Sir Faesyfed
Radnorshire

RADNORSHIRE WILDLIFE TRUST: TREES AND CLIMATE CHANGE POLICY

1. Introduction

The last 24 months has seen a surge in public awareness, understanding and expectation for action on climate change and biodiversity declines. As we see the impacts of our changing climate around and the world and close to home, addressing climate change and reversing loss of nature is increasingly becoming a priority for the people of Radnorshire and Powys. The Covid-19 pandemic has changed many people's priorities, giving us pause for thought, highlighting how communities can respond together; people are realising that change is possible and that community movements are powerful drivers in this.

Powys County Council declared a climate emergency in September 2020 and made a commitment to attain carbon neutrality by 2030. RWT fully support this declaration and are working with Powys County Council on climate and ecological projects.

RWT would welcome the declaration of an ecological emergency by Powys County Council as we believe that the loss of nature should be given an equal and opposite weighting as the problems and solutions to both are interwoven.

Trees are recognised as being very efficient at sequestering carbon, so the option of tree planting to help address climate change is being widely promoted, with different public bodies and organisations setting challenging targets. In addition to storing carbon, trees can help to ameliorate air pollution, mitigate flooding and aid soil retention and water cycling.

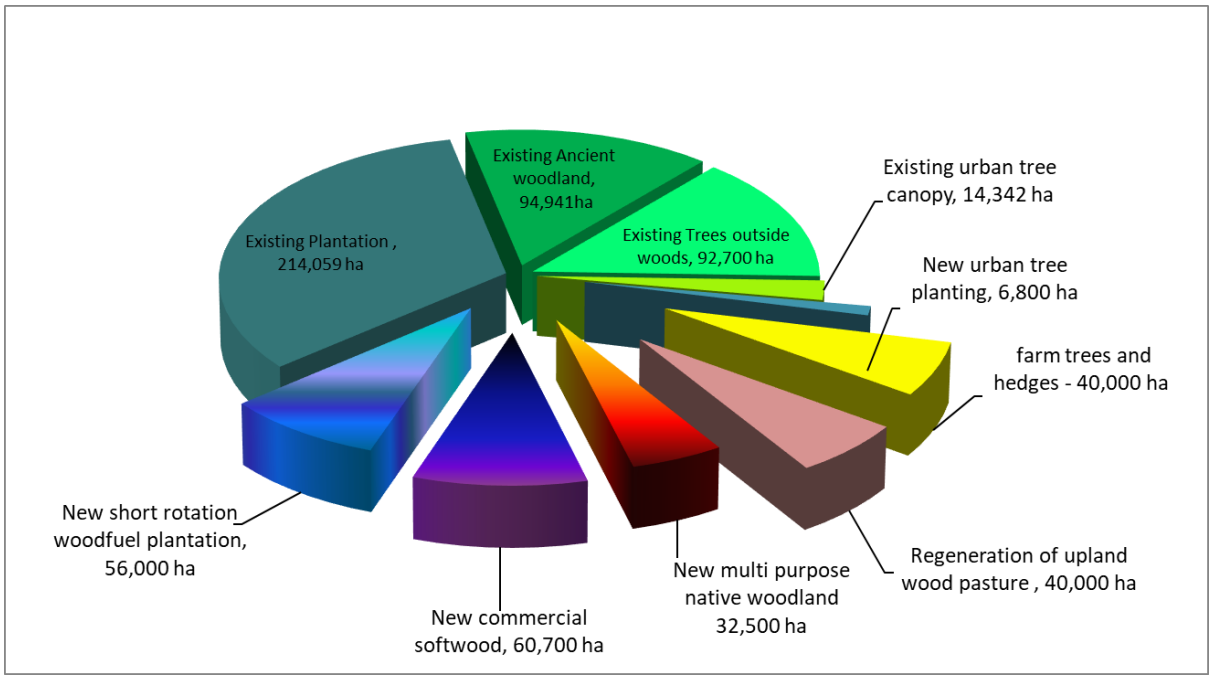
Trees can also be fantastic for wildlife, supporting fungi, mosses, lichens, invertebrate, birds and mammals. They can enrich existing wild places and provide essential stepping stones to allow wildlife to move through our countryside. But - only if the right trees are established in the right places. Planting the wrong trees in the wrong places can cause severe environmental damage to valuable peat bogs and soils, wetland and grassland habitats, degrade existing woodland habitats, impact ground nesting birds and will fail to gain the greatest benefit for wildlife.

