STATE OF THE UK'S WOODS AND TREES

Trees and woods in a changing world – a summary for Wales

COED CADW
WOODLAND
TRUST

Summary report

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Contents

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Introduction and context

The publication of the Woodland Trust's *State of the UK's Woods and Trees 2025* coincides with the 10th anniversary of the Well Being of Future Generation Act here in Wales. Taking inspiration from indigenous wisdom and the Seventh Generation Principle, this legislative framework seeks to embed long-term and preventative thinking as the lens through which all decisions should be viewed.

The act provides seven wellbeing goals to orientate action towards and from which progress is measured. Amongst these goals a resilient Waless draws a vision of Wales as a nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change. This goal makes clear to all decision makers that economic, social and ecological resilience are not independent factors which can be considered separately.

This interconnectivity between planetary and socio-economic resilience is a theme which has become increasingly and starkly apparent in the work Coed Cadw does across Wales. Across Wales, communities are feeling the impacts of a changing climate and extreme weather events.

Woods and trees are an integral and cost-effective part of the solution. They provide essential habitat to support a biodiverse natural environment and provide critical ecosystem services, reducing flooding, protecting soils and capturing carbon. They provide shade and shelter for people and livestock and remain one of the most effective means of mitigating for extreme heat. Of course, trees and woods are far more than just a benefit to be measured; their cultural, spiritual, aesthetic value speaks deeply to people and communities on a visceral level, they can be majestic and awe inspiring, funny and safe, a friendly landmark, anchors of hope within an ever-changing world. Trees and woods are intrinsic components of the kind of world which should be left for future generations, and this report highlights how much more work needs to be done to ensure that.

This report utilises new data included in the recently published *State of the UK's Woods and Trees 2025*, which demonstrates the significant benefits trees and woods bring to improved environmental and human health outcomes, and summarises recent data on the extent, condition and value of woods in Wales. Its purpose is to drive positive change for Wales's native woods and trees by identifying key threats and clearly laying out what needs to happen to improve their condition and secure their future. It is hoped that the report can demonstrate how urgently action is needed to conserve and enhance this vast natural resource, and spark thinking across policy silos, to develop an understanding of trees and woods as critical infrastructure for the future and important components of essential public services for generations to come.

Key results

Extent and condition

Most woodlands in Wales are not in good condition, although woodland extent has shown a modest increase since the last State of Woods and Trees report.

Wales contains thousands of ancient and veteran trees and a significant portion of the UK's temperate rainforest, but these habitats need better protection and management. Wales also has relatively high urban tree canopy cover compared to the rest of the UK, although this is not distributed equally.

People and wildlife

Across the UK woodland biodiversity continues to decline, and woodland management to benefit woodland biodiversity is needed. Nature is beneficial for people's mental and physical wellbeing, and people in Wales value access to nature. However, as with urban tree canopy cover, access to beneficial woodland biodiversity is not distributed equally.

Threats

Woodlands in Wales continue to face threats including introduced pests and pathogens, pollution, extreme weather and herbivore impacts from deer and grey squirrels. These threats all have the potential to threaten conservation objectives, but a lack of funding for woodland management and a skills gap in the conservation sector limit the action that is needed.

What's happening?

Current planting rates are off track to meet the targets set by the Climate Change Committee, and increased planting rates are needed.
Agroforestry, woodland management, restoration of plantation on ancient woodland sites and natural flood management schemes offer opportunities to meet nature recovery, climate emergency adaptation and tree cover targets, while benefiting people and communities.

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Policy asks

To **enhance and protect existing woods and trees**, the government should:

1. Focus on developing a woodland economy that will improve woodland condition in every part of Wales.
2. Strengthen legal protection for Wales' ancient and important trees.
3. Effectively monitor and regulate pollution to enforce regulatory standards.

To **expand and connect woodland and tree cover**, the government should:

1. Accelerate new woodland creation to more than 10,500ha per year by 2035.
2. Maintain surveillance and management of tree pests and pathogens and pave a way for self-sufficiency in tree supply.

To **improve the evidence**, the government should:

1. Monitor and control impact of deer on new and existing woodland.
2. Support research aiming to determine the effect of grey squirrels on wider biodiversity in Wales.
3. Support research aiming to determine the effects of extreme weather on Welsh woods and trees.

To **invest in the future**, the government should:

1. Exercise clear and effective integration and collaboration at a strategic level in the development of green infrastructure, wellbeing and economic strategies to ensure that nature-based solutions are mainstreamed across policy areas.

1. Extent & condition

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Extent

Trees and woodlands are varied and valued parts of the landscape of Wales. They are essential habitats for a large number of species and provide a range of ecosystem services vital to landscape function, human health and wellbeing, and the economy.

Increasing the cover of woodlands adds to their resilience by providing greater buffering, more transition zones and corridors and larger areas for species to thrive in. These principles are reflected in the Lawton review and NRW's DECCA framework, both of which highlight the links between connectivity and extent and ecosystem resilience.

Increasing woodland cover requires a comprehensive understanding of where they currently are. *State of the UK's Woods and Trees 2021* (SoWT 2021) reported on the woodland extent figures at that time, that showed that woodland covered 13.2% (3.2 million ha) of the UK's land surface. This was split roughly equally between native and non-native species, with ancient woodland making up 2.5% of the UK's land area. Below an update on these figures relevant to Wales is provided using data from the National Forest Inventory (NFI):

- There has been a slight increase in canopy cover in the UK since SoWT 2021, with woodland now covering 13.5% of the country's land area. Woodland area in Wales has also shown a modest increase in this time, now covering 15% of the country's land area (compared to 14.9% in 2020). The total area of woodland in the UK in 2024 was estimated to be 3.28 million hectares. Of this total, c. 0.31 million hectares (9.5%) is in Wales.
- Woodland cover in Wales is higher than the UK average but compares unfavourably to a European average of 39%. Current planting rates also remain off track to meet the net zero requirements set by the Climate Change Committee.
- There is a total of 609,990ha of ancient woodland in the UK, covering 2.5% of the land area of the UK. 94,940ha is in Wales, covering 4.6% of the land area of the country, and of this 25,710ha is plantation on ancient woodland sites (PAWS), covering 1.24% of the country.

