Cyswllt Amgylchedd Cymru | Wales Environment Link

Woodland Opportunities for Natural Colonisation & Regeneration

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Introduction

Woodlands in Wales currently cover an area of 312,000 ha (15% of the total land area). Of the existing woodland cover 173,000 ha (55%) is native woodland.[1] There are 139,000 ha (45% of the total woodland cover) of non-native woodland cover in Wales. 109,000 ha (33.3%)[2] of woodland cover in Wales is found on farms.[3] Wales Environment Link (WEL) supports the current position of Welsh Government, that there needs to be support for more native trees on farms to help to deliver positive change for nature, the climate and farm businesses.

The current Welsh Government woodland creation target is 43,000 ha by 2030 and 180,000 ha by 2050 to meet net zero. Farmers and other rural landowners have a part to play in achieving this target. Currently the Woodland Creation grant schemes only offer grants for the new planting of trees for over 2 ha, and the Small Grant Scheme offers grants for under 2 ha in low sensitivity areas, as defined by the Welsh Government's Woodland Opportunity Map.

Natural Colonisation

'Natural regeneration' is generally accepted to be growth under the existing woodland canopy, whereas 'natural colonisation' is growth outside the existing canopy. These techniques both refer to woodland renewal and expansion through natural processes.[4] It is important that both are managed appropriately to (a) enhance the condition and extent of existing broad-leaved woodlands and protected sites, and (b) prevent adverse impact on priority habitats and species such as species-rich grasslands, open ground nesting birds (e.g. curlew) and butterflies such at the pearl-bordered fritillary, and to avoid undermining particular features of the Welsh

[1] Forestry Research (2024). Forestry Commission Forestry Statistics
[2] Senedd Research (2021). Forestry and Woodland in Wales. Research Briefing
[3] RSPB Cymru and Environment Systems Ltd. (2021). Nature Based Solutions That Work for People and Nature Natural England (2012).
[4] Forestry Commission (2024) EWCO Grant Manual | Forestry Commission | v3.7

landscape, such as ancient monuments, ancient trees, lower plant and fungal communities, ffridd/coedcae, and rhôs pasture. There will be circumstances where adopting the natural colonisation of native trees and scrub will enhance the diversity and condition of other habitats. Natural colonisation is also relevant to a proposal for a grant to create water course protection strips under the Optional Tier for the Sustainable Farming Scheme that WEL is working on; it has many add on benefits.

WEL advocates that options for landowners creating or managing woodland should include natural colonisation (for new woodland) and natural regeneration for restocking of native broadleaves.

Natural colonisation and natural regeneration reduce bottlenecks in nursery stock supply, and demonstrates good value for money as a self-seeding method. But using it successfully may require active site management, and advice and financial support for landowners. Natural seeding is a key natural process in which large numbers of seedlings are produced, all of which are individuals that subtly differ from one another genetically in a range of adaptive traits. Natural selection promotes the survival of individuals that are best suited to the site conditions[5]. It is also expected to produce woodland ecosystems with greater structural diversity (variation in density and canopy height), supporting a wide variety of habitat niches for wildlife, thus benefiting biodiversity. The slower establishment can support early successional and woodland edge species for longer.

In the long term these natural processes will aid in the recovery of temperate rainforest (also known as Western Atlantic Oak Woods) which is a unique and important habitat in Wales. They can help protect freshwater habitats, restore dynamic successional habitats and provide connectivity for species. Evidence suggests that providing 'stepping stones', a series of small habitats, not necessarily linked, but close enough to provide food and shelter for wildlife between core areas and improving the 'permeability' of the landscape matrix - the safe access and movement of species between areas – are usually more beneficial in terms of species

[5] Woodland Trust (2022). Woodland Creation Guide p241.
6 Coed Cadw (2023) Trees and Woods: At the Heart of Nature Recovery in Wales.

survival than providing physical corridors through which nature can disperse and adapt to climate change over time[6].