Radnorshire Wildlife Trust support the planting and establishment of the right trees, in the right places and is issuing this policy statement to support and guide tree planting and establishment initiatives across Radnorshire to help maximise the benefits for wildlife and people. At this time of great change and opportunity we must ensure that people have the support to make the best choices for both wildlife and climate. Several recent tree planting schemes, while well intentioned, have caused more harm to our environment than good. See here: https://www.itv.com/news/border/2020-11-16/forestry-commission-admit-mistakes-in-peat-bog-row & https://www.bbc.co.uk/news/uk-england-cumbria-51587820

2. Policy Statement

The UK urgently needs to increase its woodland cover. The UK has the lowest woodland cover in Europe, at 13%, of which only 2% is ancient semi-natural woodland (ASNW). Wales fairs better than England (10% cover) with 15% total woodland cover and around 3% is ancient semi-natural woodland.

Woodland cover in Wales



Source: Woodland Trust

In Powys we have 29,263 ha of broadleaved woodland and 38,122 ha of coniferous woodland. Statistics on the total resource of semi natural ancient woodland are not available.
Of a total woodland network (trees and woodland) of 194,000Ha, 165,000Ha is functionally connected, the rest being core woodland area. We do know that 9,200Ha is designated for its nature conservation interest – this is 5% of the total approx. . RWT believe that Radnorshire should aim to increase its tree cover (individual trees outside woodland and woodlands) by at least 50% by 2030, achieved through planting in our towns and villages, as hedgerow, in-field trees in both upland and lowland areas, and as new woodlands and wood pasture and through the establishment of more ffridd. Species poor grassland should be targeted and the Powys opportunity maps BIS :: Powys Nature Recovery Action Plan should be used to guide planting of woodland.

RWT believe that establishing new trees and woodlands should be a big part of the action to deliver nature's recovery and help mitigate the impacts of climate change. RWT wants this to bring the maximum gain for wildlife. Mosaics of wooded and open habitats can play an important role in re-building wildlife networks so important to climate change resilience for much of our native wildlife; this aim will be a key driver within Nature Recovery Networks and achieving the target of 30% of land being managed for wildlife by 2030.

Whilst understanding the drive to plant trees to be seen to achieve measurable targets, RWT believe that increasing our tree cover should also be achieved by protecting young and growing trees, promoting existing saplings and through new natural regeneration. So, we should be thinking about tree establishment and protection not just tree planting.

RWT recognises that the pending uncertainty around the Sustainable Farm Schemes, uncertainty regarding land values and the agroforestry, business and tax incentives do not currently support landowners in adopting these approaches. We will be working alongside other Wildlife Trusts to influence relevant national policy in Wales.

The Woodland Code and the rising interest and resultant price in carbon credits, with private finance initiatives and industry looking to reach Net Zero and invest in green growth there are likely to be an increasing amount of new funding streams to help with planting. While caution will be needed to ensure that these schemes do not just allow 'business as usual' through simple off-setting, not backed up by serious attempts to de-carbonise, the rise of private finance and a better understanding of the natural capital value of woodlands and trees is welcomed by RWT.

3. Delivery

RWT believe that the greatest benefits for wildlife come from establishing a mix of woodland – to include wood pasture, hedgerow, scrub (to include Ffridd) and orchard trees. Woodlands with at least 20% open space and a diversity of tree species of differing ages offer the best opportunities for wildlife, in a lowland setting, while still providing benefits for carbon storage. Tree establishment can be achieved by promoting existing or new regeneration or by planting or by a combination of both.

