here to protect hazel stools after the virgin hazel stems were cut (these were planted about 15-20 years ago). The produce went to Green Aspirations (see note of afternoon visit) as a trial. The fence was based on a specification tried out by Gordon Gray-Stephens, and Hamish and Gwen feel that so far it is working for this small patch of coppice.

All hazel stools in the woodland had been mapped to plan a possible rotational coppicing approach. From discussion it seemed the eventual rotation could be about six years or even less here to produce a mix of products like rods and bean poles.

The group also discussed the value of thinning the neighbouring dense birch thickets to favour the oaks that are self-seeded or planted amongst them. Halo thinning is one option; another could be harvesting birch in groups/small coupes leaving the oak to grow on among birch regrowth.

Hazels at Glen Finglas (photo: Malcolm Muir)

In **Stops 3 and 4** of the morning tour we looked at the history and archaeology of the site, studying old ruined stone buildings in bracken clearings among the trees, on shelves of ground on the mid slopes. These spoke of a long history of subsistence farming and settlements up until the Highland Clearances period.

Gwen showed us copies of old maps from the late middle-ages and the first Ordnance Survey map of the early 1800s, showing several settlements. The **first** that we saw, part of a township or clachan called Drippan, had been occupied up until 1802 by tenants, latterly growing cabbages or kale, oats, turnips and flax. More recent maps and photographs had shown much more bare hillside in the vicinity in the 19th century than now, and a lot of the mature birch dated from a pulse of regeneration after a downturn in farming.

When we reached the next ruin we were told how the prolific regeneration of Sitka spruce had occurred around it and over the whole felled area, resulting from earlier conifer removal operations. The seedling spruce was then removed a few years ago under a contract managed by Hamish Thomson, and this operation looks to have been very successful, as hardly any conifer seedlings were seen. It is not often that we can say that.

This second ruin is a remarkably long stone-walled structure of 24 metres length, with 2 internal compartments. It isn't known what this was used for: too long for a typical but 'n ben farmhouse. Members liked the idea that it could have been the location of illicit whisky distilling in the late 18th century! Or its size could reflect a need to shelter cattle indoors in case they were 'lifted', as was not uncommon.

At any rate we all appreciated the value of uncovering these old parts of our history from the conifer planting, and the interpretation work that WTS is carrying out. We discussed the importance of bringing awareness of our history of land use like this to both the young and older people of Scotland. It was generally felt that there was no substitute for on-site explanation and discussion with people like Gwen.

The appreciation through historical examples like these of how the landscape has changed radically over time is important in spreading an understanding that even our uplands are highly modified cultural landscapes, but that they nevertheless retain a wide range of

potential degrees of naturalness in what we do with them in future. That should be a really inspiring and empowering message, I think.

NWDG at one of the old ruins at Glen Finglas (photo: Malcolm Muir)

As we walked away from this piece of history we were told of the high-tech modern approach being taken to manage the conservation grazing by cattle to confine them to areas where they are wanted. Cows are fitted with GPS collars that administer a short, sharp shock treatment associated with a warning noise when they stray away from programmed boundaries. Apparently they soon learn to heed the warning!

The question of whether and how to manage silviculturally for potential wood products was picked up again in the **final stop** of the morning, just before we ate our packed lunch sitting under a lightly dripping canopy in a well-developed planted grove. Close by was a cairn dedicated to the employees of the Royal Mail who volunteered to help the project and carried out most of the planting in this area.

The grove was a very pleasing intimate mix of oak, birch, hawthorn, hazel and other species, with a recently closed canopy. Suggestions for management ranged, in true NWDG style, from trialling and monitoring of halo thinning to bring on better stems, or developing a new form of coppice with standards, through to “leave it alone and give it time to develop ecologically”; the latter with a variation of introducing pigs!

This discussion triggered the question of what the overall balance of objectives should be and whether a zonation has been defined of areas where wood products and silvicultural management is intended and areas where the original aim of restoring natural processes remains dominant.

In practice, most of the potential for wood extraction is in the valley bottom and lower slopes accessible to paths/tracks, roughly where the historical oak coppice was planted, which is a small proportion of the overall native woodland area; a situation that will probably be widespread in native woods.

It was a fascinating and varied morning with plenty of issues to stimulate the members, so many thanks to Gwen and Hamish.

TROSSACHS 25-09-2021: REPORT ON THE ATERNOON VISIT

Cameron Maxwell

The group spent a fascinating afternoon with Paul at Green Aspirations near the Lake of Menteith. Based on the Cardross Estate, Green Aspirations is a social enterprise, which uses their woodland setting and rural skills to deliver their key aim of working with vulnerable groups to raise aspirations within the green sector, with a focus on young people who have struggled with traditional schooling.

The social enterprise run a range of courses in rural skills and green woodworking (I was particularly attracted to the axecraft course...) for community groups and individuals to increase their rural skills and to generate funds to support Green Aspirations' work with vulnerable groups.

Paul showed us a fantastic roundwood and canvas marquee where we had a nice cup of tea, and also the very sophisticated retort kiln – a big step from the well-known ring kilns. Paul and his volunteers were very generous with their time and knowledge. It would be great to go back some time on one of their courses.

They are always on the lookout for hazel coppice to work, so get in touch with them if you are aware of anything potentially suitable!

NWDG at Green Aspirations, Cardross Estate (photo: Malcolm Muir)

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Website: https://www.greenaspirationsscotland.co.uk/

MIGHTY OAKS OR MIGHTY WIMPS IN MORAY?

Mick Drury

The Forres area is well endowed with woodland to explore, including former policy woods at Sanquhar and Cluny Hill, now in Moray Council or Community Woodland ownership, the Lower Findhorn Woods Site of Special Scientific Interest (SSSI), and the famed Darnaway Forest.

Within all of these there are some fine old oaks, many of which are getting shaded out, usually by beech, with the crowns suffering dieback. In his popular tree book Peter Wohlleben (2015) discusses this dynamic in a rather cruelly-titled chapter, *Mighty Oak or Mighty Wimp?*; he notes that below-ground competition between the two species will also be significant. One oak at Sanquhar I've been particularly concerned about, as it's on a regular walk that I take. It has a huge spreading crown, dying back, partly due in this case to sycamore shading. The Council are planning to remove a large dead limb above a path, but otherwise don't have the resources to consider halo thinning and concerns about soil compaction. Kate Holl's article (2018) reviews the place of beech and sycamore in Scotland's native woods and suggests a way to consider management options.

Oak at Sanquhar, Forres (Photo: Mick Drury)

I was curious about the age of 'my' oak at Sanquhar. A paper some years ago in Scottish Forestry (Phillips, 2001) looked at ageing the famed oaks at Meads of St John on the Findhorn River, within the SSSI. Some of these are stupendous trees and are thought locally to be many hundreds of years old. The largest tree had a diameter at breast height (dbh) of 310 cm in 2001, and was estimated to be 727 years old given the average ring width he calculated at 2.1 mm. Using this formula 'my' oak would be around 400 years old.

I contacted Coralie Mills to seek her views and was surprised by her response. 'Those oak trees are so fat because they were coppiced in the 18th century and their multiple stems are

fused. We cored at least one of the very fat ones, and worked on several disks from previously felled oaks there, and proved this. We did not find any stems earlier than the 18th century. Of course the tree organisms could be much older, we can only age the stems, which in this case are regrowth after an 18th century coppicing episode'. She adds 'Girth is a hugely unreliable guide to age in Scottish trees, especially broadleaves, because growing conditions are so variable across even short distances and management histories are complex'. And she says that the dbh ageing method has been based mainly on data from English oaks. Meanwhile I counted the rings on a recently felled oak in another spot above the Findhorn river and reckoned an approximate age of 190, the tree having a dbh of 0.84 m; these measurements relate vaguely to the Phillips data.

The Forestry Commission Information Note on ageing of large or veteran trees (authored by White 1998) describes the ageing method in some detail, with attention to the changing tree growth phases. It presents data for site variation based on the available evidence, although that quoted is restricted to ring widths from the early growth stage of the species mentioned. It's unclear from what regions the trees were sampled. A worked example is from the English Midlands. He acknowledged that the data were incomplete and would be subject to revision; however, I'm uncertain if anything further has been published on this.

Meanwhile, elsewhere within the SSSI on the Darnaway estate, recent work has been undertaken to remove beech. The SSSI management objective states 'To maintain the native woodland habitats and natural woodland dynamics'. In 2010 Scottish Natural Heritage (now NatureScot) recognised that 'the regeneration of beech had reached the point at which the site was considered to be in unfavourable condition. Oak regeneration was almost non-existent in the parts of the site dominated by beech'. The local regeneration of sycamore, non-native conifers and rhododendron were also noted. The *Lobarion* lichen community, best developed in the more open mixed ash woodland, was also considered to be in unfavourable condition (NatureScot 2011). Additionally, there is the impact of beech shading and leaf litter on ground flora communities.

The SSSI lies within four estates, with Darnaway undertaking recent work to remove beech – a pilot project funded by NatureScot. In some places, given precipitous slopes, this has involved rope work and the use of ring barking or glyphosate ecoplugs, or bio-plastic alternatives, rather than felling. Attention to the amenity of the site has been important, given the stunning vistas along the gorge, and public safety has become more of an issue with increased use of the river below, including regular rafting adventures and the popularity of wild swimming. The estate would like to do more when funding allows and are looking at gradual change over a 50 year timescale. Some planting of oak, in tubes, has been undertaken since the late 1990s. The Logie Estate would also be interested in similar management if further funding becomes available, and the associated sawmill is looking to develop the market for beech, e.g. for quality flooring. If there are any places in Britain where management has been limited and remnant old growth might remain, this would be one, so the argument for conservation is, I believe, strong. The slopes are inaccessible in places, with a good range of trees – oak, ash, alder, elm, aspen, gean, bird cherry, rowan, Scots pine, birch, juniper, hazel and holly – plus snags, fallen deadwood and phoenix trees.

The adjoining Darnaway Forest to the west of the Findhorn river covers some 3000 hectares: a former Royal Forest, famed in legend as the best oak forest in Britain, and supplying great timbers for ships and buildings in medieval times. Large-scale plantings took place at least since the late 18th and early 19th centuries: 10 million pine, with 1 million oak, plus other broadleaves, including beech and sweet chestnut; larch, and later other conifer species

followed. Francis, the 9th Earl of Moray 1737-1810, became known as 'The Tree Planter' wanting in particular to plant an oak forest. See Phillips (1998, 2001) for more on this history.

