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Three weeks to GLASGOW COP26

The Rush to Climate Tree Planting

The Right Tree in the Right Place at the Right Time?



'Fingers of God' illuminate managed ancient woodland at Lydney. Photo: Jackie Dale

It is heartening to see the offer of 'public monies for public goods' to finance tree-planting on an ambitious scale. Gloucestershire County Council have recently announced they had been awarded '£300K from the Woodland Trust Emergency Tree Fund for planting trees in the county and developing a programme to maintain them. However finding enough space to put the trees is the next vital step. The council is now looking for landowners to come forward and offer land to plant approximately 360,000 trees over the next three years.'

The rush to plant trees is nothing new, especially after periods when our forests were severely depleted, whether by act of enclosure, felled to build the great ships of oak ranged against the Spanish Armada and Napoleon, deployed as charcoal to fuel the iron trade or stripped to make pit props in the two World Wars. Lack of good timber has posed a national threat for centuries. In response to the severe depredations caused by World War One, (which Lloyd George feared losing not for lack of food, but lack of timber) the Forestry Commission (FC) was set up. By 2013 it was the country's largest land manager controlling 700,000 hectares, the larger part in Scotland. Until recently, the FC's brief has been to operate commercially for timber production not for environmental protection.

The new tree-planting scheme is particularly ambitious because the seeds have yet to be collected for the additional saplings which will be required, over and above the 30 million raised each year over the last two decades. Even if it proves possible to fulfil the government's pledge to plant 300 sq km (three times the size of Dean Forest) of new forest each year, there are concerns that planting schemes will fail to learn from past experience. For example, the post- Napoleonic plantings in the Forest of Dean produced oak of poor quality. It is thought that the crop's lack of height and meagre boles were the result of planting oak as a mono-crop and the effect was to reduce soil fertility. Before then the forest was in balance, with two beech trees planted for every oak. More recently we have seen mono-crops of larch and fir, often ill-suited to the landscape, prone to disease and destructive of biodiverse habitat.

The legacy of the voluntary and charity sector effort has created isolated nature islands which are now struggling to retain their identity in today's denuded countryside. Some of them, like ours in the Golden Triangle, have special value as ancient woodland, while our hedgerows are a national treasure. We can read some of their history in the 1839 tithe maps, when they functioned not just to enclose stock or crops, but as legal boundaries and way-marks. They were always of benefit to wildlife and now it is recognised how important they are to prevent soil erosion and reduce pollution, as well as their potential to regulate water supply and to reduce flooding. There is increased earthworm diversity in the soils under hedgerows which also help to store organic carbon and support fungi.

While we have lost too many of our hedgerows, the UK's tree cover remains now at much the same level as it did a thousand years ago, about 13% of the land. The new tree-planting plan would see our tree cover extend to 17%, but this is no quick fix. It will be twenty to thirty years before this will make any significant contribution to carbon reduction.

65% of the carbon in a pre-1600 woodland is retained in the soil, while only 25% is in the timber. When felled, this should be locked up in building construction and furniture, good for a century and more with proper maintenance and repair. For many years DyFRA has helped to preserve landscape features of hedges, verges and water courses. What is needed in our region now is a massive investment in sapling trees and shrubs, gapping up and extending the hedgerows, buffering the monoculture crops with their inorganic inputs and allowing the mature forests to expand until they merge with one another along our nature networks.

When thinking of where to plant such a significant number of new plants to mitigate the current nature warming crisis it is important to assimilate the centuries of hard-earned silviculture experience in the Forest of Dean and the Herefordshire 'top fruit' orchard farms. These soils are the resource (now referred to as a carbon sink) that needs rapid expansion. Planting in annual rings around the existent ancient woods and copses, connecting them along the hedgerow, is a fine strategy.

The real issue, as we found in the 70s with *Plant a Tree in '73* is that new plantings need to be properly protected and maintained for at least ten years. The objective is to enhance the biodiversity of the habitat and the nature network, rather than creating a crop of mature timber trees, often to the detriment of the pyramid food chain.

Next Issue : the tributaries of the River Leadon, that define the Golden Triangle area. The management of water across the watershed of both lower Severn and Wye has a significant role to play for an exemplar project which may then be copied across the less vital areas of our English rural landscape.

