Scottish Environment LINK

Achieving net-zero emissions and nature's recovery: the role of trees and woods

Tree and woodland expansion principles for Scotland

1. We need a significant expansion in trees and woodland cover to respond to the climate and biodiversity crises.
2. Funding and other support, including advice, must be made available by the Scottish Government to deliver on the level of woodland expansion needed.
3. Woodland expansion and restoration should favour native species and natural regeneration.
4. Woodland expansion should be guided by Scotland's Land Use Strategy and Land Use Frameworks.
5. New woodlands and tree rich landscapes should deliver multiple benefits for climate, nature, and people.
6. A more ecological approach to commercial forestry is needed which delivers biodiversity enhancement alongside other benefits, with the nation's forests managed as an exemplar.
7. High standards for delivery of new trees and woodland should be backed up by transparent monitoring and reporting.
8. Expansion of our trees and woodlands must be accompanied by better protection of existing species and habitats.
9. Expansion of our trees and woodlands must be accompanied by appropriate protection of the historic environment.
10. Woodland expansion must be pursued alongside emissions cuts across every sector.

Trees and woodlands, along with other habitats such as peatlands, grasslands and saltmarsh, can sequester and store carbon as well as being home to important wildlife and providing other benefits to society. As such, they offer nature-based solutions[1] to the twin challenges of climate change and biodiversity loss. Improving the management of these habitats, restoring them where degraded, and expanding them are all highly desirable. The role of trees and woodlands as nature based solutions has received particular attention recently. Woodland expansion is seen as an essential part of how Scotland can achieve net zero emissions by 2045. Scottish Environment LINK's Woodland Group supports woodland expansion and has developed a set of 10 principles we would like to see guide it.

[1] We use the IUCN definition for nature-based solutions as 'actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.'

1. We need a significant expansion in trees and woodland cover to respond to the climate and biodiversity crises.

Woodland expansion is essential to meeting our targets for responding to the climate emergency and biodiversity decline. This should include increasing tree canopy cover across our towns and cities and encouraging more trees outside woodlands. The UK Committee on Climate Change's (CCC) net-zero advice recommends an expansion of Scottish woodland cover from the current c.19% to 30% by 2045 under its deep emissions reduction scenario. The CCC report notes the unique opportunities for expanding woodland cover in Scotland compared to the rest of the UK. Scotland's forests are largely dominated by a single, non-native species – Sitka spruce. Native woodland makes up less than 25% of total woodland area. To drive nature's recovery, alongside tackling climate change, the majority of new woodland should be native species. Commercial timber production is also important as wood products with a long life can play an important role in storing carbon and replace high carbon emitting alternatives.

2. Funding and other support, including advice, must be made available by the Scottish Government to deliver on the level of woodland expansion needed.

Public money should be increased to deliver on ambitious native woodland expansion and tree planting targets, and support the appropriate management, restocking and restructuring of existing woodland sites. Public money should also facilitate better integration with other land uses e.g. farming and woodland creation that is more joined-up and at landscape scale. To do this training and advice is also needed for land managers who can benefit from trees on their land, for example through agroforestry schemes. Financial support could also come from new market sources such as the carbon offset market for any unavoidable emissions. However, policies facilitating this must reflect and reward other benefits offered by woodlands such as flood protection, biodiversity, habitat provision and high quality public access. This would allow businesses to support truly nature-based solutions, which benefit society, wildlife, and the climate.

3. Woodland expansion and restoration should favour native species and natural regeneration.

Expansion of permanent native woodland cover has the potential to provide major benefits for wildlife, people, and the climate, and will play a key role in meeting the requirements of the Forestry Strategy and the Climate Change (Emissions Reductions) (Scotland) Act 2019. Increases in native woodland cover should be delivered in a variety of ways, including natural regeneration as well as tree planting. The tree planting should be with UK sourced and grown trees and planting material. New tree stock should be domestically sourced and grown, and stricter phytosanitary standards should be applied to imports. Imported trees present a significant risk to Scottish and UK reforestation efforts and the health of existing trees through introduction of pests and diseases.

