ERYRI NATIONAL PARK
TREE AND WOODLAND STRATEGY 2025-2125

THE ROLE OF TREES AND WOODLAND IN ERYRI FOR NATURE RECOVERY, PEOPLE, CARBON STORAGE AND BUSINESS

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Ancient tree in the uplands of Eryri – Jade Phillips

» MAE'R DDOGFEN HEFYD AR GAEL YN Y GYMRAEG «

> SUMMARY

This Tree and Woodland Strategy (TAWS) will provide advice and guidance to planners, landowners, land managers, stakeholders and local people for managing woods and trees in the landscape, and for establishing new trees and woodlands. Its development and implementation will be led by Eryri National Park Authority (ENPA), but the delivery will be based on extensive participation and cooperation with many partners and people in the National Park.

The TAWS consists of a vision for the year 2125, objectives up to 2050 and some guidance on how 5-year action plans will be produced that work towards achieving the vision and objectives. Targets focus on ensuring that 80% of Eryri National Park's ancient woodland is restored, protected and in good condition by 2125 and that all known ancient trees are under positive management by that date. Tree cover will increase to 30%, with 75% of these trees and woods being native species.

Collaborative working has been central to the creation of the TAWS, with several rounds of public and stakeholder consultations being held. This will continue as the TAWS is enacted and reviewed. ENPA will take the lead on seeking funding and work with partners to explore other potential resources.

Trees and woodlands in Eryri provide crucial economic, social and environmental benefits, but care is needed to ensure that policies encouraging planting and management do not cause conflict with other environmental ambitions. The TAWS sits within a broader policy and land management context. Good quality evidence is important for policy and management decision-making, and the TAWS has taken evidence from several sources, which helps to minimise any inherent data deficiencies. To ensure that the TAWS is achieved in a collaborative, fair and equitable way, four guiding principles are described; put people at the heart of decision making, protect the current precious resource, manage existing woodland better and connect and expand it to provide resilience and high quality habitat across the landscape.

Wood Warbler - Ben Porter

> FOREWORD

It is my pleasure to present the Tree and Woodland Strategy for Eryri National Park.

The strategy is the result of co-design with local people, land managers, and other key partners to develop a 100 year plan. In it we recognise the importance of trees and woodlands in this special area, particularly our rainforests, and we are keen to ensure that they are protected and managed sustainably. From the outcomes of our conversations, it is clear that there is a need to protect, improve and expand our trees and woodlands for current and future generations. Our ambition is to connect people from all walks of life with trees in this special landscape, so they can enjoy the many benefits they provide.

A plan for action for trees and woodlands at local and national park level is crucial to achieving this ambition for Eryri National Park. It was with this in mind that we co-designed the supplementary action plan, so that everyone could sign up to the guiding principles and commit to taking realistic steps to play their part in implementing the strategy.

We are very pleased to have developed this strategy alongside local and national knowledge and expertise. We look forward to working with partners, individuals and the local communities of Eryri to achieve the vision and ensure a prosperous future for trees and woodlands in the National Park for the benefit of future generations.

Cllr. Edgar Wyn Owen, Authority Chair

> ABBREVIATIONS

CCF: Continuous Cover Forestry

ENPA: Eryri National Park Authority

GIS: Geographic Information System

INNS: Invasive Non-Native Species

LiDAR: Light Detection And Ranging

NFM: Natural Flood Management

NRAP: Nature Recovery Action Plan

NRW: Natural Resources Wales

PAWS: Plantation on Ancient Woodland Site

SRI: Socially Responsible Investment

TAWS: Tree and Woodland Strategy

TWIG: The Woodland Investment Grant

UKFS: United Kingdom Forestry Standard

UKISG: United Kingdom and Ireland Sourced and Grown assurance scheme

UKWAS: United Kingdom Woodland Assurance Standard

Natural Colonisation – Laura Shewring

> INTRODUCTION

The trees and woodlands of Eryri play a significant role in the use and enjoyment that communities, businesses and visitors have in the area and include internationally important habitats such as temperate rainforest. As interest grows in land acquisition for tree planting, carbon sequestration, and carbon trading, there is a growing awareness among communities and the Authority about the potential challenges that lie ahead.