Condition

Having woodlands in good condition is vital as they provide habitats for wildlife and ecological functioning. Woodlands in good condition are more likely to be able to provide these services, and to be resilient and able to adapt to future changes in climate.

SoWT 2021 showed that just 7% of Britain's native woodland is in good ecological condition. In Wales, the figure is not much better, with 9% of native woodland area in Wales in favourable ecological condition. 91% of native woodland in Wales is categorised as being in intermediate condition with only 0.1% of native woodland in Wales in unfavourable condition.

Whilst this term 'intermediate' offers a general overview of ecological condition, to get a fuller understanding of the true ecological state of Welsh woodland requires further disaggregation.

- 98% of native woodland area in Wales is in unfavourable condition for the presence of veteran trees, 84% is in unfavourable condition for the proportion of open space, 82% is in unfavourable condition for the volume of deadwood it contains and 44% of native woodland area has some signs of herbivore browsing damage.
- 25% of native woodland stands are smaller than 5ha, while 49% are found in woods smaller than or equal to 20ha in size.
- 7% of native woodland area in Wales has unfavourable levels of invasive species, but they have a major impact on ecological condition where present. Only 5% of native woodland area in Wales is in favourable condition for its ground flora.
- Some woodland attributes show more positive signs though. For example, 86% of native woodland area is in favourable condition for 'nativeness' of

canopy, while 55% of native woodland area in Wales is in favourable condition for vertical canopy structure.

- Although individual woodland management is undertaken on a single woodland scale following an assessment of threats and condition, understanding these attributes will provide the best chance of achieving large-scale woodland recovery at a landscape scale.

Ancient and veteran trees

Ancient and veteran trees have an extraordinary ability to capture hearts and minds. They are valuable as custodians of cultural heritage and are disproportionately important for biodiversity compared to younger trees, offering niches for a range of species which aren't found anywhere else. The UK's oldest and most special trees include internationally renowned collections of ancient and other veteran trees, as well as trees termed heritage trees.

- The Ancient Tree Inventory (ATI), held and managed by the Woodland Trust and made openly available, is a data set of records of ancient, veteran and other notable trees in the UK. As of August 2024, 233,201 ATI records of ancient, veteran and notable trees have been verified in the UK, with 5.4% (or 12,540) occurring in Wales, although it is important to note that the ATI is not a complete data set.
- In England and Scotland, stratified sampling techniques have been developed to identify high priority sites for recording ancient and veteran trees. A standardised sampling technique like this can help ground truth locations that are known to be of particular importance such as the Elan Valley, and go some way to helping us estimate how many trees are present in the landscape which are not currently recorded but could be.
- Figures for Wales may also be lower than the UK picture, due to the nature of the Welsh upland landscape. In upland regions, where trees may face tough conditions and poor soils, they may be smaller in stature and windblown characteristics are common. These gnarled trees which fall outside common perceptions of what an ancient tree looks like may go unrecognised and hence be undervalued and under recorded.

Temperate rainforest

Temperate rainforests are globally rare habitats that occur in regions across the temperate zone where there are high levels of rainfall and oceanicity. High humidity and low temperature fluctuations create conditions that are suitable for the growth of specialised plants and fungi, bryophytes, ferns and lichens. They are characterised by a layer of epiphytes growing on and within the canopies of trees and are unique and culturally significant woodlands, and much of Wales provides suitable conditions for temperate rainforest.

- The Welsh rainforest landscape – wherever the oceanic rainforest climate intersects with tree cover – covers an area of 768,000 hectares (ha), which includes 116,042ha of closed canopy woodland and forestry. This total is made up of 61,426ha of broadleaved woodland (53%) and 54,616ha of conifer plantation (47%), although it is important to note that while a conifer plantation may fall within the rainforest landscape and therefore qualify climatically as a rainforest, these woodlands are unlikely to be nature rich and support the biodiversity associated with a native temperate rainforest

habitat in good condition due to a lack of species and structural diversity, low proportion of native broadleaved trees and dense shade.

- An assessment of rainforest habitat in three regions of Wales shows that only 22% of sites surveyed are in 'good' condition and 25% are in 'poor' condition. No sites surveyed were in 'very good' condition. In particular, 62% of sites surveyed in Wales have inappropriate grazing levels, 63% of which are under grazed. Problematic invasive species, including *Rhododendron ponticum* as well as invasive native species such as ivy and holly, were each present in almost 70% of sites surveyed.
- Even in protected Special Areas of Conservation (SACs), most temperate rainforest sites are not in favourable condition, while the majority of species and habitat features in rainforest Sites of Special Scientific Interest (SSSIs) are classed as being in unfavourable or unknown condition.
- Currently only 12% of Welsh rainforest has legal protection through the protected sites network as SSSIs or SACs, but there are multiple landscape-scale projects happening across Wales to begin restoring the rainforest such as the Celtic Rainforest Wales LIFE Project and the Eryri Rainforest Partnership.

Urban tree cover

The 'urban forest' provides vital ecosystem services such as shading and cooling, supporting physical and mental wellbeing, and stormwater management. These services help mitigate the effects of climate change and impact public health. The urban forest provides most people's primary form of contact with trees and woods, but despite the vital importance of the urban forest, information about levels of urban tree canopy cover (UTCC) across the UK is relatively scarce.

- Significant variation in UTCC exists at every administrative level in the UK, but UTCC figures for UK cities are well below the European average.
- The average UTCC across the UK was 19.3% with a figure of 22.2% for Wales, the highest across the four countries. South Wales features relatively high UTCC at 23.2, with Cardiff having the highest UTCC of all cities assessed, although North Wales displays lower UTCC at 17.1%. At individual electoral ward level and neighbourhood level, Wales also features the highest UTCC across the four countries.
- As the data above highlights, urban woods and trees are not distributed equally. The Woodland Trust has developed the Tree Equity Score and tool to highlight this disparity and help local planners and communities address it. Over 1,000 neighbourhoods in Wales have been given a Tree Equity Score, which ranges from 0 to 100. These neighbourhoods are home to approximately 65% of the Welsh population, and over 80% of these neighbourhoods have inadequate tree cover. The lower the score, the greater priority for tree planting. A score of 100 means the neighbourhood has enough trees. Using the Tree Equity Score and tool, expansion can be targeted in areas which need it most and where the benefit will be greatest.