To achieve this increase and to deliver Scotland's Forestry Strategy, factors limiting natural regeneration and good woodland condition, such as large herbivore densities, must be addressed immediately. Simply setting targets to increase canopy cover (i.e. quantity) encourages the establishment of fast-growing low diversity plantations, whereas the focus should be on quality – protecting native woodlands, restoring degraded woodlands, and creating species rich, structurally diverse woodlands. To drive nature's recovery as well as emissions reductions targets, native species should be favoured.

4. Woodland expansion should be guided by Scotland's Land Use Strategy and Land Use Frameworks.

A strategic approach to woodland expansion is needed to realise opportunities and avoid the mistakes of the past. This should include a plan for both productive forestry expansion and creating priority wooded and open habitats as part of a functional nature network. This should be supported by fresh research where understanding is lacking, including on how to maximise the contribution of nature-based solutions to meeting net-zero emission targets. The Scottish Government's Land Use Strategy, and its commitment to setting up Regional Land Use Partnerships which would produce Regional Land Use Frameworks, should contribute to the regional spatial planning needed to deliver nature-based solutions and help target funding accordingly. The National Planning Framework also interacts with the Land Use Strategy and should play a role in the protection of existing ancient woodland and other irreplaceable habitat affected by inappropriate land uses. Regional Land Use Frameworks should identify areas which have been inappropriately afforested, for example areas of peatland habitat, and Plantations on Ancient Woodland Sites, and which are suitable for habitat restoration. There also needs to be recognition of areas (both Designated and non-Designated) which are being adversely impacted by regeneration and / or self-seeding of non-native trees and greater resources allocated to tackle these issues.

Communities and stakeholders should be central to integrated land use planning and decision-making processes.

5. New woodlands and tree rich landscapes should deliver multiple benefits for climate, nature, and people.

Trees and woodlands can deliver a wide range of benefits. They can support biodiversity, enhance societal health and wellbeing, mitigate against and help adaptation to climate change, and supply raw materials which also lock up carbon. All of these benefits must be fully recognised, and in expanding our woodlands we should look for win-win approaches that can achieve multiple targets, rather than trade-off one set of benefits against another. One example is sensitively sited agroforestry which has significant potential to deliver carbon savings alongside a diverse range of other benefits including shelter, food and fodder, and timber products. Nature can also benefit where habitat diversity is increased, subject to the correct tree species being selected and located appropriately. In order to recognise the significant role that trees and woodlands can play in responding to both the climate and biodiversity emergencies, as well as the wide range of benefits they can provide, the current definition of sustainably managed forestry in the UK Forestry Strategy needs updating to encompass these.

6. A more ecological approach to commercial forestry is needed which delivers biodiversity enhancement alongside other benefits, with the nation's forests managed as an exemplar.

Achieving targets for woodland expansion and biodiversity recovery will require going beyond minimum standards for commercial forestry, for example through increased uptake, and review of,

the UKWAS standard and adoption of species advice within the Woodland Wildlife Toolkit[2]. Silvicultural practices which are less detrimental to biodiversity, such as continuous cover forestry, along with management to diversify age and species mixes and sensitive soil management (i.e. reduced ploughing, low to zero input of fertilisers and chemicals) should be the norm. The use of plastic tree tubes and deer fencing should be phased out where possible. In order to achieve this, it will be essential to ensure effective herbivore management. The risks of commercial and largescale planting for bioenergy (with or without carbon capture and storage) must be carefully considered.

Public land and the forest estate should be managed as an exemplar of best practice, including trialling "new" and/ or alternate models of silvicultural practice such as transition to increased hardwoods production. The area of new native woodland on public land should also be increased. In the urban environment there should be a greater emphasis on incorporating trees into green infrastructure, and a greater use of trees in built developments.

7. High standards for delivery of new trees and woodland should be backed up by transparent monitoring and reporting.

Public interest in woodland expansion should be reflected by access to information, and a comprehensive system of regular monitoring and evaluation. This should include regular national canopy surveying. There should be more inclusive opportunities for consultation, and mechanisms for feedback on new woodland proposals, to ensure the buy-in of local communities.

Ecological condition surveys such as the National Forest Inventory should be repeated regularly. The Ancient Woodland Inventory needs urgent updating to inform the location of ancient woodland as well as its ecological condition. These data updates and the keeping them under review is important to inform land use planning, forestry grant schemes, as well as the protection and management of irreplaceable habitats.

