Woodland expansion in Scotland: taking an evidence-led approach

RSPB Scotland Policy Briefing

1. Introduction

The UK's trees, woods and forests – both those we already have and those we plan to plant – have the potential to play a vitally important role in tackling both the climate and nature emergencies, here and abroad. We know that trees sequester and store carbon and are habitat for a vast array of other plants, insects, fungi, birds and mammals.

Trees are also a source of much needed timber and wood products. Producing timber domestically and using as much of the tree as possible for long-life products such as timber in housing and other construction, can help to lock up carbon over longer periods. However, a proportion of any harvested wood will also be used for short-life products such as pallets and fencing and therefore be of more limited carbon benefit. The re-use and recycling of such products at the end of their life helps to lock up carbon for longer but recycling rates need to improve. Nonetheless, using UK timber and wood products from sustainable sources must take precedence over imported timber that may come from less sustainable production, or worse from the destruction of high nature value tropical or other forests.

These are all reasons why there is such focus now on woodland expansion and increasingly ambitious targets and calls for more trees. The Committee on Climate Change 'Land Use: Policies for a Net Zero UK' has proposed '*Increasing UK forestry cover from 13% to at least 17% by 2050 by planting around 30,000 hectares or more of broadleaf and conifer woodland each year*.' Much of the current woodland expansion in the UK is taking place in Scotland; in 2019/20, some 81% of the total new planting area in the UK was in Scotland.

Scotland's Forestry Strategy 2019-2029 commits to increasing forest and woodland cover to 21% of the total area of Scotland by 2032 – from 19% currently. Targets for forest and woodland creation are: 12,000 ha per year from 2020/21; 14,000 ha per year from 2022/23; and, 18,000 ha per year from 2024/25. Included in this is a target to create 3,000-5,000 ha of new native woodland per year. In 2019/20, there was a total of 10,860 ha of new planting of which 7,240 ha (67%) were conifers and 3,610 ha (33%) were broadleaves. Of current woods and forests, Sitka spruce, Scots pine, Lodgepole pine and larches are the predominant species whilst birch, oak and sycamore are the dominant broadleaves.

2. RSPB Scotland position

RSPB Scotland supports woodland expansion. We want to see more native woodland – both broadleaves and conifers – naturally regenerated where possible, but planted where not, for the nature, carbon and public enjoyment benefits they can provide. We also recognise the need for timber and wood products produced domestically. Much of this is likely to come from productive forestry but there is also scope for some wood products from woodlands managed primarily for

nature conservation purposes. The right balance needs to be struck and the benefits that woods and forests can provide be optimised.

As part of A Nature Recovery Plan we are calling for a significant expansion in Scotland's native woodlands annually, based on the nature and other benefits they can provide. To ensure all new woodland delivers for nature, it is critical that all new planting is sited appropriately and, at a minimum, 50% of new planting is of native tree species, which could include productive species.

3. Trees for nature and climate: reviewing the evidence

The need for woodland expansion in Scotland – for nature, climate and timber production purposes - is without question. But given the scale of tree planting targets, deciding what type of woodlands and trees to plant are critical choices if the benefits are to be optimised and negative impacts avoided. It is vital such choices are informed by a solid evidence base and the implications for both nature and the climate taken into consideration, when developing policy. Below, we summarise the findings of two recent reports which consider the evidence on these issues.

Woodlands for climate and nature: a review of woodland planting and management approaches in the UK for climate change mitigation and biodiversity conservation

In 2019, The RSPB commissioned an evidence review, which looked at peer-reviewed and grey literature, to help us consider how woodland expansion can deliver the greatest benefits for both climate and nature. Much of the existing science examines either climate or biodiversity aspects, but not both. We identified a need to examine the two aspects together to inform how woodland expansion can address both the climate and nature emergencies. This report looked at the evidence for the climate and biodiversity impacts of woodland creation across mineral soils, deep and shallow peats. It also considered different models of forestry and the fate of harvested wood products. Key conclusions are:

- The report challenges assumptions about the benefits of a rotational forestry model for carbon sequestration and storage. We conclude that a greater focus could be placed on nature-based solutions to climate change, including native woodlands and priority open habitats such as peatlands, to store carbon whilst also helping to address the parallel ecological crisis.

- A diversity of woodland creation and habitat restoration will be required to meet both climate and biodiversity goals. Going beyond the UK Forestry Standard (UKFS) minimum provisions for biodiversity will be required in most cases. Grant schemes must be weighted appropriately to make native woodland creation and management an attractive prospect.

- Soil type and existing land use has a significant influence on the carbon balance and biodiversity impacts of woodland creation, with the greatest climate and biodiversity benefits stemming from woodland creation on arable and improved grassland. Woodland planting on deep peat should not take place, and previously afforested blanket bog should be restored to maximise the long-term security of the stored carbon. The climate and biodiversity impacts of planting on shallow peat will be site specific. Where shallow peat is adjacent to deep peat, planting can lead to carbon losses due to changes in the hydrological function of peatlands.