I joined a recent Royal Scottish Forestry Society visit to Darnaway and was interested to see that they are now also felling beech in the wider forest away from the SSSI, to conserve mature oaks dating from the 9th Earl's time, these getting shaded out. Some of the oaks were already on their last roots so to speak, a few dead, but many are responding fairly well, some with a lot of epicormic growth. Apparently the current Earl has asked for this work to be done. In these coupes, oak regeneration is being protected within small fences, roe deer height, and some recent planting has been undertaken using tubes.

Like his lordship, I admit to having an emotional attachment to the oak, as many folk do – it's embedded in our culture. As Dryden put it:

'The monarch oak, the patriarch of the trees, shoots rising up and spreads by slow degrees. Three centuries he grows, and three he stays supreme in state; and in three more decays'.

Veteran oak at Meads of St John, near River Findhorn (photo: Mick Drury)

More rationally there is not that much oak woodland locally, most of it 'threatened' by beech, and you will know the argument about associated biodiversity. So I'm generally pleased to see the control of beech, especially in the Findhorn gorge, and indeed we are carrying out similar work in the small area of former oak policy woodland that I've recently become a trustee for (see https://www.forresfriends.com/). However, I have wondered is there a rewilding debate here, beech replacing oak as a natural process that probably would have occurred by now without human intervention? Then there's the carbon question: should we leave these trees standing? And given climate change predictions for beech in southern Britain, *e.g* Jump (2016), will we value beech woodland more in the 'future natural' Scotland?

As I write I'm looking out towards a fabulous autumn fiery-russet beech canopy, raw-burnt sienna my partner says, highlighted by the sun against a dark sky. However, these trees were planted for landscaping reasons, without oak nearby. On balance I'm for the oak in our semi-natural native woods. As Kate concludes (Holl 2018), 'in the end, ecologically, it matters less whether or not we consider beech native to Scotland, as to what its impact on our native woods is.'

Lastly, returning to dendrochronology, if you're looking for a Christmas present for a tree enthusiast, or yourself, I can strongly recommend *Tree Story* by Valerie Trouet. When I turned the final page I thought 'my life has been wasted … I should have been a dendro person'. Perhaps there is still time, to dabble at least.

Oak dieback in the Findhorn woods

Oak dying back at Cluny Hill, Forres.

Oak restoration at Darnaway Forest

All photos by Mick Drury. Another of Mick's Findhorn oak photos is on the back cover of this Newsletter.

Acknowledgements

Thanks to Coralie Mills (see http://dendrochronicle.co.uk/), to Ben Clinch, Forest Manager, Darnaway Estate, and to Mark Councill and Alec Laing of Logie Timber/Estate.

Postscript: Look out for a potential site visit to the area in 2022.

References

Jump, A. 2016. See: https://www.stir.ac.uk/news/2016/06/droughts-affect-british-beech-most/

Holl, K. 2018. Beech and sycamore in Scotland's native woods - a way forward? *Scottish Forestry*. Vol 72. No 1.

Nature Scot. 2011. Site management statement for the Lower Findhorn Woods SSSI.

See https://sitelink.nature.scot/site/1104

Phillips, M. 1998. Historical information about the ancient forest of Darnaway Estate, Morayshire. *Scottish Forestry*. Vol 52. No 1.

Download from https://www.forestry-memories.org.uk/picture/number1060/

Phillips, M. 2001. The history of the ancient oak forest of Darnaway and its timber. *Scottish Forestry*. Vol 55. No 3.

White, J. 1998. Estimating the age of large trees in Britain. Forestry Authority. Research information note no 250. See:

https://www.ancienttreeforum.co.uk/wp-content/uploads/2015/03/John-White-estimating-file-pdf.pdf

Wohlleben, P. 2015. The hidden life of trees. Greystone Books.

ECOLOGICAL RESTORATION AND COMMUNITY REGENERATION AT LANGHOLM

Alan Crawford

The Langholm Initiative on behalf of the local community successfully purchased 2100 hectares of Langholm Moor and the Tarras valley from Buccleuch Estates in March 2021, and have recently launched a fundraising campaign to purchase a further 2144 hectares in 'phase two' of the community buyout. Their intention is to facilitate ecological restoration and community regeneration.

It is a fabulous, ambitious project, which has broad support within Langholm community as well as support from partner organisations including John Muir Trust and Woodland Trust. Creation of new native woodlands at large scale is one of their key objectives.

I've been fortunate to have visited the area a few times since the initial buyout, and while there is clearly a lot of work to do there are already some quite special areas of woodland on the site, mostly but not exclusively along the watercourses. There are also some awe-inspiring individual ancient and veteran trees. (Well, I say individual trees, but as is often the case with ancient and veteran trees and as the photos below of ancient alders with 'flying rowans' show, part of their wonder is that they are not simply individual trees, but often are a complex interdependent community of various forms of life including other trees!)

Ancient alder with several 'flying trees' growing in its crown, and stilt roots growing through the decaying trunk. Photo: Alan Crawford.

In some parts of what is now known as Tarras Nature Reserve there are encouraging signs of regeneration of native species moving out from these remnant areas of ancient and other native woodlands. The regeneration, as you might expect, is largely birch, but other species are also present, even if the more palatable species such as rowan are

currently checked by heavy browsing pressure from roe deer and feral goats.

Reducing the impact of herbivores will clearly be one of the key challenges if meaningful restoration of the landscape is to be achieved. Alongside, birch, Sitka spruce is also regenerating extensively: and controlling that species will be another significant long-term challenge.

Those involved with the initiative are well motivated, and through the creation of a management framework for the nature reserve, alongside development of an education and volunteering program, there are real grounds for optimism in this part of the south of Scotland.

I am encouraged by the growing number of landowners engaging in rewilding or ecological restoration projects. Given the nature of landownership in Scotland it is little surprise that many of these large-scale projects are being driven by wealthy individuals. Without their efforts many of the positive changes that we are beginning to see in our landscape would not be happening, and I commend them for their commitment and for choosing to invest time and money into such projects.

A magnificent ancient alder with a mature rowan growing out of a limb in the alder crown that has now collapsed, leaving the rowan growing on . . . ? Photo: Alan Crawford.

However, when communities own land and have a say in its management, and when their management objectives have ecological restoration and community regeneration at their heart, then for me, that feels extra special.

REWILDING IN THE CAIRNGORMS

Basil Dunlop

Through photosynthesis, plants use sunlight, water, and carbon dioxide to create oxygen and energy. The carbon can be stored, so large plants like trees and forests are good for world environmental health and climate stability. For this reason there is currently a massive drive to increase the area of woodland in the UK, through compensation planting for carbon storage – sequestration. Large sums are now available for planting. But the subject is complex, and it is not the case that trees everywhere are beneficial, even when they eventually mature. Care is required to avoid degrading our environment and heritage.

The level of sequestration depends on many factors such as location, species, soil types, timescale and harvesting. Current land use, the environment and biodiversity are also considerations – the right trees should be established in the right places, and by the right means.

The most important factor is existing land use, and high conservation designations such as Ancient Woodland, Wild Land Area and National Nature Reserve (promoted as "where nature comes first") confirm the rarity and high value of an area for nature, and should be respected. Agreed policies for their management state that natural regeneration by native trees is the most appropriate method of forest expansion in such fragile areas, with planting only as a last resort. Projects are often described as 'rewilding', with native trees being planted to replicate natural patterns, species proportions, and spacing, but planting has many aspects that are neither natural nor wild.

There is a wealth of scientific evidence that planted trees cannot replicate the natural selective forces operating above and below ground. Anthropogenic operations such as limited seed collection, nursery procedures, and screef planting where the ground vegetation is removed and the soil profile disturbed, are highly intrusive. There is also the risk of introducing harmful pathogens. In and around designated ancient woodlands and their expansion zones natural regeneration, as recommended in government guidelines and policies, is the most appropriate method and should be promoted. In the Highlands there are plenty of treeless areas distant from heritage designations and where the planting of native species can be achieved without compromising conservation or heritage values.

The Cairngorms National Park (CNP) is centered on Britain's highest mountain range with its unique arctic-alpine plateaux, the largest area of undeveloped and least disturbed land. The CNP was created to protect the Cairngorms from development, the primary objective being "To Conserve and Enhance the Natural and Cultural Heritage of the area". It also contains the UK's largest and finest Caledonian Pinewood remnants – authenticated areas of ancient old-growth Scots pine with subsidiary broadleaves such as birch, which established in the post-glacial era almost 10,000 years ago, and have self-regenerated continuously since then. Their official distinction and qualification is defined as "descended from one generation to another by natural means". They have escaped the conversion to artificial plantation that has happened to most of the UK's former ancient woodlands. Planting is a gross artificial interference that breaks the chain of natural evolution and prohibits future classification as Caledonian Pinewood, with loss of subsequent ecological, scientific and other values.

Large parts of the registered Caledonian Pinewood forests of Mar, Abernethy, Glenmore, Rothiemurchus, Inshriach, Invereshie, Glenfeshie and Kinveachy are still naturally regenerated. They are well documented as "shifting their stance" over the centuries – they colonise

adjacent open ground, so ample expansion areas are needed in their watersheds for future long term natural evolution. Due mainly to a reduction of deer numbers and browsing there are some superb examples of this natural forest expansion in Mar, Abernethy and Glenfeshie, and highly visible in Rothiemurchus and Glenmore as the forests expand up the ski road into Coire Cas and the Northern Corries. It is vital that the Cairngorm foothills are kept undeveloped for such future expansion, and proposals by organisations such as the RSPB, which seeks to plant trees around superb montane gems like Loch Avon and in upper Glen Avon, should be rejected.

It is very important that there is somewhere in the UK where uplands can be left to evolve naturally, without interference, on a sufficiently large scale so that natural systems can be studied scientifically. With its plethora of the highest conservation designations, lack of artifacts or developments, and well-documented history of rare habitats going back to the post-glacial period. Where better than the Cairngorms montane area with its foothills of ancient forests?

Not only would this be an invaluable educational and scientific national asset, but also a fantastic resource for promoting physical and mental well-being, wildlife tourism and ecology. Already natural forces are dramatically demonstrating how pinewoods expand, along with their rare specialised plants, animals and insects. Surely we can just leave these alone to evolve naturally, interfering only to limit browsing and fight fire.

The Authorities – Cairngorms National Park, NatureScot (formerly Scottish Natural Heritage) and Scottish Forestry (formerly Forestry Commission Scotland) – and landowners are responsible for their protection: custodians who should ensure that they pass on our unique environment and heritage to the next generation without further loss of naturalness.

Natural regeneration of Scots pine and juniper in heath in the Cairngorms (photo: Ben Averis)

RUSKICH WOOD AND OTHER NATIVE WOODS OF LOCH NESS

Malcolm Wield

Through Ruskich Wood, on the north side of Loch Ness near the small settlement of Grotaig, an improbable but surprisingly well-made track cuts across the sheer slope and leads towards the loch. In one place half way along the track, a strongly built and virtually intact set stone ford takes you over a small but extremely steep burn. All around there is ample evidence that this route was considered important enough at one time to merit significant effort in its construction and maintenance.