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2. People and wildlife

Access and wellbeing

There is consensus that spending time in nature can decrease the risk and burden of poor health, and elevate people's wellbeing, leading to considerable savings to the health system. Publicly accessible natural spaces are therefore vital infrastructure for supporting the health and wellbeing of the population.

- Woodlands are in the top three most visited type of natural spaces in Wales and are an important habitat type when it comes to delivering wellbeing benefits.
- The number of people regularly visiting woodlands in the UK is tracked through time by two surveys: the Public Opinion of Forestry Survey, and the People and Nature Surveys for Wales, which both generally reflect a strong affinity for woodlands in Wales.
- Green space also provides significant financial benefits. The annual mental health benefits associated with visits to the UK's woodlands were estimated to be £185 million per year (at 2020 prices). In Wales this value is £13 million. The annual valuation of overall health benefits from recreation in woodlands was estimated at £1.149 billion in 2022, while in Wales this value is £99 million.
- Over 5,000 people representing a diverse cross-section of the public from across the UK were surveyed online to quantify people's wellbeing responses to biodiversity. Overall, people reported experiencing positive wellbeing in response to biodiversity within a woodland local to them, with a score of 61.7 out of 100 (where values above 50 represent positive wellbeing in response to biodiversity).
- Using this data, the University of Kent has mapped the cumulative modelled distribution of woodland species known to possess wellbeing effect traits. The maps indicate the richness of these wellbeing effect traits across England, Wales, Scotland and Northern Ireland. Across all four countries, there is a negative association between effect trait richness and the level of deprivation of the neighbourhood in which the woodland is located.

Biodiversity

Biodiversity is both worthy of protection in and of itself and essential for woodland resilience in a changing world, but the results from the Bunce survey and indicator data for a wide range of woodland species reveal that woodland biodiversity is continuing to decline.

- At a UK-level, many of the woodland-associated species experiencing ongoing declines are those which require open spaces and diverse vegetation structure within woodlands to thrive, and this trend is consistent with the general trend of canopy closure described in the Bunce report. Additional drivers affecting the composition of woodland flora include eutrophication, tree disease and deer browsing, while a warming climate is also favouring certain species.
- Woodland birds increased in Wales by 33% between 1995 and 2020, although the proportion of generalist species included in the index may be driving this

overall increase. Differences in species available for selection as indicators between Wales and the wider UK have led to differences in trend direction, with woodland bird populations at the UK level decreasing by 37% between 1970 and 2022 and continuing to decline since 1995.

- In Wales, an abundance index comprising six bat species also increased by 76% between 1998 and 2021. While drivers of population dynamics in different taxa are complex and dynamic, an increase in high forest, amongst other things, has likely played an important role for recovering bat populations.

Carbon

Woods and trees play a role in the carbon cycle and the UK's climate change mitigation and net zero strategy. Existing woodlands store carbon in both tree biomass and in forest soils. Protecting and strengthening the stability of these carbon stocks needs to be prioritised as declining condition, pests and diseases and the impacts of climate change may lead to significant losses of carbon.

- The total carbon stock of UK forests is about one billion tonnes of carbon (1095 Mt C), while total carbon stock of forests in forests in Wales is 0.09 billion tonnes (92 Mt C). Analysis by Forest Research using the National Forest Inventory (NFI), modelled that the carbon stock of living trees within ancient and long-established woodland is set to double over the next 100 years. Ancient woodland storage differs by country, with Wales containing the lowest total carbon stock in living trees in ancient and long-established woodlands compared with England and Scotland. However, recent LiDAR assessments of native trees suggest traditional methodologies may be under-estimating the carbon stock of the above ground biomass of semi-natural native broadleaf woodland by nearly 80%.
- The timing of woodland creation matters, due to the slow initial rates of carbon sequestration as trees grow. At a UK level it is estimated that missed creation targets between 2020-2021 and 2023-2024 would have removed 8.5 million tonnes of carbon dioxide (Mt CO2e) by 2050.
- Current planting rates are significantly off track in meeting the required woodland creation targets to achieve the CCC's net zero pathway in Wales and at a UK level, and further analysis is needed to allow for a greater understanding of the role of existing woods and trees in carbon storage and sequestration in Wales. The CCC's 7th Carbon Budget advice includes recommendations for planting new diverse woodlands to increase UK woodland cover area from 13% to 16% by 2040 and 19% by 2050. This would require tree planting rates to more than double to 37,000ha pa by 2030.

3. Threats to native woodland in Wales

Introduced pests and pathogens

Introduced pests and pathogens ('pests') have the capacity to cause widespread impacts on, and losses of, trees, as witnessed with Dutch elm disease and ash dieback, and SoWT 2021 reported a significant rise in the incidence of serious pest introductions since 1990.

- Analysis in *State of the UK's Woods and Trees 2025* has determined that the UK currently hosts 121 pests of our native tree species which are either introduced or have uncertain origin. Since SoWT 2021, one new serious pest *Phytophthora pluvialis*, which was first found in Cornwall in 2021, has been found at multiple sites in Wales.
- International trade of live plants and plant products is considered a key driver of pest and pathogen introductions, especially alongside climate change which is predicted to aid pest arrival and/or establishment in the future. Climate events which may cause increased stress in trees are also likely to increase host susceptibility to pests.
- Statutory Plant Health Notice in Wales (SPHNs) are issued by Statutory Plant Health Agencies in order to control outbreaks of dangerous plant pathogens. Wales has the greatest percentage of forest area with received Statutory Plant Health Notices applied over the past four years at 1.53% of forest area, which is more than double the land area for tree planting at 0.08%. SPHNs often prescribe clear-felling as the appropriate treatment for *Phytophthora ramorum*, which can significantly threaten conservation objectives.
- Continued treatment of pests which have become established is extremely costly, with the annual cost of managing just six pests across the UK estimated to be around £920 million. In Wales, the cost of managing the four of these pests which are present comes to £130 million.