Community engagement should be proactive and geared towards co-production, rather than reactive. The language and spaces used to achieve this should be accessible to as inclusive as possible across communities of place and communities of interest.

8. Expansion of our trees and woodlands must be accompanied by better protection of existing species and habitats.

Restoration and reconnection of the best places for nature, such as peatlands, ancient woodlands and heathlands, must continue, with the Scottish Government providing financial support and practical knowledge. Woodland creation, at the pace and scale that is needed, comes with inherent risks for places that are already valuable for wildlife, and large-scale woodland creation projects should be informed by a clear consideration of the existing ecological value. Retention and full implementation of Environmental Impact Assessment Regulations is a key part of this process.

Currently ancient woodland makes up around 1% of Scotland's land area but these habitats are being degraded by inappropriate development, grazing and invasive non-native species, and in some cases

[2] https://woodlandwildlifetoolkit.sylva.org.uk/

a lack of management that would help to increase structural diversity. If these woodlands and the biodiversity they host are to thrive and adapt then the factors contributing to their degradation must be addressed urgently. Doing so can also ensure ancient woodlands continue to store carbon and be part of the solution to tackling climate change. There is also evidence that large, old trees fix significantly larger levels of carbon compared to smaller trees[3]. This is one of many reasons we must prioritise the protection and restoration of existing trees and ancient woodland alongside any expansion plans.

9. Expansion of our trees and woodlands must be accompanied by appropriate protection of the historic environment.

Nature-based solutions involving woodland creation, expansion, management and regeneration have potential impacts on the historic environment. This term is used in its broadest sense including: archaeological sites; cultural landscapes (for example, designed landscapes and old working landscapes); the structures and settings of historic buildings and ancient monuments; battlefield sites and other less tangible historic sites; and even bio-archaeology such as old culturally-modified trees and historic woodlands. There is more overlap between the cultural and natural heritage worlds than is commonly recognised. Greater dialogue and collaboration between the natural heritage, cultural heritage and forestry sectors should be encouraged in further developing and deploying best practice in protecting the historic environment and in ensuring that relevant protection measures and mitigation processes are sufficiently robust and are being followed. It should be remembered that only a minority of our historic features are designated and that many of the components of our historic environment have yet to be identified or recorded, so there will often be a need for new survey and other professional work in addressing potential impacts on the historic environment.

10. Woodland expansion must be pursued alongside emissions cuts across every sector.

Decarbonising Scotland's, and the world's economy, is more urgent than ever, as is ensuring a Just Transition from the current status quo to a green recovery. Woodland expansion, along with the other nature-based solutions, does not justify continued reliance on fossil fuels. The restoration of nature and climate action are not mutually exchangeable; we cannot trade one for the other. The CCC Land Use Report from January 2020[4] concludes that:
'It would be important to ensure that carbon-credits from land-based solutions are not allowed to reduce effort elsewhere in the economy … they should not be used to offset emissions that need to fall close to zero to meet net-zero across the economy [p.98].'

It is also essential to avoid double counting carbon storage, such as including agroforestry at a farm level as well as in the forest inventory. Overall, nature-based solutions must be pursued *alongside* rather than *in place of* drastic cuts to emissions in every sector as per the Paris Agreement (or any higher ambition agreement) to be an effective contribution to climate action.

[3] Stephenson, N., Das, A., Condit, R. et al. Rate of tree carbon accumulation increases continuously with tree size. Nature 507, 90–93 (2014) doi:10.1038/nature12914
[4] CCC 2020, Land use: Policies for a Net Zero UK, available at https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/

This response is supported by the following members of the LINK Woodland Group:

- Butterfly Conservation Trust
- National Trust for Scotland
- Plantlife
- Ramblers Scotland
- RSPB Scotland
- Scottish Wildlife Trust
- Trees for Life
- Woodland Trust Scotland
- WWF Scotland

Scottish Environment LINK is the forum for Scotland's voluntary environment community, with over 35 member bodies representing a broad spectrum of environmental interests with the common goal of contributing to a more environmentally sustainable society.

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