The enormous Douglas firs growing here were planted in 1931 and are due to be harvested over the winter of 2021. The trees, by anyone's standards, are truly majestic and reach over 45 metres in height, with some over 50 metres. They range up to 1.3 metres in diameter at breast height and individual trees have up to 12 cubic metres of timber in their stems.

Prior to this, Ruskich was one of the extensive oakwoods around Loch Ness. It was first mapped by General Roy in 1760: this qualifies Ruskich as an Ancient Woodland Site, registered on the Ancient Woodland Inventory. Although only tiny vestiges of the ancient woodland itself survive, once the current conifers have been removed the site is due to be restored to oakwood once again.

Stray off the track and in places the slope is so precipitous it is difficult, and in many places impossible, to walk over. Eventually the track emerges from the woodland. In former times it joined the ancient east-west route overland here along Loch Ness.

Ancient trackway in Ruskich Wood. Photo: Malcolm Wield.

The modern A82 trunk road, initially steam-rollered over the top of the old lochside trackway yet only first tarmacked in the early 1930s, has been widened and improved and has now become a busy highway. The junction with the old path rising through Ruskich has been effectively obliterated and it has been many years since this route through the wood has been used as a thoroughfare.

A short distance east of where the two tracks would have joined, and immediately adjacent to the side of the busy A82, is the ruin of a stone building. Strong walls built into the bank are easily glimpsed from the modern road, and a fireplace clearly survives in a gable end. On closer inspection a number of rooms can be made out. Not much rises above ground level on the uphill side, where the remains are barely noticeable from any distance. A few other tumbled walls indicate the possible locations of less substantial outbuildings, perhaps stables or stores. These are the ruins of Ruskich Inn, last inspected by Historic Environment Scotland in 2014 and recorded on their 'Canmore' database. It was once a busy place, not just for travellers but also as a collecting place for those occupied in work in the extensive oakwoods on the slopes above.

Ruskich Inn ruin. Photo: Malcolm Wield.

The formidable terrain has never been easy to physically traverse. And the road along the shore going east from the old inn leads directly past the heavily fortified Urquhart Castle, in early times a difficult vicinity for some travellers to find themselves in. The loch itself was always a much more accessible, unobstructed and straightforward waterborne route.

A bit of further probing over the other side of the main trunk road, towards the shore, reveals how loch travel was part and parcel of daily life. With enormous physical difficulty due to the overgrown vegetation and hazardous ground conditions, another old trackway can be found. Similarly truncated from its connection to the old inn by the modern A82, old supporting stonework prevents this track from collapsing downhill. The route is short and leads directly to the shore of the loch, where a flat beach has been cleared of all the large stones so typical and prevalent everywhere else. An ideal place, along an otherwise inhospitable shore, for landing a shallow draft ferry boat or cargo vessel to serve the Inn.

Locals, especially forestry workers, have always referred to this place in particular and this vicinity in general as ‘Bark Sheds’. Although that name provides the clue about the importance of Ruskich Wood for an extensive period of its past, it will never be found on any official maps or documents. It remains as an oral folk record passed down from generation to generation and still surviving, and accurately depicts one of the principal oakwood-based industries of bygone times – that of producing highly-prized oak bark for tanning leather.

Less than 30 miles away, in Inverness, a buoyant leather-producing industry was practised for over 200 years, only finally closing in the 1950s. There is no doubt that landowners were skilled at competitively exploiting this market. As early as 1700 the Grants of Balmacaan were encouraging the sale of tanning bark at 2d a stone cheaper than rival suppliers from their woods, including Ruskich. Not the only product of the times though: at Balmacaan in 1752 their sawpit produced 11 dozen timbers for a boat builder in Inverness, sold for 3/-. By 1761 the woods were in a depleted state, yet in 1762 a dedicated bark storehouse was built, in all probability the source of the local name for the area around the Ruskich Inn becoming known as ‘Bark Sheds’. By 1764 Ruskich was said to consist mostly of hazel as “the oaks is only fit for charcoal”. Matters were taken in hand to rejuvenate the woods, and recourse to the courts was not unusual. In 1767 the estate records sternly tell us that ”any person found in Ruskich pulling nuts or hurting the wood will be punished”.

In 1782 the estate’s bark trade was buoyant once more and in that year earned £180 from sales, after all expenses: a very significant sum. Fast forward to 1890 and the estate still recorded that they had 2 tons of bark lying for sale, with the peeled wood being sold for wheel spokes and the ‘waste’ wood for charcoal.

Traditionally, oak, together with its natural hazel understorey, was generally prized for building timber, cruck frames, carts, heavy wagons, wheels and spokes, wall wattling, fuelwood and all manner of work, livestock and household items. Other woods too were held in esteem and valued. Birchwood was also abundant around the loch and also supplied bark for tanning and tar extraction for caulking ropes, and was a rival principal source of charcoal. Barely thought about as a commercial product nowadays, in 1781 Balmacaan supplied hazel nuts to Grantown for 14/- for half a boll and obtained 12/- for the smaller measure of “a firlot of hazel”. A boll varied in size but was around 10-12 imperial stones in weight, and a firlot was a dry measure of volume for meal or grain, equivalent to about 2 and a half gallons, in this case probably of hazel nuts.

Alder from the wetter places supplied wooden soles for leather clogs. In later years, Balmacaan harvested 1500 alder trees for this particular market.

However, Balmacaan were not the only active producers of bark and the proliferation of other wood products around the loch.

Cumming and Welch, tanners of Inverness, in 1783 were said to give the highest prices of any in the country for oak bark. From Aldourie on the south side of the loch, the estate diary records that “Gortuleg (Gorthleck) got from them a very high price for oak. MacDonald and Bain offer me 11 shillings a boll for the oak bark”. The Aldourie landowner additionally records that “I have marked about 1000 oaks at Aldourie for cutting and manufacturing the bark myself”. He also refers to ‘Reelick’ (Reelig) who in the 1780s “cut his hazel strings and employed one of his farm servants to dress them into hoops for which he got 9/- per 100 strings – or 200 hoops”.

Even as early as 1567, John Robertson, a Burgess of Inverness, desired justice for two men who 'wrongly and against the law took certain blocks and couples' (pairs of timber used for cruck frames) from the Wood of Abriachan and sold them in the town. In 1571 John Reid was in trouble for not paying Patrick Grant of Glenmoriston for a significant number of 'gerthstingis' and 'rales' from his woods. 'Gerthstingis', later known more simply as 'strings', were the small-dimension roundwood stakes for splitting into the hazel hoops used to bind oak barrels. 'Rales' were slightly larger and used as rods for making the wattle screens, sometimes daubed, to form the walls of domestic and farm buildings.

Long before the 19th century explosion in the east coast herring fishing industry, when barrel staves were in unprecedented demand as another valuable oakwood product, barrels for salmon caught in the River Ness were a long-standing major product from all Loch Ness woodlands.

Young trees of many native species, raised in estate nurseries, were a surprisingly well-traded commodity too. In 1772 'fir' seeds (Scotch fir is the precursory name of Scots pine) had been gathered for Balmacaan nursery and grown into young plants to be sent to Strathspey. The nurseryman, Mr Reid, was noted as becoming anxious that they had not been collected and taken to Castle Grant before the planting season was over. Over a century later, the supply of trees to Speyside had not diminished. In 1881 a man was sent from Castle Grant to collect plants, with the happy result that "the oaks are come from Balmacaan and are very good plants".

Charcoal was consistently in high demand for the furnaces providing iron for the Industrial Revolution throughout the 1700s. Always secondary in value to prime timber but nevertheless supplied in high volume, all species including oak were converted into charcoal.

Timber products are a heavy and bulky commodity though, and the unmade trackways along Loch Ness side would have challenged the carters. The opening of the Caledonian Canal in 1822 changed all that. Suddenly, a direct and faster link to Inverness with its thriving port became available as the loch became navigable for sea-going sailing ships able to take relatively large cargos. As many as 17 stone piers were built around the loch to facilitate trade and deliver passengers from the new

Foyers Pier, Loch Ness: sailing cargo ship of the type used to ship timber and timber products along the loch. Photo: South Loch Ness Heritage Group. https://southlochnessheritage.co.uk/

and burgeoning tourist industry. The estate owners were quick to utilise this more efficient form of transport. At Balmacaan again, birchwoods were felled and the timber floated down the Coilltie and Enrick rivers to supply not just the various mills of the glens with pulleys and bobbins for producing textiles, but to the ships on the loch. In 1827, cargos including barrel staves, bark for tanning and birch for bobbins were regularly shipped away, a practise that continued for decades.

This busy record of active management reminds us of our woodland heritage and the ingrained culture that still surrounds it. Fascinating to note too that our ancient woods were in turn thriving, depleted and restored to thrive again for the production of timber and timber products. The consequent effect on their structure today has undoubtedly been more significant than perhaps we often realise.

Acknowledgements

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The Industries of Scotland – The Manufacture of Leather. Website: https://electricscotland.com/

Ring-barked oak in Ruskich Wood. Photo: Malcolm Wield.

TUBES – MIND THE GAP

Nander Robertson and Bruce Spalding

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Introduction

Here we cover the 'gap' being between the cost in theory and the cost in practice of using tubes. Tubes *per se* are a great invention and in many cases the only practical solution to successful establishment, however there are a surprising number of management issues that need to be weighed carefully when choosing between tubes and fencing.

Richard Ogilvie's picture and letter in this year's spring Journal neatly illustrated the consequence of unmanaged tubes.

In the same issue Nicky Hume's excellent article explored the ongoing experimentation and development which seeks to answer some of the environmental concerns regarding tube bio-degradability. These endeavours are very welcome, but as the article indicated, making innovative tubes that suit the tree and the environment is challenging.

This article pre-supposes that trees cannot be established without protection from deer. We discuss the financial issues, some of the authors' shared practical experiences and the unbudgeted costs of managing tubes for optimum results. We accept that the discussion and broad conclusions drawn will not be relevant in every situation. Prices will vary with location, ease of access and terrain; they all influence costs, generally for the worse.

Tubes v fencing

In theory the decision to tube or fence is a simple one – just compare the cost of tubes/stakes/labour with the cost of fencing a given area: see Tables 1 and 2.

- The prices for deer fencing, tubes and stakes are indicative
- Time has been costed @ £15/hour
- The stocking rates reflect current grant aid requirements
- Cost of trees and beating up are not included.