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Deer

At lower densities deer can perform important ecological functions, however unsustainable deer population levels prevent tree regeneration and therefore threaten the future of woodlands. High deer densities can also negatively affect woodland structure, ground flora species richness and the abundance of birds, small mammals and invertebrates. Across the UK, deer populations are increasing, with many woodlands now hosting unsustainable population levels.

- Five deer species are present in the wild in the Wales, (two native species, one naturalised species, and two invasive species), and while deer impacts in Wales are recognised to be patchy in their distribution and not uniform across the country, Wales currently has no accurate and representative baseline data on the distribution and true species makeup of the deer population. This information is needed in order to inform appropriate and adaptive management of Welsh woodlands at landscape scale. Further study in Wales, explicitly exploring the capacity of Welsh woodlands to support deer, would be beneficial.
- While no UK-wide datasets on deer population dynamics exist, on Woodland Trust sites high numbers of deer are being recorded in some locations, and generally high impact scores on woodland vegetation. Without significant investment and intervention across the sector, woodland structure and ecology is, and will be, adversely impacted.

NICK REED-BEALE

- As deer are dynamic and move throughout the landscape, coordinated management at above the single woodland scale is now needed. Partnerships exist which aim to highlight the importance of managing deer at a landscape level, such as the Deer Initiative, which aims to achieve and maintain a sustainable and healthy population of wild deer in England and Wales. Ultimately, the success of this endeavour will rely on the upscaling and prioritising of landscape-scale deer management.
- While deer are acknowledged to be an issue at a UK and Wales level, in Wales, feral goats also pose a significant problem for woodland condition. The Eryri Goat Group has been relatively successful both at monitoring populations and coordinating control efforts, however, it has relied on partner resource and will and hasn't managed routine monitoring of impacts. While it is likely that populations are more or less contained at present, more targeted action might be needed to address impacts in some habitats and localities.

Pollution

Pollution is an underappreciated threat to woodland integrity and a driver of systemic change, acting on every level from soil chemistry to species dynamics. The fragmented nature and large edge area of UK woodlands heightens their susceptibility to environmental pollution, and air pollution was identified as a key pressure on woodlands in the 2020 State of Wales' Natural Resources report. Pollution will also play a major role in moderating the response of UK woodlands to the effects of climate change and susceptibility to disease.

- Despite gradual reductions in exceedance, critical loads for excess acid and nutrient N are still widely exceeded across UK woodland habitats, with hotspot regions in agricultural intensive regions such as the Welsh Borders. The area of coniferous or broadleaved woodland with excess acidity is decreasing across every country of the UK. There has been little change in the extent of nutrient N deposition across common woodland types on a UK-wide or regional basis since 2003.
- In 2019-2021, the annual atmospheric concentration of NH3 exceeded a critical level for risks of impacts on sensitive lichens and bryophytes across much of Wales, and a critical level for impacts on sensitive vascular plants in agriculturally intensive regions of Wales including the Welsh Borders and West Wales.
- Furthermore, in 2019, exceedance of the critical level for broadleaf trees for O3 is estimated to have caused an average 7.5% loss in biomass increment for mixed broadleaf and 7.6% for beech woodland habitat in Wales. Herbicide drift also negatively affects woodland plant species and may be a long-term stressor for woodland in agriculturally intensive regions of Wales, while the effects of other pollutants such as particulate matter and material from fly tipping are less well understood.

Grey squirrels

Grey squirrels can cause extensive damage to trees by stripping off the outer bark and ingesting the underlying phloem tissue and can affect woodland creation and management goals and woodland condition and resilience.

- The NFI shows evidence of bark stripping damage in woodlands within Wales (11% with damage). In 26% of NFI sections surveyed in Wales, the majority

of trees that showed signs of bark stripping are likely to die due to the severity of damage. In a study conducted in Lady Park Wood in South East Wales from 1977 to 2002, squirrel-related tree mortality rates were recorded between 2.3 and 5.4% per year. This level of damage and mortality has consequences for both biodiversity and financial productivity.

- At a UK level, the estimated direct cost of grey squirrels is £40.6 million, of which Wales comprises £1.1 million. According to the Royal Forestry Society, grey squirrels pose a probable economic loss to forestry of approximately £37 million a year in England and Wales.

NATIONAL FOREST

- As a result of competition with grey squirrels for resource, which is exacerbated and mediated by disease dynamics, red squirrels are now reduced to fragmented populations within Wales. However, beyond their negative impacts on red squirrel populations, the effects of grey squirrels on biodiversity are poorly understood.

Extreme weather

With the changing climate an increased frequency and intensity of extreme weather events including fires, storms, drought and floods is expected. Trees and woods are likely to be impacted, and planning is needed to make them more resilient. Indeed, the Third UK Climate Change Risk Assessment Technical Report: Summary for Wales reports that 'Lowland landscapes (woodland and wetland) are likely to be affected by hotter, drier summers and upland woodlands by drought.', while changing weather was identified as key pressure on woodlands in the 2020 State of Wales' Natural Resources report.

- The UK Climate Projections 2018 show that the projected climate change trends over land for the 21st century show increased chance of warmer, wetter winters and hotter, drier summers, as well as increases in the frequency and intensity of extreme weather events. The projections also suggest that by mid-century, there will be around a 20% increase in heavy rainfall, with average rainfall around 5% higher than the 1981–2000 average.
- Taken together, the combination of increasing frequency of extreme weather and woodland sensitivity to climate change, this climate unpredictability and the frequency of wind and flood damage and of damaging drought and fire could become an existential threat to plantations and outdoor farming in Wales. Additionally, chronic climate change could reduce the extent of temperate rainforest in Wales.

JOEL GOODMAN/WTML

- Whilst abundant historical data shows how climate is changing, no long-term datasets on effects of extreme weather exist to show if these events are currently increasing with climate change at a UK or Wales level. There is also little Wales-specific data available which indicates how susceptible Welsh woodlands may be to climate change and extreme weather at present or in the future. Understanding these questions and how woodlands can contribute to climate and extreme weather adaption must now be a key issue for climate resilience in Wales.