Urgency is vital to provide the resilient and dynamic landscape needed to help people and nature negotiate a fast changing and unpredictable future environment and climate. We must better protect and manage woods and trees in Eryri, restore more wooded habitats to good ecological condition, encourage natural regeneration and colonisation, and create new, mainly native woods and trees to form wildlife-rich mosaics with other habitat types. This must be done with people at the heart of the landscape, through the development of skilled jobs for locals and recreation activities for visitors.

This Tree and Woodland Strategy (TAWS) for Eryri National Park sits under the overall management plan document, Cynllun Eryri. The TAWS works alongside the Nature Recovery Action Plan, the Leisure and Recreation Plan, planning guidance and other relevant documents.

Eryri National Park Authority (ENPA) will lead the development and implementation of the TAWS. However, it is the extensive participation and cooperation among partners that will ensure its delivery across Eryri.

ENPA's role is to lead, coordinate, advocate and develop partnership projects and they will continue to lead the way in landscape-scale habitat restoration by ensuring that the TAWS is acknowledged and applied by partners where appropriate. It is this partnership working that is key to delivering the TAWS on the ground.

The aim of the TAWS is to provide direction to landowners, land managers, stakeholders and local people for managing woods and trees in the landscape and for establishing new trees and woodlands. It will help inform decision-making regarding current management plus consider the location, type and scale of tree establishment and planting initiatives, ensuring that they also contribute positively to nature recovery, climate mitigation, adaptation goals and the unique character and wellbeing of Eryri and its residents.

All quotes in the TAWS come from participants in the workshops or respondents to one of the online surveys during the co-creation phase of this document.

01. THE STRATEGY

River forest Betws y Coed- Jade Phillips


› PROTECT WHAT WE HAVE
› MANAGE OUR WOODLANDS BETTER
› CONNECT AND EXPAND

VISION

SEEING CHANGE OVER 100 YEARS

Runner and footpath in woodland - Robin Sandham

VISION
FOR2125

WOODLANDS, FORESTS AND TREES ARE INTEGRAL TO ERYRI NATIONAL PARK AND ITS SENSE OF PLACE.

A network of biodiverse, well-managed ancient and native woodlands extends throughout the landscape of Eryri, from natural treeline communities, montane scrub and ffridd to temperate rainforest, hedges, ancient trees, wood pasture and orchards. The temperate rainforest is cherished as internationally important habitat, and Eryri National Park Authority is at the forefront of efforts to protect and enhance them.

This treescape supports resilient farm businesses and rural skills, increases health and wellbeing opportunities for local people, reflects and celebrates Eryri's history and culture and provides habitats for our wildlife. Many of these wooded habitats are well known and well visited, through a sensitively designed recreation infrastructure that enables everyone to experience them and helps people to engage with nature, local culture and heritage.

Timber and non-timber woodland products are harvested through holistic forest management which provides employment, products and materials for people and the local economy, with local businesses able to support a sustainable supply chain for trees and associated natural products.

100YRS

OBJECTIVES TO2050

GUIDING PRINCIPLES

PROTECT WHAT WE HAVE

We may only be left with fragments of the oldest woodland within the landscape, but we can't forget about it. We must prioritise protecting our existing ancient trees and precious pockets of ancient woodland.

MANAGE OUR WOODLAND BETTER

Many of our woods are in poor ecological condition and not providing for nature, people or the economy, but all isn't lost. With the right support for appropriate management, we can ensure they become places which add to a thriving environment and economy.

CONNECT AND EXPAND

Alongside restoring existing woods, allowing well considered and planned woodland expansion through planting new trees to increase woodland cover and encouraging trees to regenerate on their own will bring crucial benefits for wildlife, people and our landscape.

25YRS

ACTION PLAN TO2030

PLANNING FOR ACTION

The action plan will be the mechanism for delivering the TAWS, using knowledge, expertise and data to develop local solutions that work for the needs of the area and people within it. It will need the cooperation of many to develop specific actions for woodland protection and increasing tree cover, with key stakeholders taking responsibility for developing and implementing of the plan.