Table 1 suggests that for a stocking rate of 1,600 stems/ha, tubes are more cost effective for areas below 0.8ha and fencing is cheaper for 0.8ha and above.

Area in hectares	0.2	0.4	0.8	1.2	1.5
TUBES – Broadleaf					
Trees no.@ 1,600/ha	320	640	1,280	1,920	2,400
120cm tubes @ £1.12	£358.40	£716.80	£1,433.60	£2,150.40	£2,688
Stakes @ £0.50	£160	£320	£640	£960	£1,200
Time to stake per tube – 5 mins	£400	£800	£1,600	£2,400	£3,000
Maintenance per tube – 5 mins	£400	£800	£1,600	£2,400	£3,000
Stake & tube removal each – 3 mins	£240	£480	£960	£1,440	£1,800
TOTAL	£1,558.40	£3,116.80	£6,233.60	£9,350.40	£11,688
Tubes – cost per tree	£4.87	£4.87	£4.87	£4.87	£4.87
DEER FENCING – Broadleaf					
Trees no.	320	640	1,280	1,920	2,400
Deer fencing – linear metres	180	280	360	440	500
Deer fence @ £14 per m	£2,520	£3,920	£5,040	£6,160	£7,000
Strainers @ £48	5, £240	6, £288	8, £384	9, £432	10, £480
Gates @£150	1, £150	1, £150	1, £150	2, £300	2, £300
Vole guards incl. fitting @ 33p	£105.60	£211.20	£422.40	£633.60	£792
TOTAL	£3,016	£4,569	£5,996	£7,526	£8,572
Fencing – cost per tree	£9.42	£7.14	£4.68	£3.92	£3.57
Saving – tubes	£1,458	£1,452			
Saving – fencing			£238	£1,825	£3,116

Table 1. Comparative costs of tubes and fencing for broadleaved trees at lower density.

Tree/tube management

Trees in tubes require a great deal of attention over the lifetime of their use. Our allowance of five minutes per tube for maintenance might be considered overly generous or in some cases pessimistic.

Irritatingly, trees grow at different rates or fail to grow at all. Differential growth rates result in the need for regular visits to match the tasks to the state of tubes/stakes/tree growth.

Table 2. Comparative costs of tubes and fencing for broadleaved trees at higher density.

Broadleaf – productive					
Hectares	0.2	0.4	0.8	1.2	1.5
Trees no. @ 3,000/ha	600	1,200	2,400	3,600	4,500
TUBES					
120cm tubes @ £1.12	£672	£1,344	£2,688	£4,032	£5,040
Stakes @ £0.50	£300	£600	£1,200	£1,800	£2,250
Time to stake per tube – 5 mins	£750	£1,500	£3,000	£4,500	£5,625
Maintenance per tube – 5 mins	£750	£1,500	£3,000	£4,500	£5,625
Stake & tube removal each – 3 mins	£450	£900	£1,800	£2,700	£3,375
TOTAL	£2,922	£5,844	£11,688	£17,532	£21,915
Tubes – Cost per tree	£4.87	£4.87	£4.87	£4.87	£4.87
Conventional deer fencing					
Deer fencing - Linear metres	180	280	360	440	500
Deer fence £14 per m	£2,520	£3,920	£5,040	£6,180	£7,000
Strainers @ £48	5, £240	6, £288	8, £384	9, £432	10, £480
Gates @£150	1, £150	1, £150	1, £150	2, £300	2, £300
Vole guards incl. fitting @ 33p	£198	£396	£792	£1,188	£1,485
TOTAL	£3,108	£4,754	£6,366	£8,100	£9,265
Deer fencing – Cost per tree	£5.18	£3.96	£2.65	£2.2.5	£2.06
Saving – tubes	£186				
Saving – fencing		£1,090	£5,322	£9,432	£12,650

Photo 1. The 'greenhouse effect': vigorous vegetation growth within some tubes must be cleared before it suppresses or kills the tree.

In the early days the 'greenhouse effect' can lead to vigorous vegetative growth inside some tubes which, if not cleared, will suppress/kill the tree (Photo 1). At the same time, some stakes will break (usually due to the presence of a knot in the wood) or prematurely rot, and will require replacement before the tree succumbs to gravity (Photo 2).

The 'tie loosening' operation to encourage wind firmness will extend over a number of growing seasons when the individual tree is at an appropriate stage of development. Sharp-eyed roe deer seem to notice when the ties have been loosened on trees with inadequate canopy, and early fraying results in the shelter being tossed off so that the tree can be more comprehensively damaged (Photo 3).

Above: Photo 2. Rotted stakes have left these trees at an angle. The stakes need to be replaced. Below: Photo 3. Oh deer!

Stake dimension and positioning

Customary practice is to place the stake on the windward side of the tree, hence the inevitable tug of war between tree/ tube and plastic tie. Some trees grow rapidly, alder in particular, and develop a significant canopy whose wind resistance results in the tube or the tie breaking and the trees ending up somewhere between horizontal and 45 degrees. On other occasions the tube/tie holds fast and the young stem (18–25mm diameter) breaks at the top of the tube. Pruning the excess canopy can help alleviate the problem, but that requires another intervention. A possible consolation is that with the top of the tube restored to the vertical, re-growth can sometimes occur from the truncated stem which of course will be wind firm (Photos 4 and 5).

Photo 4. Wind-firm regrowth after wind damage.

Photo 5. A survivor.

Stakes come in different dimensions – usually oak at 25x25mm and treated softwood at 38x38mm and 50x50mm. Thinking that we might let the 'stake take the strain', we sited stakes on the lee side of the prevailing wind. This does not avoid the problem of stake breakage mentioned earlier. To date two lessons have been learnt: strong winds have an uncanny knack of being able to rotate the tube round the stake. To counter this, the ties must be very firmly tightened, and where possible the base of the tube anchored in the planting medium. Using thicker stakes also reduces the risk of rotation. A few more years will need to pass before judgement can be passed on the efficacy of this experiment.

In some very windy locations it has been necessary to use 50mm square stakes with a rubber tie to hold the trees upright, in the hope that over time, they will become more stable. In such cases an additional 50p for materials should be allowed per tree. Referring to Table 1 this makes the tubes/fencing decision quite closely balanced at 0.4ha.

Inspection and recovery

As the trees become established the stakes will be become redundant, but again not all trees establish at the same pace. So, regular inspections are required if the stakes are to be recovered and recycled. Many will resist recovery and break at ground level.

In due course the plastic recovery process begins. A sharp Stanley knife is required (with appropriate 'Health & Safety' precautions), together with an effective gathering technique. Again due to differential growth rates, not all the tubes will be recoverable in one visit.

Discussion

All the above facets of tube management are clearly necessary from both silvicultural and environmental aspects and are a time-consuming commitment for up to a decade.

If an owner is unwilling/unable to do the work themselves, will they organise and pay the cost of employing contractors? Do the contractors have the time and resources to actually do all the work required? Around the countryside the many areas littered with neglected/ tubed woodland would suggest the answer to both questions is negative. If this surmise is correct, then fencing what would appear to be small uneconomic areas might be justifiable, subject to the caveat that in the peri-urban areas fence cutting is not an uncommon occurrence. Furthermore, urban deer populations are on the increase and difficult to control.

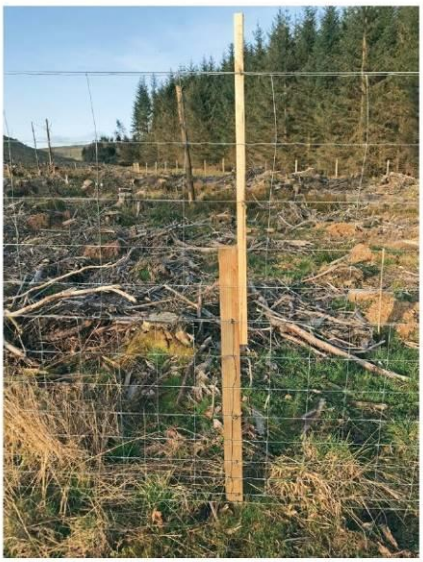

Photo 6. Save costs on deer fencing by using standard livestock fence posts with 1,200mm of rail nailed to them.

Table 2 suggests that for a stocking rate of 3,000 stems/ha, tubes are more cost effective for areas below 0.2ha and fencing becomes cheaper for areas above 0.2ha.

The cost of conventional deer fencing can be reduced by some £1/m if standard stock fence posts are used with 1,200mm of rail nailed to them. The work of laying-out is less onerous and the post is more easily put in (Photo 6).

We hear a cry 'ring-fence the forest' – but is a forest with no deer or hares an acceptably balanced ecosystem?

Heras fencing

Early experience (two seasons) with small-awkward-shaped areas of 0.1–0.4ha suggests they can be protected quite satisfactorily with second-hand Heras fencing. Opinion will differ on the aesthetics! (Photo 7).

Two people laying out makes the task considerably easier, particularly on a restock site, but once in location the Heras panels can be put up by one person, which is better done on a day when it's not blowing a gale!

The cost per tree is highly competitive – see Table 3. The panels might well last the pace and be re-used. When no longer required they are very much easier to dismantle than a conventional deer fence and can be sold for scrap.

Second-hand Heras fencing					
Diverse conifer	0.2ha	0.4ha	Broadleaf	0.2ha	0.4ha
Trees no. @ 2,700/ha. *Heras panels @ 3.5m long Time 15 mins/panel (@£15/hour) Heras panels @ £16 each incl. ties Vole guards	540 54 £202.50 £864 -----	1,080 84 £315 £1,344 -------	@ 1,600/ ha.	320 54 £202.50 £864 £105.60	640 84 £315 £1,344 £211.20
TOTAL Cost per tree	£1,067 £1,98	£1,659 £1.54		£1,172 £3.66	£1,870 £2.92

Table 3. Comparative costs of Heras fencing on small areas. *Includes 3–4 extra panels for self-supporting zig zags in the fence line to increase stability.

If any ground prep is involved, remember to ask for the fence line to be cleared. This will make setting up much easier. Also remember to be on the outside when you pull the final ties tight on the last two panels! Use renewable ties for the access points.

Conclusion

As you walk past an area of tubes you can be certain of spotting something that needs doing: 'It will only take a few minutes'. After a short while there is a rumble, and a glance at your watch tells you the lunch break has been and gone an hour ago! Tubes – even with a pocketful of oyster cards, they will likely cost more than you think!

Acknowledgements

Grateful thanks to Simon MacGillivray for helpful comments on the text.

Photo 7. Heras-fenced enclosure

BEAVER SPILLIKINS

Paul Ramsay

Returning home from the COP-26 march in Glasgow on 7th November 2021, I noticed that several birch snags had fallen in the wind and wondered what had become of some woodland further east along the burn, where beavers were working. These birch trees, often coppice regrowth from browsing by deer and rabbits over the years, have become the object of the beavers' attentions this autumn.