Provenance and nursery stock supply

Trees and shrubs face considerable challenges in adapting to the impacts of climate change as their long lifespans equate to slow rates of population change and consequently of evolutionary processes, and climate projections of generally wetter winters, drier summers, and higher frequency of extreme events have raised significant debate about whether UK native species have the ability to adapt naturally to these new conditions.

- While adaptive or transformative woodland management practices such as assisted geneflow and assisted migration may play a role in mitigating the impacts of climate change, evidence shows that for native woodlands with conservation objectives management, practices that support or enhance natural processes like regeneration and enable trees to harness their evolutionary potential to adapt to climate change should be prioritised.

Funding and skills gaps

Tree and woodland actions are supported by a complex, fluid, variously targeted and mostly short-term collection of funding options including, in Wales, the new Sustainable Farming Scheme, landscape project initiatives, private funding,

income from timber sales and grants to woodland owners. Grants serve a vital role and remain the most necessary means of supporting improvement in woodland condition. Research commissioned by the Woodland Trust concluded that despite widespread attention, nature markets remain a limited part of the overall solution.

Reviewing the current grant schemes for woodland shows that whilst support for creation of new woodlands is widely available, management and restoration of existing woodlands does not receive the same level of funding. A major expansion of woodland creation activity is planned in Wales and will require additional skills and workforce in land management and the tree supply chain.

- Wales is currently in the process of developing new funding schemes. New support for small scale agroforestry grants have recently been introduced, while a new woodland management grant scheme is being prepared for introduction early in 2026 in parallel with the new Wales Sustainable Farming Scheme.
- There is currently no support for PAWS restoration in Wales, but the Woodland Trust understands that the Welsh Government is developing a new scheme which would provide some support for restoration interventions.
- There is also a lack of support for management of woodlands in Wales. The Wales Environment Link (WEL) agrees that the current priority is for a simple menu-based grant offer that will encourage woodland owners to take the first steps to bring their woodlands under management. Taking these first steps needs advice and some financial support.
- Recent research has shown there is a significant gap between the number of people needed to meet planting targets and the number of people joining the sector, with a 63-86% increase on 2017 workforce levels needed in England and Wales by 2030. The Welsh Government's forestry strategy recognises the need for increasing the number of people entering the sector. The report 'Skills Through Crisis: Upskilling and (Re)Training for a Green Recovery in Wales' finds that there is significant job creation potential for a 'green recovery' in Wales. The Forestry Skills Forums have long been highlighting these challenges, for example in the Forestry Skills Study of 2017 in England and Wales. However, very little has improved in recent years.

4. What's happening?

Creation

Across the UK, there are ambitious and challenging targets intended to increase the extent of native woods and trees to tackle the climate and nature crises and create landscapes rich in native woods and trees for people and wildlife. While woodland extent is increasing, the rate of expansion has slowed in recent years, with a 1% increase in canopy cover over the last two decades. In order to meet net zero and nature recovery targets, it is vital that the underlying reasons for this lack of progress are addressed.

- Average rates of creation have increased in every country over the past five years (2020-2024) compared to the previous reported (2016-2020). The UK as a whole achieved an average of 14,896ha per year, with this breaking down to an average of 565ha per year in Wales.
- Planting rates are still nowhere near the averages required to meet net zero advised by the Climate Change Committee, with the greatest deficit seen in Wales (only 11% achieved on average). With over 90% of land in Wales under farming ownership or management, the required increase must mostly happen on farmland, and the Welsh Government has confirmed it is committed to finding ways to support increased tree cover through the new Sustainable Farming Scheme.
- There is, however, significant opportunity for tree planting and woodland creation in Wales. The Wales Tree and Hedges Stakeholder Group has estimated that 51% of agricultural land area of Wales is technically suitable for planting and that up to 80,000ha of new woodland can be created though riparian planting.
- Land-use change has often been treated as either a biophysical (land suitability) or economic issue, being seen as a predictable and rational process, rather than the social (or negotiation) process between groups of people with different values that it often is. Incorporating social and cultural values into woodland creation plans in Wales should be considered from the start of any project.
- Research has suggested a comprehensive land-use strategy as the most important policy to prioritise in terms of delivering land-use transitions. Although developed for Scotland, this is lacking for Wales. The Welsh Government has expressly rejected this approach to imposing land-use change and has invested in a substantive co-design approach to developing a new farming support scheme and to the delivery of tree cover targets.

Agroforestry

As over 90% of Wales is used for agriculture, increasing wooded habitats on farmland – integrated into viable farm businesses – offers a way to significantly increase tree cover. Agroforestry – farming with trees – is an essential tool to help deliver UK biodiversity and net zero objectives on a landscape scale, whilst improving economic resilience and food security into the future.

Agroforestry is demonstrated to enhance a range of provisioning, supporting, regulatory and cultural ecosystem services. Agroforestry can offer a 'win-win' in many scenarios, enhancing biodiversity and allowing farming to mitigate

BEN LEE/WTML

and adapt to the effects of climate change, whilst maintaining or enhancing productivity and income. But major disincentives remain to the wide uptake of agroforestry by farmers, particularly a lack of financial support and technical knowledge. Greater clarity and integration of evidence in government policy is also needed.

In 2023 the Climate Change Committee recommended that trees should be planted on 5% of farmland in Wales by 2035 and that hedgerows should be extended by 20% by 2035, further highlighting the need for a Sustainable Farming Scheme that incorporates agroforestry.

Management interventions to improve ecological condition

Woodlands in good condition as a result of planned and active management are likely to make the greatest contribution to ecosystem service provision and be more resilient to external threats, but the multitude of benefits that can be gained from managing woodlands appropriately requires support and incentives that allow landowners to realise and achieve these benefits.