The 5 year action plan sits alongside this strategy to enable delivery. It has been co-produced with local communities and key stakeholders. It is a live document that will be reported on and reviewed as part of Cynllun Eryri.

5YRS

> OBJECTIVES: OUR OBJECTIVES TO HELP ACHIEVE THE VISION

1. Protecting and Valuing Biodiversity

1A. DIVERSE ECOSYSTEMS:

Wooded landscapes in good ecological condition are diverse, structurally complex and rich in wildlife species, with full food webs. They have dynamic ecosystems – driven by natural processes and appropriate active management – that create mosaics of habitat which change in space and time while sustaining many niches for species. They are free from, or resilient to, threats from invasive species, disease, pollution, climate change and development.

WHAT WE NEED TO DO TO ACHIEVE THIS:

- → Prioritise our ancient rainforests and our oldest and most special trees for care and management.
- → Ensure that both National and Local Planning policies are adhered (and adapted) to prevent further loss of individual trees and native woodland habitat in all future development proposals
- → Fight the challenges threatening our trees, including disease, development, pollution and climate breakdown.
- → Collaborate with other organisations, projects and programmes to support complementary, not competitive, conservation efforts.

STEPS TO DO THIS INCLUDE:

- → Locate, map and publicise old woods and trees - we need to know where they were historically, where they are and the condition they are in, so we can protect them for the future.
- → Develop and implement a plan for recording and protecting our ancient trees and securing the next generation of them.
- → Ensure that our iconic core rainforest sites have up to date management plans that will guide their protection and sustainable management.
- → Help secure the resources for landowners to carry out essential management and enhancement activities.
- → Develop guidance and provide training that helps landowners, contractors and local communities look after woods and trees.
- → Encourage and support best practice restoration of PAWS and other habitats, such as peatland and rivers.
- → Contribute towards tracking and analysing the overall health and wildlife of our native woods, so we know when and where action is needed.
- → Respond effectively and quickly to new threats and damage to woodlands and veteran trees.
- → Liaise and cooperate with other conservation efforts and plans across Eryri at all scales.

1B. CONNECTIVITY FOR RESILIENCE:

Resilient woodland ecological networks are established through bigger, better and more joined up areas of wooded habitat. The diversity, extent, condition, connectivity and adaptability of woodland is enhanced, but care is also taken to mitigate against the possibility of wildfires, through breaks in the canopy.

WHAT WE NEED TO DO TO ACHIEVE THIS:

→ Increase tree cover from approximately 20% to 30% by 2125 to connect up existing woods, to support biodiversity and increase economic benefits as well as draw down more of our carbon emissions.

STEPS TO DO THIS INCLUDE:

→ Raise the profile of NRW maps showing where increased woodland connectivity would have most impact, and develop projects to implement this, possibly through optional and collaboration layers of the Sustainable Farming Scheme.

→ Increase our tree and woodland resource of predominately native woodland through encouraging existing trees to spread naturally and by planting new local provenance trees in the right place.

→ Be publicly clear about what minimum standards are acceptable for new commercial plantations in the Park with the ambition for all managed woodland to be UKFS and ideally UKWAS compliant.

→ Plant more trees outside of woods, so that the landscape and our communities, especially the agricultural sector, is more resilient. Scattered tree planting, especially to encourage wooded pasture, should be supported.

→ Work towards ensuring that local provenance trees are available for planting through supporting nurseries that collect and grow local seed.

→ Prioritise: native tree colonisation and planting, particularly in the uplands; management of grazing levels to enable ffridd habitat, ancient woods and temperate rainforest to expand; protect freshwater habitats; encourage appropriate woodland management which prevents large scale clear-fell wherever possible.

→ Reduce the spread of pests and diseases by replanting with local provenance and origin sourced and grown seed and trees. Keep up to date with research on the spread and potential threat from pests and diseases. Encourage others that buy and plant trees within ENPA to source responsibly, with a disease-free supply chain for trees, timber-based products and packaging.

→ Work with NRW and landowners to develop natural flood management (NFM) schemes, which may include riparian planting.

→ Support landowners to manage their woods and trees, establish more trees and consider joining the National Forest.