I walked over to take a look the next day. Many of the trees that had been gnawed before the weekend, but not yet felled, had been downed by the wind. Their fall was not neat. Some had fallen over and lay flat, others overlay their previously cut fellows. Here and there an occasional birch had hung up on a neighbour that was still standing. In one case a beaver had made efforts to cut the stem higher up to induce the snagged tree to fall. I have seen beavers make several bobbin-like logs in an effort to bring down a tree on which they were working, but had got caught on a neighbour: the scene was set for an outsize game of pick-up sticks (also known as Spillikins – hence the title of this article).

Autumn is a busy time for beavers. They fell trees to create stores for the winter, and begin to consume more bark, their staple winter fodder, rather than the fresh vegetation they prefer during the growing season. Tree felling can be an important part of the species' management of its habitat. Saplings, cut in the autumn, having withdrawn nutrients from their canopy down into the root system, throw out vigorous multiple coppice shoots the next spring. This leads to the creation of a particular kind of riparian woodland, familiar in beaver landscapes along the Drôme (a tributary of the Rhône) and its tributaries, where it has its own local name 'ramière' according to my friend, Jean-Pierre Choisy, retired ecologist of the Parc régional du Vercors.

What we are witnessing, here at Bamff, is a reconfiguration of the riparian woodland that tests shifted baseline perceptions of how landscapes should look. Out go the tall shade-casting beech and sycamore, and in come the light-demanding birch and willow. Having seen beech trees and beavers living together, though, I am often surprised by the amount of debarking that beech can take and continue to flourish. At the same time it is easy enough to protect the trees with some rabbit netting: it is seldom necessary to build expensive exclosures of the kind that nature authorities advise. It is also easy to understand the indignation of people who, brought up to admire the designed landscapes of the 18th and 19th centuries, resent what they see as vandalism. Let the beech fall, and leave their great whale-like carcasses to grow porcelain fungus and polypores, I say.

As for the pick-up sticks landscape of intense beaver activity, some felled trees will have their tops and side branches sliced off and taken away for the winter food cache in a nearby pool. The fallen main stems may remain as accessible larders, except during cold periods in the winter when thick ice covers the pool and beavers depend on the underwater cache.

In time the pick-up sticks remnants are invaded by fungi and bacteria, and mosses and lichens will grow on them, accompanied by the whole company of soil biota. Give them a few years and seedlings will germinate in the proto-soil, and being out of the way of browsers, may escape their attention and grow. The awkwardly lying pick-up sticks may themselves deter deer from entering the mazes they create, fearful of being boxed in by predators.

Having walked along this path (now a stretch of the Cateran Trail), in my imagination, I want to move on. Twenty years ago it was flanked along much of its length by rhododendron, but this is now cleared thanks to the efforts of volunteers: the Dundee Conservation Volunteers, led by John Whyman, and Donald McPhillimy's Caledonian Woodlanders. The removal of the rhododendron resulted in a massive surge of foxgloves, followed by raspberries, then birch with rowan and willow, and ferns. This is the woodland that beavers are managing now.

Among the remaining older growth are a couple of great Sitka spruces, reminders of the surge of interest in the efforts of David Douglas and other plant collectors in the Pacific Northwest in the early 19th Century. These two great Sitka spruces are parents to clumps of young saplings that are joining the reviving riparian woodland of the Burnieshead Burn (the Beaver Burn). Friends have advised me to remove these young Sitka before they take over from the birch and overtop any oak regeneration, but I have been unable to commit to this. The seedling spruce are not single aged, but various. To my mind they have to be included in the 'new nature'. Besides, if they form too dense a canopy for the beavers to accept they will cut them down. Why have I been so ruthless with the rhododendron, but easy about the Sitka spruce?

But what lives to the south of the riparian wood and the path that runs along it? I walk up through the birch into the Tay Bridge Wood, named after an earlier plantation that was blown down in the storm of the 28th December 1879. This generation must have been felled during the Second World War, perhaps by the Lumber Jills, who lived in Bamff House during the war, and was restocked again in the early 1950s, mainly with Norway spruce, but with larch and a little Scots pine (the 'gentleman's mix', I learned while on a Royal Scottish Forestry Society (RSFS) excursion to Galloway some years ago).

At the eastern end of the wood there is a clearing, caused by wind blows in 1989 and 1993. Birch is regenerating thickly here, and in early summer chickweed wintergreen speckles the forest floor. The plantation was line-thinned sometime in the 1970s, and has been selectively thinned since. The floor is thickly carpeted with moss. Here and there holly and birch grow, along with plentiful raspberry in clearings. In mast years, stripped spruce cones give away the presence of red squirrels. A line of

old beech trees, planted on fail dykes, is evidence of an earlier designed landscape. In the autumn scarlet brittle gills spread out beneath them. It is interesting to read that Norway spruce and beech are notably dependent on ectomycorrhizal fungi and that woodland in which these species predominate are rich in mycorrhizal species. Horsehair and parachute mushrooms decompose the dead spruce needles.

Back in 1997 the RSFS held a meeting here and we looked at the Tay Bridge Wood, one of the stops on our tour. The usual form at these events, as you will know, is for the foresters to walk into a wood and then, at the invitation of the owner, or their agent, to offer opinions on its appearance and management. In this case the consensus was that the wood should be clear felled and restocked with Sitka. Some of the trees were already oversize for standard sawmills and the rest would soon reach that point, they said. I replied that I would go on thinning the wood. I was pleased with the wood as habitat for red squirrels and pine martens. And so it has remained, but that didn't prevent me from deciding to clear fell a couple of nearby compartments of similar age in 2012. Birch is regenerating in this clearfell, along with broom. Wild cats, or at least a very good hybrid version, bred here a few years ago.

Uncertainty about the Common Agricultural Policy and a visit from George Monbiot in 2013 encouraged us to think about rewilding. We visited the Burrells at Knepp that year, and came away very much impressed. We should diversify away from agriculture and embrace self-catering holidays in yurts and cabins. To rewild some of the ploughable fields would be relatively simple, but what about the plantation woodland? Continue on an approach to continuous cover forestry, abandon forest management altogether? Is there such a thing as a sustainable plantation?

I am familiar with the argument that as the world's second biggest importer of timber after China we have a responsibility to reduce the off-shoring of our requirements for wood products to forest land elsewhere. On the other hand, on the scale at which we are operating at Bamff (we have about 200 hectares of woodland in all stages of development out of a total of 570 hectares) it may be better to work on biodiversity and the provision of quiet breaks for people: a small-scale venture in the spirit of John Muir's purposing of national parks as places where people, exhausted in the industrial world, could restore their spirits. We should leave commercial production of timber to others, and prepare ourselves for the COP-26 future.

NATIVE PINEWOOD MANAGERS VISIT TO RHIDORROCH – 16 SEPTEMBER 2021

Richard Thompson

This article was written originally for Scottish Forestry vol. 75 no. 4 winter 2021 pp. 21-24 and is reproduced here with their permission.

Rhidorroch is Scotland's most north-westerly pinewood, lying on the north-facing slopes of Glen Achall, seven miles east of Ullapool.

The landform is undulating with occasional deeply incised gorges. Soils are generally peaty and open habitats composed principally of wet heaths and mires. The bottom of the glen is mobile shingle with ancient alderwood and, on south-facing slopes, there are impressive crags, upland birchwoods and dry, sub-alpine heaths. The pinewoods, birchwoods and dry heath, together with the false click beetle, form the features of Rhidorroch Site of Special Scientific Interest (SSSI). The woodlands and wet heath are also designated a Special Area of Conservation (SAC).

Looking over the new enclosure at East Rhidorroch. © Ian Sargent

Glen Achall is split into two estates: East Rhidorroch, managed by Iona Scobie and Julien LeGrand, and Wester Rhidorroch, managed by Kim Scobie and Charlie Harrison. The younger Scobie generation took over around five years ago. Along with Maddie, Iona's mother, they provided a very warm welcome and generous refreshments, and we were joined by three volunteers helping Julien and Iona and their wee son Leon to make the day a success.

We were fortunate to visit on a beautiful early autumn day after a very dry year – unusual conditions for such an oceanic location, where the climate can make woodland restoration challenging.

History

Rhidorroch pinewoods are mentioned in *The Native Pinewoods of Scotland* (H.M. Steven and A. Carlisle; 1959; Oliver & Boyd) and in *A History of the Native Woodlands of Scotland 1500-*

1920 (T. C. Smout, Alan R. Macdonald and Fiona Watson; 2004; Edinburgh University Press), including reference to a map complied by Robert and James Gordon (1636-52) from 'imperfect papers' of Timothy Pont (see National Library of Scotland website). The map includes this quote: 'Ye said river pleasant with woods and plentiful in salmon.'

From the early 18th century there were various attempts to exploit the pinewoods. Smout describes disputes between landowner (the Second Earl of Cromarty) and merchant; a tree owner (the Earl's son) suing his father for wrongful sale of timber; and the merchant's failure to blow up a boulder blocking transportation down river. All led to a stay of execution for the wood.

Eventually, a contract was agreed to fell 10,000 trees, fortunately with the clause to retain all trees under six inches. Sufficient woodland must have survived for the Royal Navy to seek retribution following the Jacobite Rebellion by setting fire to the remaining forest. However, this can't have destroyed everything as timber sales continued through the remainder of the 18th century.

The current area of ancient woodland is approximately half that described in 18th century records, possibly due to muir burning and introduction of sheep in the early 19th century.

Recent management

In the mid to late 1990s, Maddie Scobie established a 50 hectare regeneration enclosure in East Rhidorroch and Ewen and Jenny Scobie established five enclosures in Wester Rhidorroch. Both families have grazed cattle through their pinewoods since they took ownership in the 1960s.

Present-day management

Both estates seek to maintain a viable farming enterprise while restoring the woodlands to favourable condition. We visited Rhidorroch at a time of change. East Rhidorroch established a new enclosure around their main pinewood area in winter 2020, and plans are well advanced in Wester Rhidorroch for new enclosures.

The new East Rhidorroch enclosure

This encloses 190 hectares, a magnificent landscape of mixed pine and birch with impressive gorges containing willows, hazel, aspen and holly. Historically this area supported sheep, cattle and deer – large numbers of which came down into the glen for winter shelter.

There is already advance regeneration emerging above the surrounding vegetation. Given limited fence life, Julien is interested in carrying out enrichment planting with scarcer species. However, cattle will be put into the enclosure periodically, so protecting palatable trees will be difficult. Small stock-fenced enclosures within the main fenced area were suggested, as was use of Trico, sheep's wool and other deterrents, but we were unsure whether these are effective against cattle.