- Non-intervention does not necessarily improve ecological condition. In 1944, at Lady Park Woods in Monmouthshire, a non-intervention approach was established to understand what would happen to a small area of ancient woodland left without intervention. The woodland offers a good case study illustrating that lack of proactive management can have negative effects on ecological condition, as the site has seen a reduction in species diversity over this time and the reserve is rated as 'unfavourable, declining' for condition.
- The number and extent of UK woodlands under management is hard to ascertain due to a lack of data, however, figures for certified woodland areas are often used as an indicator of sustainable forest management. Certified woodland in the UK has been independently audited against the UKWAS. In 2024, the total area of certified woodland in the UK was 1.44 million hectares (44% of the total UK woodland area). This is 48% in Wales, although it is important to note that these figures relate to all woodland within the UK, and the majority of certified woodlands may be productive conifer forests. Woodland that is not certified may also be managed sustainably.
- The Royal Forestry Society has recently reported that most unmanaged woodland is broadleaved and in private ownership, and estimated that the area of unmanaged woodland that could feasibly be brought back into pro-active management (physically and economically) is up to 53,000ha in Wales. However, government grants have become increasingly unattractive, restrictive and unfavourable to support sustainable woodland management. The Natural Resources Wales SoNaRR reports have shown there has been a downward trend in woodlands under management in Wales which is primarily due to the cessation of the Welsh Government's Glastir Woodland Management scheme in 2016.
- Bringing more woods and trees into active management in Wales is essential for nature recovery. The Sustainable Farming Scheme stipulates that farmers are subject to specific woodland maintenance requirements and may provide an opportunity to do this at scale.


MARK ZYTYNSKI/WTML

Ancient woodland restoration

Ancient woodlands, by definition, have developed over centuries and are known to be one of the UK's richest and most complex terrestrial habitats. These woodlands have a long, uninterrupted presence (continuity) and so are often associated with high biodiversity and are referred to as being irreplaceable; they cannot simply be created. They are also significant carbon stores and hold immense cultural and historical value.

Ancient woodland is rare, making up around 4.6% of the total land cover of Wales. This is because it has faced a barrage of historic and current threats, including historic planting of monocultures over the sites (PAWS), development and surrounding intensive land use. In addition to fragmenting them and reducing their extent, these threats have also affected their condition, subsequent resilience to these threats and ability to provide services.

The need to restore ancient woodland is more urgent than ever as this is a unique point in time. Most PAWS are now at, or beyond, the age when they will be felled and their future decided. This future could either be clear-felling and replacing with another non-native conifer plantation or beginning the process of restoration to help improve their condition and ecological functioning.

- There are approximately 95,000 hectares of ancient woodland in Wales, comprising nearly 30% of all woodland. Most ancient and native woodlands are priority woodland habitats in Wales and are subject to legal and regulatory requirements applying to priority habitats in general. However, the definitions do not exactly coincide and in their current form, PAWS will not qualify as priority habitat as priority woodland habitats in Wales are defined on the basis of semi-naturalness not on ancientness and therefore mostly exclude PAWS. Ancient woodlands in Wales are also subject to various requirements regarding sustainable woodland management and are a material consideration in various planning and development policies.

- Converting PAWS back into native woodland will help to restore the ecological functioning of these habitats and allow biodiversity to increase. In Wales there are currently 25,710ha of PAWS, comprising 1.24% of total land cover.
- Understanding the condition of ancient woodland and PAWS sites is key to successful restoration. In 2012 the condition of the entire c. 19,500ha of ancient woodland on the public forest estate in Wales was assessed using a combination of field-based sampling and desk-based analyses of both threats and ecological potential. Of this, 34% was considered secure, 36% threatened and 30% critical. Natural Resources Wales intends to carry out a full repeat ancient woodland condition assessment in 2025. As part of this re-assessment, it is important that up-to-date statistics on the amount of PAWS in Wales currently committed to restoration are recorded, in order to allow for tracking of progress towards nature recovery.
- Additionally, approximately 3,250ha of PAWS comprises larch, the majority of which is likely to be felled in the future due to infection with the pathogen *Phytophthora ramorum*. These areas may provide opportunity for large-scale nature recovery in Wales.

Natural flood management

The latest climate projections from the Met Office predict that the UK will experience warmer, wetter winters and hotter, drier summers over the coming century, alongside increases in the frequency and intensity of extreme weather events. This is predicted to increase flood risk across the UK as has been evident in the frequency of flood events over the previous decade.

Woodland creation (catchments, cross-slope, floodplain and riparian) alongside integrated targeted tree cover with other natural flood management (NFM) interventions (e.g. wetlands, swales) can be an effective natural flood management intervention, which can provide significant flood regulation services to downstream communities alongside carbon sequestration, nature recovery and other ecosystem service objectives.

- The Welsh Government's Natural Flood Management Accelerator Programme was launched in October 2023 and will see a further £4.6 million invested in NFM schemes throughout Wales covering 23 projects spread across eight different local authority areas.
- Study sites in Wales have contributed to current knowledge of the potential benefits of NFM. Notable paired-catchment studies, such as the Plynlimon catchment in mid-Wales, have explored the impact of plantation forestry on water yield (the amount of water that runs off the land into water courses) over multiple decades. These studies have been fundamental in informing current understanding of forest hydrology and water use at large, catchment scales and have provided strong evidence that afforestation can decrease water yield and thus reduce flow peak rates in water courses.

5. Policy asks

N S PUGH

Based on the evidence on the previous pages, to improve the ecological condition of its native trees and woods, to bring benefits to communities and the economy and meet international commitments to conserve and restore biodiversity, Wales needs to:

Enhance and protect existing woods and trees

1. **The Welsh Government should focus on developing a woodland economy that will improve woodland condition in every part of Wales.**

Why: The majority of woodlands in Wales are not in good condition, and woodland wildlife, productivity and carbon stores are under threat. Urban trees are also disproportionately distributed across communities.

How:

- Improve the protection and condition of nature-rich woodland and habitats on the public forest estate and the National Forest for Wales by protecting and managing it for conservation, meeting the requirements of the Global Biodiversity Framework 30 by 30 targets and ensuring that the substantial carbon stocks in mature woodlands are valued and protected for the long term.
- Prepare for the increasing activity required to meet nature recovery, climate emergency adaptation and tree cover targets, and the commercial opportunities and increasing demand this will create in supply chains. Focus on skills and capacity gaps in trees in farming, woodland creation and agroforestry scheme design, community participation, and develop the Nature Service Wales alongside community tree nurseries.
- Support a Welsh rainforest partnership by applying policy, legislation, finance and timber procurement to increase the pace of restoration and recovery of ancient woodlands, especially those converted to conifer plantation.