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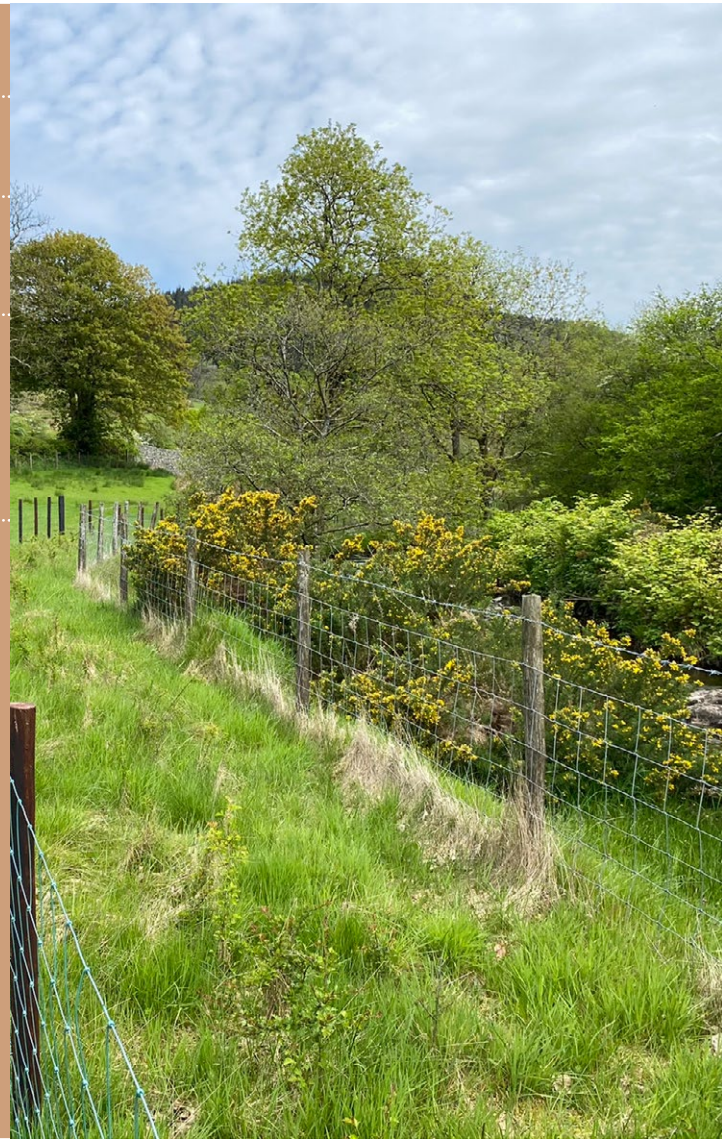
CASE STUDY

EDGE HABITATS

THE INTERFACE BETWEEN WOODLAND AND OTHER HABITATS CAN BE THE MOST SPECIES RICH AND CARBON SEQUESTERING AREA OF WOODLAND HABITATS.

Through the partnership work of the 'Natur am Byth!' Tlysau Mynydd Eryri project with the National Trust, the aim is to restore these edge and understorey communities to the woodlands of the Ogwen Valley. The project is working to connect areas of tall herb and montane woodland vegetation that are isolated on the crags and cliffs of the National Park. Riparian woodland areas along the Afon Llygwi have been fenced to help mitigate flooding and ensure water quality in the catchment. This will enable the reintroduction of species like Globeflower *(Trollius europaeus)* and Melancholy Thistle *(Cirsium heterophyllum)* to the valley bottoms without concern that they will be selectively grazed by livestock.

More specifically, and outside of any scheme, through temporary exclosure a mosaic of willow scrub and Juniper heath will be restored to the banks of the Afon Idwal above the Ogwen Cottage Visitor Centre. These mosaic habitats will, in time, give visitors approaching the Cwm Idwal National Nature Reserve an idea of what the wooded mountain slopes of Eryri could look like when managed alongside appropriate livestock grazing regimes.