There was a long discussion about fence life and the long-term development of woodland within the glen. The climate here is challenging and tree growth slow. With current herbivore impacts, at least one replacement fence will be required to allow trees to survive deer impacts. Shaila Rao described Mar Lodge's regeneration area: deer numbers are down to 1/sq km and regeneration of all species present is taking off. While rank vegetation has slowed

natural regeneration, some seedlings can still establish. Iona wondered if conditions here in 15 to 20 years will allow such gradual continued recruitment without re-fencing.

We discussed monitoring. As well as doing Herbivore Impact Assessments, Iona is keen to get drone footage and may use fixed point photographs.

Above: Some of the ancient woodland remnants within the new enclosure. © Ian Sargent
Below-right: Julien LeGrand, manager of East Rhidorroch and his wee son Leon. © Richard Thompson

Integration of livestock management and woodland restoration

Cattle and sheep are overwintered in the eastern Highlands. Sheep numbers have declined and will be reduced by a further 40% in 2022. Cattle are brought back to East Rhidorroch between May and November. Cows are not hefted here and will walk up to 15 miles a day when not in enclosures.

Georgie Brown (then with Trees for Life) worked with Iona and Julien to produce a woodland management plan for 2020-2030. This carefully integrates farming needs with woodland restoration. The new enclosure was designed with livestock in mind. Unenclosed

woodland areas allow sheep to be held low down at certain times of year. Scottish Forestry's *Woodland Grazing Toolbox* was used to develop a grazing plan. This recommended 30 cattle in the new enclosure for a maximum of 44 days per year and in the 50 hectare enclosure for up to 22 days. In practice, cattle are put into the woods only when conditions are right for cows and wood. This year it was too 'midgy' for woodland grazing and there was enough hill grass, so there haven't been any cows in the enclosures.

In other years, cows are put into the wood well into the growing season so vegetation is robust. Cows like clean ground and won't return to the same area within four weeks. They quickly get bored in enclosures and loudly let Iona and Julien know when they are ready to come out. Delaying movement by one day can have negative impacts, particularly browsing on rowan. If there are signs of damage, cows have already been in too long. Depending on season and the amount of *Molinia* growth, cattle may be in enclosures for only a few days, maybe two weeks. Woodland grazing works at Rhidorroch because the owners are passionate about livestock management *and* woodland restoration.

When Iona's parents approached Forestry Commission Scotland about cattle-grazing a 50 hectare grant-aided regeneration area in the late 1990s, they received little enthusiasm – the idea of livestock as a woodland management tool was new and challenging to foresters at the time. Since then, the West Highland Grazing Project and other initiatives have increased woodland managers' understanding of the role cattle in particular can play in maintaining biodiversity within semi-natural woodlands. A woodland grazing option was introduced to the Scottish Rural Development Programme in 2016. Managed grazing is an inexact science, and there is lots to learn from Rhidorroch.

Single suckler cows are used for the woodland grazing. The breed is shorthorn cross – either with Highlanders or Galloways. The cows are currently put to an Angus bull, producing a small, relatively light beast less prone to getting bogged.

The herd on the open hill above East Rhidorroch Lodge. © Julien LeGrand

We discussed the role of cattle in winter, to maybe reduce bracken density in the south-facing birchwoods and create more bare ground in the pinewoods for regeneration. However, conditions are too wet for cattle and the woodland during the winter months. Two pigs have been periodically housed in the 50 hectare enclosure, with impacts seen across the area; higher numbers might cause unacceptable disturbance.

Part of the regeneration enclosure that has had light summer cattle grazing for 25 years. © Richard Thompson

Birch and rowan saplings within the regeneration enclosure. © Richard Thompson

The cattle and pigs appear to have created conditions that contrast with those usually found in long deer-fenced areas. Presumably due to summer grazing, *Molinia* has not formed dense tussocks. It grows in mosaic with frequent bog myrtle and abundant Scots pine saplings, slowly growing higher than the sward. Under the mature pinewood canopy there are frequent but not dense birch and rowan saplings. Most rowan saplings are unbrowsed. There were pathways and a structurally diverse mosaic of vegetation. We postulated that these conditions, and long-term glade maintenance, must be good for wood ants and other light- and warmth-seeking organisms. Presumably, dung provides a valuable food source for many other invertebrates.

Deer

It is difficult to be certain about the impact of cattle and pigs here, as Sika deer have managed to enter from time to time. Twenty got in two years ago and one stag continues to evade Julien's sights. Guest stalking focuses on stags during rut. Otherwise, Julien concentrates on reducing hind numbers.

Sinclair Coghill describing the development of the landscape scale Section 7 agreement. © Richard Thompson

Sinclair Coghill of NatureScot described the wider landscape. A Section 7 agreement has been running on a neighbouring estate since 2010 to improve designated open habitats. This didn't have sufficient impact due to immigration from neighbouring estates. In January 2019, Scottish Natural Heritage did a helicopter count across north Ross. There was heavy snow at the time and 500 deer had moved into the bottom of Glen Achall. A similar pattern was seen

in neighbouring glens. The Section 7 agreement was expanded to cover three quarters of the Deer Management Group area. The reduction cull is focused on hinds and is having little impact on stag shooting. All estates have worked hard and are achieving the target culls. The target density across the area is 8/sq km. There is no guarantee this will protect woodlands, as numbers can be very high when shelter is sought in bad weather.

Iona with one of East Rhidorroch's garrons after a successful stalk. © Julien LeGrand

Julien and Charlie have increased culls with the extended Section 7. Within five years, the East Rhidorroch cull has increased from ten deer per year to 120, a huge effort. Venison revenue wasn't nearly enough to cover costs, due to lack of demand from game dealers. We agreed improved marketing of Scottish venison is urgently needed! As they move into the maintenance cull and the woodlands get thicker, effort will increase as revenue decreases. With luck, the agri-environment scheme should help cover costs. Gary Servant suggested the Sustainable Management of Forests grant may be applicable.

Wester Rhidorroch enclosures

We concluded our visit with a discussion led by Charlie Harrison, looking over to Woodland Grant Scheme enclosures established in 1998. These enclose patchy ancient pine and birchwood remnants within gorges and along crags. Open ground was planted with Rhidorroch origin pine, and there is abundant natural regeneration including birch and holly, and now rank heather.

Looking across into Wester Rhidorroch where fences will be realigned to create new enclosures © Richard Thompson

The plan is to alternate the position of the enclosures, opening areas of regenerated woodland and enclosing currently-grazed areas to secure advance regeneration and enrich with scarcer species. Smaller saplings in previously-enclosed areas will be vulnerable to deer but there shouldn't be substantial losses as the fence is already porous. As fence posts are now guaranteed for only 15 years, this pushes Charlie and Kim towards planting to ensure woodland is established quickly. Stock fences will be carefully aligned so these new enclosures can be lightly cattle-grazed periodically.

There was a strong sense of ethical responsibility from both estates to look after their woods, and a clear view as to how cattle grazing in pinewoods would benefit livestock and woodland habitat. We were impressed by the choice to go for less lucrative regeneration in order to safeguard ancient woodland areas rather than look for more favourable grants and plant new woodlands. There was a vibrant, progressive atmosphere and an all-hands-to-the-pump attitude.

WORKING WOODS SCOTLAND COURSE IN FIFE IN OCTOBER 2021

Gwen Raes

Reproduced, with permission, from The Full Circle – the journal of the Association of Scottish Hardwood Sawmillers

I was one of the eleven fortunate participants on the very first Working Woods Scotland course. This three day practical course in homegrown hardwoods was organised by the Association of Scottish Hardwood Sawmillers (ASHS), funded by Forestry and Land Scotland and hosted by Scottish Wood saw millers at Inzievar woods near Dunfermline.

It exceeded expectations in all dimensions, ranging from the quality and variety of tutors to the broad spectrum of participants (everything ranging from furniture makers, sawmillers, civil servants and woodland managers), as well as the delivery of a comprehensive context.

During the course we went "FULL CIRCLE" around from the uses of sawn timber, grading and valuing logs and trees, to woodland management; seed source, site preparations, spacing, planting and growing broadleaves to harvesting and felling techniques. We finished in the sawmill where we looked at milling, seasoning, measuring, grading and valuing sawn timber.

Photo: Catriona Birley

"It's not a log, it's a butt or beam." This was regularly repeated as we learned to look at trees and logs in a new light. It enabled us to estimate how grown trees and/or beams/butts can affect the quality of your timber plank or beam.

"Hoppus cube feet" is something they did not teach me at school as it is a traditional British method of measuring round timber. It goes without saying that a brain trained in metric measurements starts to spin when these imperial measurements come into sight. Just like circles transforming into squares whilst calculating volume.

"Look out for the leader persistence or apical dominancy"

On the second day the woodyard at Dunfermline made way for the woodlands at Dalmeny Estate, where I felt most comfortable. Amongst the trees, we covered the six factors for growing quality timber, starting from digging a soil pit to determining native woodland types. We measured stocking densities and investigated genetic characteristics of seed sources. We touched on spacing, respacing, thinning, formative and high pruning which are all management techniques ensuring good early growth. But none of that is worthwhile without control measures against disease, browsing, etc.

"Quarter sawn"

Back into the woodyard, approaching our third and final day, more formulas and conversions allowed us to grade and price timber sawn planks. So an oak butt priced at £27 was suddenly worth £316 as eight sawn planks, demonstrating the value in processed timber. So all that's left was to be shown how to stack the planks appropriately so they can air dry or go into the kiln.

It was a tremendous experience, proving to be very educational and informative and enjoying the company of a diverse, although kindred-spirited, group of participants who became like family whilst being taught by passionate and inspiring speakers.

Upper photo by Kelly Morss. Lower photo by Catriona Birley.

A RAINFOREST BLESSING

Julie Stoneman

What does the fight for the rights of indigenous peoples have to do with saving Scotland's rainforest? More than you might think – as we found out at an extraordinary event at Cormonachan Community Woodlands in Argyll in early November.

It was a typical autumn day on the west coast – bands of rain passing through on the blustery wind, bright yellow and orange leaves cascading down on us. Alongside several journalists and photographers, we waited expectantly in a woodland clearing for five indigenous leaders from the Amazon rainforest to perform a ceremony blessing our own rainforest.

A year ago, I submitted an article to this Newsletter about the Alliance for Scotland's Rainforest – the partnership of over twenty different organisations that have come together to help Scotland's rainforest thrive once again. At that point we were just getting started with a campaign to raise the profile of this internationally important habitat amongst the people that can really make a difference. Since then, we've attracted the attention of political audiences, but we still need major funding for landscape-scale ecological restoration.