- Provide grant funding to private woodland owners for interventions that will improve ecological condition.
- Support urban planting schemes to address community resilience utilising the Tree Equity Tool to help prioritise areas for spend.

2. **The Welsh Government should strengthen legal protection for Wales' most ancient and important trees.**

Why: Cultural and wildlife heritage is being neglected.

How:

- Support the further development and analysis of the Ancient Tree Inventory.
- Provide strong, consistent planning policy protection for old trees and support its implementation.
- Build in the recognition, protection of and support for care of veteran trees into all aspects of land management policy.
- Provide more advisory and financial support to land managers and farmers to care for ancient and veteran trees and intervene to save ancient trees and hedgerows at risk.

3. **The Welsh Government, regulators and planning authorities to effectively monitor and regulate pollution to enforce regulatory standards.**

Why: Woods, trees and rivers, and the biodiversity they support, are suffering; especially from cumulative sources of nitrogen pollution.

How:

- Confirm regulatory minimum standards for pollution emissions.
- Address failures of regulatory and planning authorities to meet and enforce existing regulatory requirements.
- Ensure sufficient budgets for monitoring, regulation and mitigation.
- Produce a strategy and plan to deliver the Global Biodiversity Framework target 7: reduce pollution to levels that are not harmful to biodiversity.

Expand and connect woodland and tree cover

4. **The Welsh Government should accelerate new woodland creation to more than 10,500ha per year by 2035.**

Why: The changing climate is making weather patterns more unpredictable than has been experienced in many generations. Modelling suggests that Wales will experience an acceleration of severity and frequency of extreme weather events such as storms, floods, droughts and wildfires in the future. Collectively action is needed to ensure that the worst of these predictions are mitigated and impacts on people, habitats, food production and other land-based economic activity are limited. Increasing targeted tree planting and woodland cover is known to be a key mechanism to help mitigate against these impacts.

How:

- Confirm commitment to a delivery plan to achieve the recommendations of the Committee for Climate Change to achieve 24% woodland cover by 2050, accelerating new woodland creation each year, including more natural colonisation, to exceed 10,500 hectares per year by 2035, with delivery plans, targets and milestones for the Sustainable Farming

Scheme, the Woodland Strategy and local authority tree and woodland strategies.

- Review procedures for consultation, approval and tracking of woodland creation, especially to encourage agroforestry and natural colonisation, and to improve public transparency, multi-functional planting scheme design and enable forward planning for tree nursery demand.
- Improve surveillance monitoring for new threats such as deer and new pests and diseases.
- Incentivise locally sourced and grown trees through public procurement by investing in commercial, local authority and community tree nurseries now. This will enable a rapid expansion of UK and Ireland sourced and grown (UKISG) trees – to both reduce the risk of importing tree diseases and improve biosecurity.

5. **Governments across the UK should maintain surveillance and management of tree pests and pathogens and pave a way for self-sufficiency in tree supply.**

Why: Imported tree pests and pathogens result in direct losses of trees that could make government tree cover targets impossible to achieve. Boosting domestic production of trees is fundamental for biosecurity, but also offers benefits as a green growth sector, providing rural jobs and benefiting rural economies.

How:

- Continue the existing extensive network for cross-border pest and pathogen surveillance, and participation in the Observatree project.
- Develop an action plan for supporting the British tree production sector, this needs to be cross-nation, led by a team involving Defra, the Welsh Government and Scottish Government.
- Provide long-term support and funding for Community Tree Nursery development such as Communitree Project, and include UKISG in any biosecure procurement requirements, to ensure these important nurseries can continue to flourish.
- Additionally, the Welsh government should review the impact of SPHNs on the ecological condition of PAWS and ensure that felling conditions and management advice protects ancient woodland features and improves ecological condition.

Improve the evidence

The Welsh Government should increase investment in research and data collection to address evidence gaps in *State of the UK's Woods and Trees 2025*. This would ensure that conservation and restoration efforts are effectively targeted, maximising their impact and securing the long-term resilience of woodlands in Wales.

6. **Governments and landowners should monitor and control impact of deer on new and existing woodland.**

Why: Increasing deer numbers are a major impediment to woodland creation and management across parts of Wales and may become a major impediment across the country if not addressed.

How:

- Ensure cross border co-ordination on effective surveillance of deer populations in Wales.
- Provide support for collaborative regional management groups, led by exemplary management on the public forest estate.

7. **The Welsh Government should support research aiming to determine the effect of grey squirrels on wider biodiversity in Wales.**

Why: Wales experiences a high frequency of grey squirrel mediated tree damage compared to the rest of the UK, with important implications for conservation objectives and woodland productivity, but beyond their negative impacts on red squirrel populations, the effects of grey squirrels on biodiversity are poorly understood. Understanding this impact will allow for more targeted conservation action when managing woodlands.

How: Provide support for and incentivise research into the effects of grey squirrel bark stripping on wider woodland biodiversity in Wales.

8. **The Welsh government should support research aiming to determine the effects of extreme weather on Welsh woods and trees.**

Why: Woods and trees in Wales are likely to be affected by a changing climate and increase in frequency and severity of extreme weather events. Understanding what this means for conservation objectives, including temperate rainforest protection and expansion of woodland tree cover on farms, is essential.

How: Provide support for and incentivise research into woodland resilience to extreme weather in Wales.

Invest in the future

9. **Clear and effective integration and collaboration should be exercised at a strategic level in the development of green infrastructure, wellbeing and economic strategies to ensure that nature-based solutions are mainstreamed across policy areas.**

Why: Evidence shows that access to high quality green space provides long term health, wellbeing, social, economic and environmental benefits. Embedding collaborative approaches to green infrastructure planning through existing regional decision-making bodies such as corporate joint committees and public service boards, will ensure that more public bodies (in all sectors) are able to employ nature-based solutions in their day-to-day service delivery.