A blended approach of natural process with additional planting/sowing may need to be taken in some areas. Start with natural colonisation (or natural regeneration *within* woodland), but after a period of time (perhaps 15 years) if colonisation is too low, this could be supported by broadcast sowing and supplementary planting, especially of under-represented expected species using locally sourced seeds and trees (UKISG-assured and local provenance). The spread of natural colonisation is dependent on the method of dispersal, and the distance from existing woodland or seed trees. Recent evidence suggests that natural colonisation will reach an average of 105 stems per hectare across different land use types after 19 years[7], consequently we believe it should be the preferred method of expanding tree cover in a 100 metre buffer zones around ancient woodlands.

Natural colonisation will require long-term, active management to ensure trees establish successfully and remain in a favourable condition once established. Characteristics of woodland in favourable condition include being comprised of a diverse mixture of native tree species, having permanent or semi-permanent open spaces, a diversity of ground flora, and gradual edges. It should not be taken for granted that woodlands created in this way will automatically be and remain in a favourable condition. Scrub is an important and dynamic habitat that requires appropriate land management in order to become established such as ongoing invasive non-native species (INNS) management (removal and guarding against and rectifying seeding from INNS).

Some thought could also be given to using natural colonisation to establish wood pasture, through the removal of grazing for a short time period to allow it to take place and scattered trees to establish. Grazing could then be reinstated with tree guards, cactus guards of enclosures to protect the trees. Whilst it would not be classified as woodland, it could go some way to helping achieving tree targets without taking land out of farming / sustainable food production.

[7] Bauld et al., 2023. Assessing the use of natural colonization to create new forests within temperate agriculturally dominated landscapes.

Policy Asks

1. Introduce a Natural Colonisation Grant, learning from the one now available in England[8] or the 100% grant-funded woodland creation projects under the banner of the Northern Forest Area.[9] Ensure the tools and data used to assess the suitability of sites are based on the best available data and are supported by site visits by suitably trained staff, for example with botany and fungal surveying skills. In implementation, emphasis must remain on the importance of protecting open and other semi-natural habitats, species and deep peat in any implementation. Cross sectorial involvement, training and advice would help secure success. Grant funding needs to accept and allow time for these approaches to succeed, and also include funding for necessary ongoing management activities.
2. Enable the Sustainable Farming Scheme's (SFS) optional and collaborative layers to utilise natural colonisation for a) pollution management by creating partial tree cover along rivers, protecting and enhancing water quality and b) as part of a strategic approach to natural flood management via the gradual increases in native tree cover in upland areas.
3. Any funding package offered should require the removal of vegetative INNS in areas identified for natural colonisation, or natural regeneration, as a condition of the grant.
4. Update the Government's Woodland for Wales Strategy Action Plan to include natural colonisation and natural regeneration as options for woodland creation and restocking. Local tree strategies could then be used at a local level to identify the best locations for natural regeneration or colonisation.

The following table indicates where natural colonisation or new planting is most appropriate.

Planting	**Natural colonisation**
No available seed source nearby	Adjacent to ancient woodland or appropriate existing native woodland

[8] Forestry Commission (2024) EWCO Grant Manual | Forestry Commission | v3.7

[9] The Woodland Trust et al (2019). The Northern Forest. Delivering green growth, healthier communities and climate resilience.

Objective is commercial forestry, or agroforestry, with even-age/size and regular spacing	Objective is nature's recovery with diverse species, age and structure
Some locally occurring species are absent, so consider supplementary planting with these	Desired pioneer species are abundant and intermediate, and shade tolerant species are nearby
High, difficult to manage, grazing pressure	Low, manageable, grazing pressure
Multi-objective woodlands where engagement with people via volunteer planting is important	Remote, inaccessible sites where low intensity management is necessary

Summary

Natural colonisation is not a simple solution to increasing tree cover expansion, like tree planting it takes time, patience and hard work to achieve. However, where nature's recovery is the primary objective it should be incentivised as the default option when land use change to trees is planned and we think the Welsh Government should modify their grant approach to include this as a promoted method.

Wales Environment Link (WEL) is a network of environmental, countryside and heritage Non-Governmental Organisations in Wales. WEL is a respected intermediary body connecting the government and the environmental NGO sector. Our vision is a thriving Welsh environment for future generations.

This paper represents the consensus view of a group of WEL members working in this specialist area. Members may also produce information individually in order to raise more detailed issues that are important to their particular organisation.

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