Early in 2021 Raleigh International joined the Alliance. They were scoping out a new UK-based project called Re:Green, to train young, aspiring environmental leaders. Part of this training involves bringing them to beautiful places in nature to carry out habitat management and hold workshops. What better place than Scotland's west coast woodlands – chock-a-block with rhododendron in need of clearance and home to stunning scenery, packed with wildlife – plenty to inspire a young person at the beginning of their environmental career.

And then something interesting happened. Association Jiboiana, a French organisation that works with indigenous people to preserve nature, spotted one of Raleigh International's LinkedIn posts about the project and got in touch. They were facilitating a group of indigenous leaders to come to COP26 in Glasgow, and could they make a visit to Scotland's rainforest, to meet the local community and young volunteers, perform a blessing ceremony and attract some media attention to their cause?

Who would have thought such an opportunity would come our way? Such an event would not only attract attention to the cause of indigenous people from the Amazon, but also raise the profile of Raleigh International's work with young people and the plight of temperate rainforest in Scotland. We decided to

Indigenous leaders from the Amazon perform a rainforest blessing at Cormonachan Community Woodlands

© Duncan McGlynn

collaborate and Cormonachan Community Woodlands, already a project site for Raleigh International's Re:Green programme, kindly agreed we could use their site for the ceremony.

After about an hour, our friends from the Amazon arrived. Their delay was perfect – by then the wind had died down, the cloud lifted, and the sun shone through the canopy from the south, capturing the colour of their feather headdresses, the intricate coloured patterns on their traditional dress and their beautifully painted faces. They greeted us with hugs and smiles.

In the ceremony, the last speakers of the local Gaelic dialect, Àdhamh Ó Broin and his children, welcomed them to our rainforest, and they returned their gratitude in their own language. The exchange wove together language, culture and nature, culminating in an intricate ceremony of singing to percussion from hand-carved patterned rattles, and the smell of a burning bundle of sacred herbs. At the end they joined hands to plant an oak sapling to symbolise the future of the forest. It was a very powerful ceremony, which moved several of the onlookers to tears.

Later, in the village hall, we heard hopeful speeches about taking action for climate and nature in general and for our rainforest in particular. Thank you Jenni Minto, local MSP and Nature Champion for Scotland's Rainforest; Phoebe Hanson, youth activist and trustee of Raleigh International; Leo Landon from Association Jiboiana; Dee Locke, Secretary of Cormonachan Community Woodlands; and Gordon Gray Stephens, representing the Alliance for Scotland's Rainforest.

Narubia Werreria, an indigenous environmental activist from Brazil, calls on us all to look after our forest. © Ian Dunn/Plantlife

After some beautiful songs from our Amazonian friends one of the group, Narubia Werreria, impressed upon us in an impassioned speech, that while indigenous peoples are the last true guardians of the forest this makes them no better or worse than anyone else. She called upon each one of us to join together to protect our forests – "for we are not owners of the earth, but she owns us, in a relationship not of domination, but one of love and affection".

The Alliance for Scotland's Rainforest has commissioned a film about the visit which we plan to launch in late January 2022. Please get in touch if you can help us promote it.

Julie Stoneman
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A GOOD BOOK IS HARD TO BEAT?

Keith Kirby

In an idle moment I reflected that about every 10 years a book comes along that seems to have a disproportionate effect on changing the way people think, what they accept as common knowledge. They cause a shift in our baseline perceptions.

In the mid-seventies conservation (and more slowly forestry) thinking started to change following the publication of *Trees and Woodland in the British Landscape* (Rackham 1976). Rackham was not the first to use the term ancient woodland – that goes back into the 19th century. Others, notably Colin Tubbs and George Peterken in England and in Scotland Steven and Carlisle (1959) for the pinewoods, had published on historical approaches to understanding sites. However Rackham's book got to the wider audience, paving the way for the term to become adopted in ordinary conversations.

Another shift occurred around 1990 with the publication of the proceedings from the Burnham Beeches Veteran Tree conference (Read 1991). Again, it built on earlier work such as the Harding and Rose (1986) review of over-mature timber sites, but the meeting and collection of papers made old trees and wood-pasture suddenly visible to many people. It led a few years later to the Veteran Tree Initiative that catalysed much work on identifying and improving the management of such trees and sites. In the uplands much open tree cover, including some of the native pinewoods, was re-interpreted from being 'degenerate' woodland to form of cultural landscape with as long, if not longer, history than many coppice woods.

The shift in thinking about wood-pasture during the 1990s chimed with my next landmark publication in English of *Grazing and Forest History* (Vera 2000). I can vividly remember my first reading of it on a six-hour late night train journey from Leeds to Glasgow. Moreover, I was due to talk on wood-pastures the next day! Vera made us look again at our assumptions about natural woodland and the role of grazing, both in the past and with respect to future conservation. I don't agree with all his conclusions about past landscapes, but there is no doubt that he changed our thinking about landscape-scale management for the future.

His ideas gave impetus to the 'rewilding' movement in Britain and specifically the transformation of the Knepp Estate in Sussex by Charlie Burrell and Isabella Tree. The latter's book – *Wilding* – published in 2018, has been very influential in showing people a positive side to future conservation; it does not have to be all 'doom and gloom' and species in decline.

That is my selection, inevitably with something of an English bias. There are other books that I might have included – George Peterken's Woodland Conservation and Management (1981), John Rodwell's NVC volumes, (1991), the Veteran Trees Handbook, the Forestry Commission's Managing Ancient and Semi-Natural Woodland (2010) - which take ideas, develop them and turn them into practical action. You will all have your own choices, but I would be surprised if there is not some of the above amongst them.

So, what might be the next game-changer? I think it will be to do with what woodland conservation will look like under future climate change. It will need to consider:

- what the overall balance of land-use is likely to be and within the woodland component how much might be managed with conservation as a major objective;

- what communities and assemblages should we be encouraging that will adapt well to these new conditions in 'conservation' woods;
- what sort of communities are going to develop in woods managed for carbon storage and future wood production priorities;
- how our attitudes to questions of defining native species and native ranges will change;
- how we balance rewilding philosophy which points towards reduced intervention for conservation with the traditional conservation approach of seeking to promote particular species in particular places.

I have other writing jobs on at present, but once they are out of the way, perhaps I will have a go at this, assuming no-one else has beaten me to it!

References

Forestry Commission 2010. Managing ancient and native woodland in England. Bristol, Forestry Commission.

Harding, P.T. and Rose, F., 1986. *Pasture-woodlands in lowland Britain: a review of their importance for wildlife conservation*. Cambridge, Institute of Terrestrial Ecology.

Peterken, G.F. 1981. *Woodland conservation and management*. London, Chapman and Hall

Rackham, O. 1976. *Trees and Woodland in the British landscape.* London: Dent.

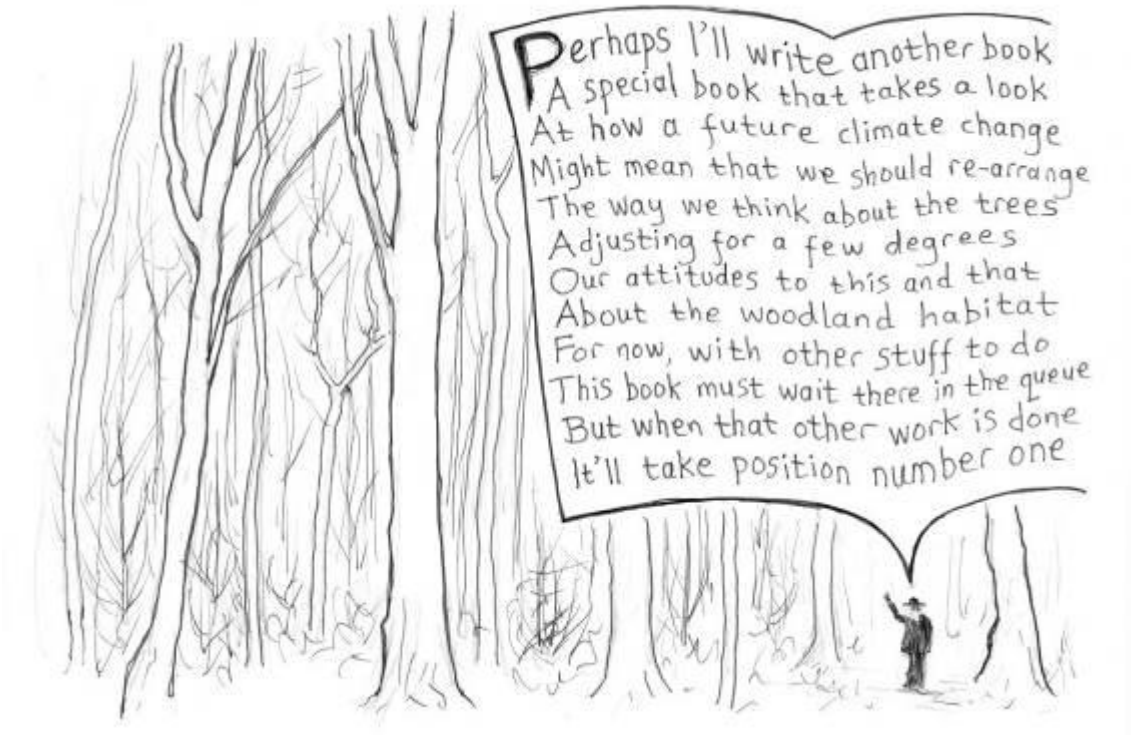
Read, H.J. 1991. *Pollard and veteran tree management*. London, Corporation of London.

Read, H.J. (2000). *Veteran trees: a guide to good management*. Peterborough, English Nature.

Steven, H.M. and Carlisle, A. 1959. *The native pinewoods of Scotland.* Edinburgh, Oliver and Boyd.

Tree, I. 2018. *Wilding: The return of nature to a British farm*. London, Pan Macmillan.

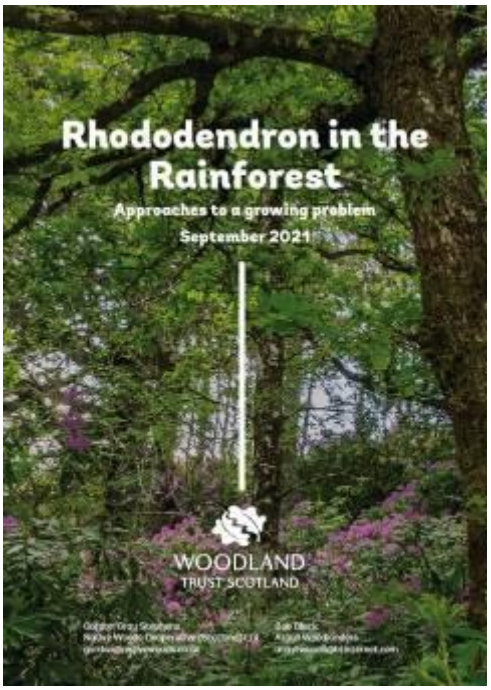
Vera, F V M. (2000). *Grazing ecology and forest history*. Wallingford, CABI.