How:

- Adopt Green Space Standards and champion publicly accessible and wildlife-rich green space, including for new development, to extend high quality and accessible green spaces, especially for the most deprived communities in Wales.
- Increase tree cover to 20% in Wales's urban areas, prioritising areas where data shows that residents' wellbeing is disadvantaged through lack of access to quality green space and tree-rich environments.
- A tree and woodland strategy as an integral component of green infrastructure strategy development, underpinned by Tree Equity data for every Local Planning Authority in Wales. Embedding the expansion of canopy cover as a key intervention across multiple policy areas, creating high quality, healthy, climate resilient places.

6. What is the Woodland Trust doing?

PHILIP FORMBY/WTML

Ancient woodland restoration at Wentwood

Wentwood forms part of the largest block of ancient woodland in Wales and is a remnant of the continuous forest that once stretched from the River Usk to the Wye. The Woodland Trust purchased part of Wentwood in 2006 and has since thinned the conifers to restore the ancient woodland, heathland and wood pasture, and improve habitats for wildlife. However, restoration efforts at the site are threatened by the presence of *Phytophthora ramorum*. as clear felling is often prescribed as the appropriate treatment in Statutory Plant Health Notices.

Unfortunately, due to *P. ramorum* and the associated SPHNs, gradually thinning larch from this woodland, demonstrating PAWS restoration best practice, is no longer an option. Over the past 10 years Wentwood has been issued with a series of SPHNs, and this has resulted in clear-felling of over 146 hectares of larch-dominated woodland, which is 41% of the woodland. One SPHN alone required felling of 60 hectares, often on very short timeframes to prevent sporulation and spread of the pathogen in the autumn. This disruptive large-scale change to the woodland presented challenges in ensuring its continued restoration into an ancient semi-natural woodland.

Temperate rainforest restoration at Coed Felenrhyd & Llennyrch

Coed Felenrhyd & Llennyrch is a rare, Atlantic oak woodland and one of the Woodland Trust's largest woods in Wales. It sits above the Vale of Ffestiniog and is fringed by the dramatic waterfalls of the Afon Prysor in the Snowdonia National Park. Along with other woodlands nearby, it is one of the best remaining examples of Atlantic oak woodland in Europe, and a remnant of the vast woodlands that once extended from northern Scotland to Portugal.

At the bottom of Llenyrch is Ceunant Llynnyrch and the gorge of the Afon Prysor, which provides a moist and humid environment where rare bryophyte and lichen assemblages have managed to cling on where they have been lost from the wider landscape.

The Woodland Trust has been managing the site for over 25 years. Like so many others around Wales, it is an ancient woodland which has been planted with non-native conifer species. Through careful removal of these conifers, the Woodland Trust is gradually restoring areas of this woodland from dark, shaded places where native flora is struggling, to a component of a thriving temperate rainforest ecosystem in good ecological condition.

Woodland creation at Brynau Farm

Brynau Farm is the Woodland Trust's largest woodland creation project to date. Situated in Neath in the South Wales Valleys, this long-forgotten landscape is now being restored into a sanctuary for nature. Barren fields have been transformed into vibrant young woodland and important restoration work has been carried out in the ancient wood, while removal of underground drains to bring water back to the surface and the creation of earth bunds and leaky dams has restored the hillside's natural capacity to temporarily store and slow the flow of water.

The site is part of the National Forest for Wales, and the recently acquired Cefn Morfudd has more than doubled its size, whilst providing the opportunity to restore a range of habitats to colourful wildflower meadows and to heathland carpeted in heather and gorse. By carefully restoring peatland, heathland and pockets of ancient woodland, the Woodland Trust is helping to mitigate the effects of climate change, purify the air and ease flooding in the town below.

The Trust is also partnering with research institutions at the site to ensure that a range of management interventions are being monitored for their efficacy and wider environmental benefits. This data will help provide support for the wider uptake of more sustainable land management practices in the future and fill some of the gaps identified in wider data sets.

Agroforestry support and guidance

Through MOREwoods and other small grant schemes, the Woodland Trust has been able to support landowners and farmers to utilise tree planting and hedgerow creation as part of future viability and productivity of their farm businesses. This work has supported a wide range of different farm systems to unlock the value of trees and hedgerows and enhance their future environmental and economic resilience. This work extends across all the work the Trust does in Wales – from on-farm advice and support, small grant support for on-farm planting, to advocating for better support for farmers to utilise trees within their farm systems successfully.

The Woodland Trust has supported farmers working within a range of diverse farm business models including traditional Welsh Hill Farming. Geraint Davies, upland sheep and beef farmer whose land is located in the Eryri National Park, has worked with the Trust to plant thousands of trees on his farm in the form of new hedgerows, riparian shading along watercourses, and active management of the Fridd (coed cae), increasing the ability of the land to hold water and enhancing soil productivity.

Working with communities to support health and wellbeing

The Emergency Tree Fund has provided funding to support local authorities in Cardiff and Wrexham to reduce barriers to the implementation of their tree and woodland strategies, including facilitating an increase in tree planting for health and wellbeing and community development. Wrexham's Woodland Connections project has enabled the development of a Wrexham Forest Partnership, a vision-led collaboration of statutory bodies and eNGOs who are working together to ensure that communities across Wrexham acknowledge and celebrate their tree heritage. To do this, partners are actively working together to create a connected landscape where trees, old and new, are at the heart of people's lives and sense of place. Their work takes a holistic view of the significance of trees to people's lives ensuring a celebratory approach to the conservation and enhancement of the treescape of Wrexham County Borough Council area. The funds from Coed Cadw have helped support the development of the annual Woodland Connection Week, which provides a week-long celebration of the intrinsic benefit of trees through a range of activities, events, walks and talks. Now into its third year, each year is themed to explore different socio-cultural connections people have with trees, including Trees Matter and Seeking Sanctuary. This year, the week will look at the deep-seated connection humanity has to trees under the theme 'roots and all'.

Community tree nurseries – Llais y Goedwig

Since 2020, Coed Cadw has been working in collaboration with Llais y Goedwig to deliver the CommuniTree project funded through the Woodland Trust's partnership with the People's Postcode Lottery.

The CommuniTree project aims to help create, protect and restore native woodland through training and networking sessions designed to support new and existing nurseries to develop the skills and capacity to grow the trees needed for future woodlands, and develop a suite of resources to help navigate regulatory requirements.