Trees that grow via natural regeneration tend to be of local provenance and 'the right tree for the place'. Natural regeneration can take longer to establish, especially on thin upland soils, but the intervening bracken and scrub stages bring other benefits for wildlife- and are in fact a habitat of great importance for Wales, with Ffridd being a Biodiversity Action Plan habitat, albeit one not subject to protection under Environmental Impact Assessment screening.
Natural Solutions to Climate Change such as peat bog restoration, wetland and meadow creation, sea grass restoration and agroforestry all offer us a chance to sequester carbon and work towards net zero, while creating skilled jobs, ensuring that communities can still base themselves around land management but with increased nature and wellbeing.

RWT support the aim of reaching Net Zero by 2030 and wish to see this take place through a rapid decarbonisation of our society, industry and workplace.
The Climate Change Committee are predicting that the current actions, as laid out by Welsh Government, are not enough to avert the worst of climate change. RWT expect at least 2^{o}C warming, at current activity. Research shows that Natural Solutions to Climate change i.e low input and naturalised systems could help sequester around 30-37% of the current annual carbon emissions for the UK.[1] On its own, tree planting, or even establishment is not enough. We need to maintain a focus on peatland restoration and even peat bog recreation, wetland creation, wilding of our uplands and species rich grassland creation. These measure will also act as important mitigators against the warming and thus changing weather patterns we are already locked in to, slowing the flow of water from our upland areas to downstream and alleviating flooding through increasing absorption.

[1] Nature-based solutions are key to achieving Europe's ambitious climate change targets | IUCN

Natural Regeneration* Vs Tree Planting – relative benefits for each choice

Factor	Planted tree	Natural regeneration
High humic soil content from outset		X
Undisturbed soil carbon stocks		X
Resilient tree species		X
High survival rates of individual trees		X
Local seed source		X
Synergous plant communities		X
Higher levels of tree per hectare	X	
Lower cost per tree		X
Structural heterogeneity from the outset		X
Rapid establishment to forestry planting	X	
Slower establishment to scrub, then wood pasture/ffridd, then woodland if desired		X
Supply of construction and fencing material	X	
Urban trees**	X	
Orchard trees**	X	
Agroforestry **	X	

*it should be noted that there is a place for selective planting within natural regeneration, where woodland is the short-term objective, where seed banks are depleted or tree disease (ash dieback for example) is limiting establishment.

** planted trees are more suited to these options due to specific stock and a need to design planting layout.

RWT guidance on promoting natural regeneration:
Natural regeneration is an easy, natural, cheap, low carbon and low resource method of tree establishment as there is little need for canes, ties and guards and time-consuming aftercare. This reduces the carbon footprint of the trees established and of the land used. This doesn't have to be wilding, in the style and at the scale of the Knepp estate in Sussex, it can just be small corners and strips extending or linking other habitats, especially in the upland fringes and on hillsides. Here are some good areas to regenerate:

- In woodlands – protect the woodland from sustained grazing (where there is not a significant bryophyte interest and away from temperate rainforest) to allow an understorey of shrubs to develop and protect regenerating trees, planting to diversify where appropriate.
- on intensive ryegrass pasture, amenity land and arable land – if left unmanaged, such land should revert to woodland, via rank grassland and then scrub.
- In hedgerows – identify developing saplings in the hedgerow which can grow into mature trees and tag these so that they don't get cut when the hedge is flailed.

- In Ffridd – identify developing saplings which can grown into mature shrubs and trees. However, please note that ffridd is an important habitat in its own right and should not be encouraged to become closed canopy woodland.
- In upland areas – aim to establish Ffridd by easing grazing and protecting saplings.
- Protect damaged and heavily managed hedgerows, gap them up, plant more hedges and allow them to expand in width and height to provide more shelter and food for wildlife.