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NOTES

The Science Background

Conservation management experience, historically by the charity and voluntary sector, reveals some priority rules to address climate nature warming:

Protect existing forests first

Keeping forests in their original state is always preferable; undamaged old forests soak up carbon better and are more resilient to fire, storm and droughts. 'Whenever there's a choice, we stress that halting deforestation and protecting remaining forests must be a priority,' (Prof. Alexandre Antonelli, director of science at Royal Botanic Garden, Kew).

Select the right area for reforestation

Plant trees in areas that were historically forested but have become degraded, rather than using other natural habitats such as grasslands or wetlands. And likewise already degraded 'industrial' farmlands.

Put local businesses at the heart of tree-planting projects

Studies show that getting truly local skills and experience on board is key to the success of tree-planting projects. This needs to be as much a grass-roots initiative as the re-afforestation of E. Africa in the 1970s by the NGO Green Belt Movement which led to its founder receiving the Nobel Prize for Peace in 2004.**

Maximise biodiversity recovery to meet multiple goals

Reforestation should be about several goals, including guarding against climate change, improving resilience and providing economic and cultural benefits. (The economic driver on farmland will have to be provided by subsidy, since the end-product timber income from felling alone will not be viable.)

Use natural forest regrowth wherever possible

Letting trees grow back naturally can be cheaper and more efficient than planting trees. In forestry practise this is known as 'natural regeneration' which is more appropriate than the trend to describe such conservation practice as 're-wilding'.

Make sure the plants are resilient to local conditions and predicted climate movement

Support the local flora, fauna and fungal networks by using local provenance seed. Dymock Forest is famous for the finest oak timber in UK with its European certified sessile oak stands at Shaw Common, as well as ancient woodland species in the natural seed bank. Wild daffodils, here since the Ice Age, are a classic example. (Along with violets, wild service trees, orchids and Dog's mercury.)

Make it pay ... or

The sustainability of tree re-planting rests on a source of income for all stakeholders, including the poorest. Herein lies the rub. Even if we garner the grants from the county ETFGS, plus support from Defra through the *Landscape Recovery Grant scheme* (due to open its applications process this month), or even the replacement grants for EU subsidies to landowners and farmers, as a community we will have to make the economics stand up.

* GCC Press Release - full text

Gloucestershire County Council is looking for land in the county to help to plant one million trees by 2030, increasing woodland and tackling climate change.

The county council has recently been awarded £300k from the Woodland Trust for planting trees in the county and developing a programme to maintain them, however finding enough space to put the trees is the next vital step. The council is now looking for landowners to come forward and offer land to plant approximately 360,000 trees over the next three years.

As trees grow, they help to reduce the impact of climate change by removing carbon dioxide from the air, which is driving global warming, and releasing oxygen into the atmosphere.

Now, a joint bid with the Local Nature Partnership to plant more trees in Gloucestershire has been given £299,960 from the Emergency Tree Fund Grant Scheme run by the Woodland Trust. The money will go towards planting more trees in Gloucestershire over the next three years, contributing to the county council's individual aim of planting one million trees by 2030.

Are you a landowner who can help? Contact the county council's climate change team by emailing glosclimate@gloucestershire.gov.uk

**** Wangari Maathai**, First Kenyan woman to become a Professor and receive the Nobel Peace Prize. www.nobelprize.org/prizes/peace/2004/maathai/facts/

***** BBC News** 10/10/21 : England is 233rd out of 240 countries polled by the Natural History Museum for 'biodiversity intactness'. Download the pdf here: <https://www.rspb.org.uk/globalassets/downloads/projects/48398rspb-biodiversity-intactness-index-summary-report-v5-1-1.pdf>

Headline RSPB Summary:

Will this be another lost decade for nature?

This Biodiversity Index from the Natural History Museum shows the dire state of nature in the UK and demonstrates that the UK needs to do much more to halt and reverse the terrible losses in wildlife seen in recent decades. If we want nature to recover in the UK, we need to manage our land and ecosystems in a way that restores biodiversity and leaves room for nature.

In the last decade UK governments have failed to perform against many of their own nature targets. For the UK to play a leading role in tackling the nature and climate emergency we need to see all four governments in the UK taking transformative action.