RHODODENDRON IN THE RAINFOREST: APPROACHES TO A GROWING PROBLEM

Arina Russell

*[**Editor's note:** This is a short Woodland Trust document that refers to a larger report - Rhododendron in the rainforest: Approaches to a growing problem, produced by Gordon Gray Stephens and Bob Black, for the Woodland Trust.]*



Summary

- 140,000 hectares of sites in the rainforest zone are affected by rhododendron.
- Rhododendron needs to be cleared at scale and with legacy follow-up treatment to prevent re-invasion and ensure effective spending.
- The longer action is delayed the more expensive it will be.
- There is a need for a *Rainforest Restoration Fund*, a dedicated long-term funding stream which will deal with the unique issues that the rainforest faces, while also contributing to Scotland's green recovery.

The report *Rhododendron in the rainforest: Approaches to a growing problem* was produced by Gordon Gray Stephens and Bob Black, for the Woodland Trust, with support from players of People's Postcode Lottery, and it is also supported by Scottish Land and Estates.

What is the scale of the challenge?

The two main threats to Scotland's rainforest are overgrazing, mainly by deer, and invasive *Rhododendron ponticum*. *Approaches to a growing problem* focuses on rhododendron only, an issue which needs increased political attention and leadership. It is estimated that around 140,000 hectares of sites in the rainforest zone are affected by *Rhododendron ponticum*. This figure can be broken down approximately as follows: Invasive rhododendron needs to be cleared urgently from at least 30,000 hectares of west coast woodland; to ensure effective eradication a further 24,000 hectares needs to be cleared in the buffer zone around the woodlands, and an additional 80,000 hectares of other habitat also needs cleared. This can deliver biodiversity benefits and create skilled local jobs as rhododendron control is labour intensive.

Current policies and grants

Rhododendron eradication fits within and would deliver targets and aspirations set out in the current *Scottish Biodiversity Strategy* and in *Scotland's Forestry Strategy*. At the moment Scotland doesn't have a strategy for rhododendron eradication, but a national approach to rhododendron. This is clearly not enough, and as the review of the current Biodiversity Strategy is expected the Scottish Government has a clear opportunity to provide clarity and show leadership on this matter by introducing a target for rhododendron eradication.

Funding is available through the Forestry Grant Scheme administered by Scottish Forestry for woodland areas and the agri-environment climate scheme for open ground areas. A source of funding was the NatureScot *Biodiversity Challenge Fund,* but the annual nature of the fund was a limitation for rhododendron control. This fund has now been replaced by the increased, multi-landscape and multi-year *Nature Restoration Fund*, which is a welcomed step that was announced by the Scottish Government in November 2021.

Issues with the current approach

In some cases, current action fails because of the lack of a joined-up approach and the failure to follow up treatment to prevent re-invasion, resulting in wasted resources. The current approach is not adequate to eradicate rhododendron and the longer we wait the more rhododendron is growing and spreading. The main issues with the current approach that the report has identified include:

- the current limited priority control areas
- the need to apply for separate grants where rhododendron occurs both on open ground, in gardens, and in woodland making an already complex application process more difficult
- the short-term nature of the funding for an issue that needs to have a legacy strategy incorporated, to manage re-invasion
- the lack of recognition by policy makers and funders of the vital need to tackle rhododendron on a landscape, 'whole-population' scale, rather than a piecemeal approach. Even if rhododendron has been effectively suppressed in one area, if neighbouring land contains untreated rhododendron, then it will spread into the treated area, resulting in wasted resources, including wasted public funds.

Proposals for new approaches to invasive rhododendron control

To make a real difference a new approach is required with a **step change in public funding and policy support**. The *Approaches to a growing problem* report includes the following **key recommendations** for the Scottish Government and its statutory agencies, NatureScot and Scottish Forestry:

- Develop a target for rhododendron control as part of the next Biodiversity Strategy, expected for consultation in spring 2022 and publication in October 2022 to show leadership and provide clarity on action needed on rhododendron.
- Pilot a results-based approach for assessing the success of funded projects to inform funding models post-Common Agricultural Policy in the run up to 2024.
- Create a dedicated **Rainforest Restoration Fund**, based on proposals from Plantlife, Woodland Trust, RSPB Scotland, and World Wide Fund for Nature (WWF), to support ecosystem restoration and address the key threats to rainforest sites including rhododendron and herbivore control.
- It is envisaged that the **Rainforest Restoration Fund** could also act as key driver for a community-led green recovery in the sparsely-populated West Highlands, rejuvenating communities as well as habitat.

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SEARCHING FOR MATURE OAK WOODLANDS AROUND SCOTLAND

Margaux Grandjean

Photo: *Margaux Grandjean*

My name is Margaux Grandjean and I am just starting a PhD at the University of St Andrews with Prof. Rob Wilson, with advisory supervision from Dr. Coralie Mills (Dendrochronicle) and Prof. Neil Loader (University of Swansea).

Our project aims to create a network of Oak tree-ring chronologies across the full species range in Scotland targeting different elevations, ecologies, and varying site types from semi-natural woodlands to old plantations. We will measure multiple parameters from the tree-ring samples to explore (1) the climatic and ecological controls on tree growth, (2) model future resilience of the species to our changing climate, and (3) calculate carbon sequestration rates and how they are affected by tree age, site ecology and different management styles. This project will also allow us to enhance tree-ring based dendro-historical dating, especially in the regions where there is a current lack of reference data, including the north and the west…

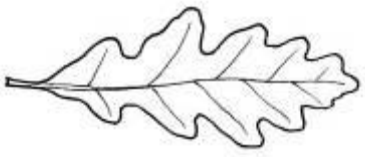
Our aim is to sample a network of about 40 sites across Scotland with mean tree ages of at least 150 years old. Some examples of candidate oak woodlands in the south-east would be Hirsel Estate, Abbotsford House, Roslin Glen, Dalkeith Country Park *etc*., some of which we are already working on, and we seek similar sites across Scotland.

We plan to take single 5mm tree cores from 20 trees at each site, while also taking other stand metrics such as tree density and height, soil samples etc.

We would very much like to tap into the collective knowledge of the NWDG and ask for information on any potential oak woodlands you may know about that would fit in with our criteria above. If you could provide us with OS coordinates, contact details for acquiring permission to sample the sites, as well as possible pointers towards any historical information that can provide some long-term information on the woodlands, it would be greatly appreciated.

Many thanks

Margaux Grandjean
mg220@st-andrews.ac.uk



A SPARE PAGE, SO LET'S HAVE SOME MORE WOODLAND PHOTOS!

Temperate rainforest up and down the country: up = Glen Coe (upper photo, by Ben Averis); down = Wistman's Wood, Devon (lower photo, by Sandy Coppins).

NATIVE WOODLANDS DISCUSSION GROUP CONSTITUTION

Name: The organisation shall be the Native Woodlands Discussion Group.

Aims and objectives: To encourage interest in native woods, their ecology, management and history.

Activities:

- Organise at least one Field Meeting with related discussion each year.
- Organise Workshops on subjects suggested by members.
- Organise Conferences, Seminars or other Events as approved by the membership.
- Issue Newsletters with an emphasis on members' contributions.
- Maintain contact with like-minded organisations through the membership.
- Undertake any other activities deemed appropriate by the membership.

Membership: Open to any interested individual. No corporate membership. Subscriptions shall be set by the committee, with approval of the membership, according to the following categories: (a) Individual, (b) Family (1.5 x full rate) or (c) Concessionary (0.6 x full rate). Membership will cease 18 months after payment of an annual subscription. The committee will advise the Field Meetings organiser for the year of the fee for attendance of non-members at the Field Meeting.

Officers/committee:

a. The group elects a committee. The committee shall co-opt or appoint such officers as are considered necessary. Officers will be eligible to vote at committee meetings.
b Committee members shall serve for three years, but shall be eligible for re-election.
c. Chairperson nominated by the committee and endorsed by the Annual General Meeting.
d. All members are free to attend committee meetings.

Accounts:

a. The financial year shall be the calendar year.
b. The treasurer will keep accounts and present a financial report by 15th March each year. The accounts shall be independently audited by a competent person before presentation.

Annual General Meeting: To be held on a date determined by the committee. Notification of that meeting shall appear in the Newsletter at least one month prior to the AGM. Business at the AGM shall be determined by a simple majority (except changes to constitution which shall require a two-thirds majority of those members present). Family membership entitles up to two votes if both are present. The chairperson and the treasurer will each submit a report at the AGM.

Meetings: The committee shall organise or authorise any member to organise such meetings as considered desirable.

Publications: The committee shall approve such publications as are considered desirable, and which carry the group's endorsement.

Current subscription rates: Ordinary individual: £20 per year (£18 if paid by Standing Order). **Family:** £30 per year (£28 if paid by Standing Order). **Under-25s:** £12 per year (£10 if paid by Standing Order). For 2021, for all subscription rates please add £10 per year if you want Newsletters in printed form. **Subscriptions should be sent to:** the Membership Secretary (Alison Averis, 6A Castle Moffat Cottages, Garvald, Haddington, East Lothian, EH41 4LW; tel: 01620 830 670 / 07387 970 667; email: alisonaveris@gmail.com). There is a £2 annual discount for those paying by Standing Order (shown in the above figures): please ask for a form.

CURRENT NWDG COMMITTEE CONTACT DETAILS

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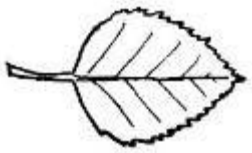
MEMBER	**Alan McDonnell**	Email: alanm@treesforlife.org.uk	



** Admin = Treasurer + Membership Secretary + Website Editor*

NWDG WEBSITE: www.nwdg.org.uk

Facebook: **https://www.facebook.com/groups/NativeWoodlandsDiscussionGroup/**
or search on 'Native Woodlands Discussion Group'

Twitter: NWDG @**TheNWDG**

‘Autumn colours’ in spring! Above: the uncommon *Gymnosporangium clavariiforme* (juniper rust fungus) on juniper. Below: much more common but just as bright and beautiful = the moss *Hypnum cupressiforme*, also on juniper. Both photos taken by Ben Averis in Aberdeenshire in May 2021.

www.nwdg.org.uk

Oak by the River Findhorn (photo: Mick Drury)