RWT guidance on tree establishment and planting

Make sure that you are not planting trees in the wrong place, as you may damage good wildlife sites, or reduce carbon sequestration in the soils. Sadly, data on the location and quality of such sites in Radnorshire is sometimes limited and either out of date or not readily accessible by the public, so check with your local ecologists. Do not plant on wildflower rich grasslands, wetlands, ffridd or commons. Don't plant in expansive open wet meadows, which might be important for lapwings and curlew or in peat bogs, mires or fens. And do not plant on peat of any sort – though increased tree cover on hills and in upland areas is desirable through natural regeneration. All these existing natural habitats are very effective at carbon sequestration and offer huge benefits to wildlife in their current state and should continue to be managed for their interest. Do not plant uniformly – adapt and respond to the land that you are planting, identifying and leaving existing high value features un-planted.

Ffridd is a hugely significant habitat, both culturally and biologically. It supports a wide variety of species and acts as a vital link between lowland and upland habitats. Despite this importance and its recognition as a Biodiversity Action Plan habitat, it lacks any formal protection or recognition in the woodland opportunity maps so is often missed in EIAs. For more information on ffridd, see here: ffridd_tcm9-384432.pdf (rspb.org.uk)

Make sure that you are selecting appropriate tree species for your geographic location, rainfall, soil type etc. RWT recommend native broadleaved species but understand that there is a place for conifers and commercial forestry and that in some amenity or historic landscape scenarios that non-native species have a place. Refer to the Natural Resources Wales Woodland Opportunities map here Natural Resources Wales / Glastir Woodland Creation Planners' Guide and also read the guidance on sensitive sites not recorded on the opportunities map. It is important to recognise that woodlands can be a barrier as well as a connector. Planting should be done in accordance with Natural Resources Wales guidance and can be funded through a number of grants, including the Woodland Carbon Guarantee.

Check that the stock you are using is grown from seed of local provenance (ideally Radnorshire, but as a minimum Wales), which will establish better and be less likely to import new tree diseases. RWT recommend that native tree species are sourced from the appropriate Forestry Commissions Geographical Seed Zones Forestry Commission Bulletin: Choice of seed origins for the main forest species in Britain (forestresearch.gov.uk) . Species planting mixes will be kept under review as the climate changes – climate projections show that in 85 years' time we may have a climate that favours species that are currently found within the southern Mediterranean.

For maximum carbon sequestration, consider the potential lifespan of the trees in each situation and ultimately to the need to ensure a sustainable end use for the timber. When selecting methods of tree protection look for sustainable options. Biodegradable, non-plastic options are available, including carboard and are improving all the time. Sabre planting is another option: Sabre Planting with the Tree Shepherd (cambrianwildwood.org) Where plastic tree guard are used, plan to remove and recycle them when trees have reached sufficient age as to no longer need protection.

So – where is the right place?
In 2010 Professor John Lawton produced a paper for the Government called 'Making Space for Nature'. This established 4 main principles for improving wildlife, which are still the guiding principles for Nature Recovery Networks. They summarise as**: more, bigger, better and better connected.** So, make sure that your planting meets these principles, helping wildlife spread naturally through the landscape. Here are some good places to choose:

- Trees in themselves do not equal a woodland with all the associated benefits for wildlife or nature based solutions, woodland layers including open habitats are an essential component. Woodland design and future management should be considered prior to new woodland establishment.
- On the fringes of existing woodland to extend the woodland and for rapid colonisation by other woodland species (but check that this isn't on species rich-grassland or wetlands etc). Do not automatically plant up to the boundary. Consider leaving a woodland "ride" where appropriate to retain existing wildlife rich woodland edge habitat.
- In places where the new woodland will have good links to existing hedgerows, woodpasture or ffridd or provide good stepping stones between existing woodlands.
- Plant fruit trees in the gaps in our traditional orchards to extend the life of the orchard. Fruit trees are excellent for wildlife and provide fruit. Plant a full range of local traditional varieties to maintain genetic diversity for the future, which may be important considering climate change.
- On recent rye-grass grass leys without any wildflowers or on arable land, especially land that has been successively ploughed and has low organic matter and therefore carbon content. Even field margins planted as small copses or wide hedgerows will count, making a difference for carbon and wildlife.
- Plant new hedgerows, especially where hedgerows have been lost from the landscape. Make them as wide as possible and where possible link them to other wooded features. They shelter predators of agricultural pests such as aphids, flea beetles and weevils and provide shelter for livestock, something that will become more important as the climate changes. They also absorb nutrients from the soil and, with careful positioning, can assist in the management of run-off buffering against rivers and water bodies.
- Along river corridors and in floodplains, plant bankside trees and establish wet woodland (but check you are not planting on valuable floodplain meadows, or open breeding habitat of curlew and other waders). Riverside trees have multiple benefits. They: shade and cool the river; combat temperature increases which deplete oxygen; sustain diverse invertebrates and fish; can alleviate flooding; and reduce soil erosion and nutrient run-off into the rivers.
- In open situations, including woodpasture and ffridd, plant new trees to succeed our veteran trees. The UK has the highest density of veteran and ancient trees in Europe, but we need new, growing and maturing trees to replace them. Trees in the open grow more rapidly, with wider crowns and more leaf, increasing their carbon capture.
- Within towns and villages, particularly where trees will provide local climate benefits and pollution control. Trees within the built environment are important for enhancing the public realm providing greater opportunity for people to connect with nature
- Where forestry is the main objective, and understanding that there is a future need for homegrown timber, we promote that new plantations are diverse in species and are managed as continuous cover forestry as this holds far more value for wildlife.
- Where new plantations are needed we would favour them being on the most degraded land and designed so that they have graded edge and connectivity to the wider landscape. The citing of plantations needs careful consideration against the Powys Opportunity maps, particularly the

grassland and ancient woodland maps. Plantations should not impact on the ability for these networks to establish.

RWT advice on aftercare of trees

The care and after-use of trees is an important consideration for maximum carbon sequestration. Consider the long-term intention for the woodland, if for biodiversity and long-term carbon sequestration consider a variable woodland structure including opportunities for future veteran tree growth. If primarily grown for future timber extraction supporting the development of trees that can produce high-grade timber means that the trees that are felled are more likely to be used for building, construction and sustainable products, rather than firewood. The timber will then sequester carbon for longer after felling and can contribute to our reduction in plastic and other nondegradable, unsustainable or recyclable products.

- squirrel control will be needed to prevent the damage or death of developing trees from bark stripping. Grey squirrel are present at very high densities and has few natural predators. Research shows that pine marten are likely to have a positive impact on reducing squirrel impact.
- deer control via fencing or culling will also be required in some areas. We have 6 species of deer in the UK; only 2 are native and numbers are at a record high.
- The exclusion of grazing animals will be required in some areas to allow future tree establishment and the development of an understory.
- sensible thinning of trees (both planted and naturally established) will be required to ensure we create healthy trees that can have a sustainable end-use.
- Consider how the resulting woodland could be enriched for wildlife, particularly during the development phase. Enhancement of woodland edge habitat, ground and shrub layers in glades and rides can have huge benefits for wildlife including our rare and declining woodland specialists.
- Management of open areas and rides is essential to maximise the biodiversity potential of newly created woodlands. This can be achieved through low level grazing or cutting regimes on rotation.

What RWT will do:

- We will maintain and make accessible a library of survey information of woodlands within Radnorshire
- We will ensure that we have expertise on woodland management and creation in the Radnorshire context within our staff, trustee and/or Conservation Advisory Committee.
- We will manage and allow public access to our nature reserve woodlands
- We will advocate for the support for protection, retention and restoration of our semi natural ancient woodlands.
- We will provide support and advice on woodland creation and management to maximise outcomes for wildlife
- We will develop and support local and large scale projects that restore and enhance the habitat and landscapes of Radnorshire.
- We will advocate for tree and woodland funding support to facilitate the establishment and long-term management required for biodiverse woodlands that includes open habitat to benefit future generations.

- We will advocate for appropriate funding support for the management and restoration of other habitats to ensure that a funding bias does not result in an acceleration of wider habitat loss.

RWT Estate

- When establishing new woodland, we will employ the following hierarchy: natural regeneration; natural regeneration with enrichment planting; planting.
- When planting, we will employ the following hierarchy: direct seeding with seed collected from site; whips trees grown on site from seed collected on site; local provenance whips of locally native species or axiophytes.