- Peatland protection and restoration should continue alongside woodland expansion, as a long-term carbon store and biodiversity rich habitat. This should be supported through strategic land

use planning and a co-ordinated programme of further research, plus a policy framework which supports protection and restoration of carbon-rich habitats at the project-level.

- The report suggests fully accounting for the carbon life-cycle for significant woodland creation projects and within offsetting systems.

- Native woodland and other nature-based solutions to climate change potentially offer a more certain route to long-term carbon storage, which is less reliant on making technological progress (e.g., carbon capture and storage) and achieving structural changes in the forestry industry (e.g. toward more use of high-quality timber in construction and other long lived wood products), as desirable as those are.

- The short-lived nature of some Harvested Wood Products (HWP) such as pallets and fencing has implications for carbon storage. This report suggests that over half of HWP have a service life of less than 15 years. This suggests that a large part of the timber produced from Scottish and UK forests is not functioning as a meaningful carbon store within timeframes relevant to current climate change targets.

Biodiversity, forestry and wood: An analysis of the biodiversity benefits of modern forestry and wood production

Also in 2020, Confor published Biodiversity, forestry and wood which set out to make the case for the biodiversity benefits of modern forestry and wood production, based on a review of the literature. We were given the opportunity to provide comments on the draft of this report and did so with input from our team of conservation scientists. We highlighted a number of issues regarding the methodology and approach taken and regarding conclusions drawn which, in our view, were not substantiated by the literature. The published version of the report did not address the comments raised and, as a result, the report paints a more positive picture of the biodiversity benefits of modern forestry than the evidence suggests is the case.

In responding to Confor, we stated that we could find little evidence that systematic, objective approaches to undertaking the review had been adopted. There is no description of the review methods, and therefore no detail on the process by which the cited literature was identified and the findings of studies interpreted. An objective review of the biodiversity and climate impacts of commercial forestry should compare that land use and management with specified alternatives and should be as open to reporting the negative impacts of commercial forestry as the positive outcomes, but this is not what is presented. The report in many areas uses the literature selectively and incompletely to support a case for increasing non-native conifer cover, maintaining clearfell systems and managing woodlands more intensively. Also, and somewhat worryingly, the report often fails to distinguish the management and natural regeneration of ancient, native, semi-natural woodlands from simply planting native trees.

This is not to say there is no biodiversity value in commercial forests: there is, and the report has much useful to say about how silvicultural best practice can get the most out of these plantations for biodiversity. Importantly, the authors also include substantive recommendations for further research, acknowledging that the research base is lacking on many subjects.

4. Where to plant trees

It is not only a case of what trees to plant but where to plant them if benefits are to be optimised and negative effects avoided. It is vitally important that woodland expansion occurs in ways that bring genuinely enhanced benefits for nature and carbon and avoid negative effects. This includes avoiding planting or expanding woodland in places already of high nature value, such as open ground habitats that are relied on by fast declining species such as the curlew or are of carbon value. Planting on deep peat is no longer allowed but we need further evidence to understand the balance of impacts on shallower peat soils too. For example, new research shows that tree planting in Scotland can lead to loss of soil carbon that, even decades later, is not compensated for by the above-ground carbon stored in growing trees. In the push to promote large-scale tree planting to combat the climate emergency, policymakers should take heed of emerging evidence.

The threat of non-native commercial trees seeding out onto peatlands and other priority wildlife habitats must also be addressed when considering where to plant trees. This is already a significant issue and drain on conservation budgets, and is likely to intensify in future, risking Scotland's world-leading peatland restoration investments. We also need to ensure that new woods and forests are optimally located and designed to maximise opportunities wildlife or to help reduce flood risk and avoid water quality impacts, alongside timber production. There is, we believe, much more scope to develop and adopt more wildlife friendly models of productive forestry compared to current standards, in the same way farmers are being pressed to produce food in more wildlife friendly ways, such as minimising chemical use or avoiding certain operations that damage nature.

5. Conclusion

Woodland expansion is already taking place in Scotland and is set to increase in the coming years driven by climate, nature and timber production objectives. Deciding what type of woodlands and trees to plant, and where, are critical choices if the benefits are to be optimised and negative impacts avoided. Decisions must be evidence-led. Domestic timber production is important, not least to avoid importing timber from unsustainable sources. But its carbon and nature value could be enhanced by improved siting and forest design, widespread adoption of silvicultural best-practice and a focus on production of long-lived wood products and increasing recycling rates for short-life products. The expansion of native woodlands, alongside the restoration of degraded peatlands and expansion of other carbon-storing habitats, offer an effective and essential way to tackle both the nature and climate emergencies together; greater action is needed to deliver both.