Hedgerow next to river – Rhys Evans

2. Protecting and Valuing Cultural Heritage and Wellbeing

2A. CULTURAL SIGNIFICANCE:

The deep cultural associations between Eryri's trees and woodlands, as celebrated in poetry, literature and art, are widely recognised and supported. Ancient woodlands, embedded in Welsh mythology including the location for several tales of the Mabinogi (compiled in the 11th century from earlier sources), are cherished as integral components of our cultural identity and connection to the Welsh language. The Welsh names of woodlands and forests are protected and used. Placenames with woodland significance, including in areas that are no longer associated with trees, are celebrated as indicators of past woodland cover and landscape change. The traditional cultural habitat of Eryri's upland fringe, ffridd, is an important feature of the farmed landscape.

WHAT WE NEED TO DO TO ACHIEVE THIS:

→ Build awareness of, and support for, our high value mature trees, ffridd, ancient woodland and rainforests and other unique landscapes amongst landowners and the public.

→ Develop an understanding of cultural uses of woodland and trees and the skills associated with managing them.

→ Celebrate trees and wooded habitats in local arts, music, crafts and literature.

STEPS TO DO THIS INCLUDE:

→ Run veteran tree and ancient woodland protection campaigns annually with different sectors of the community.

→ Collaborate to show the link between lost wooded habitat, the connection to wood and tree related place names and the historical extent of wooded habitat, including on farmland.

→ Promote the use of Welsh names and facilitate the recording of historic place and field names that are indicative of trees and woodland.

→ Organise workshops and events to celebrate the cultural significance of trees and wooded habitats within Eryri.

> *"When we have unseasonal heavy rain on the farm, the trees and hedges manage water really well, catching rainfall, and their roots helping it to go deeper. Great wins for pasture use, and healthy livestock"*

CASE STUDY

FFRIDD

NO OTHER AGRICULTURAL HABITAT IS AS HISTORICALLY IMPORTANT TO WALES AS FFRIDD.

This transitional zone between the enclosed lowlands and the uplands is incredibly diverse. A mosaic of habitats is one of the defining features of ffridd, but the composition of that mosaic will vary. Its scale and position in the landscape crucially allows increasingly fragmented populations of species to move in response to changes in climate and land management. Its most notable feature is the open distribution of often fruit bearing trees such as rowan, hawthorn and wild apple. Historically, stock would benefit from the additional shelter and browse provided by the trees and shrubs when being moved between summer and winter pastures.

The loss of appropriate grazing, particularly by cattle, is leading to a loss of habitat diversity, with the remaining trees old and not replaced. This has led to a lack of diversity with either close cropped pasture or dense swathes of mature gorse and bracken. Overgrazing stops regeneration of scrub and tree species, and less thorny species such as crab apple and rowan have slowly disappeared.

Tree establishment whilst grazing continues can enable generational continuity within the ffridd. Ffridd is one of the most important woodland habitats in Wales, both culturally and for nature, due to its potential for diversity, vegetation variation and high connectivity.

Ffridd - Ben Porter

Ffridd - Nigel Pugh

Cyclist on a Forestry Road - Robin Sandham

2B. WELLBEING AND HEALTH:

Beyond ecological benefits, our vision embraces the positive impact of woodlands on human wellbeing. Accessible and well-managed woodlands become havens for recreation, outdoor education, and places of solace, promoting good physical and mental health. They provide opportunities for satisfying and useful voluntary work. Community-owned and private orchards that include heritage species add to the provision of healthy food, work and voluntary opportunities, cultural and artistic inspiration and biodiversity.

WHAT WE NEED TO DO TO ACHIEVE THIS:

→ Work with health service professionals to address health issues by developing and supporting green prescribing of woodland activities and visits, as demonstrated by Coed Lleol.

→ Ensure that people are able to gain access to woodland sites, and that easy-access paths are available wherever they do not interfere with the needs of wildlife species.

→ Look for new ways of ensuring that access to trees and woodlands is fair throughout society, such as developing the Tree Equity Score for village and rural communities.

→ Increase opportunities for community-owned and farming co-operative woodlands and orchards.

STEPS TO DO THIS INCLUDE:

→ Work with public health bodies to mainstream green prescribing so it is not reliant on short term project funding.

→ Identify suitable woodlands and seek funding for all-terrain paths where management and wildlife needs are not compromised.

→ Seek sites, engage with communities and landowners, and identify funding and training partners to encourage community and co-operatively managed woodlands and orchards.

→ Explore models for community-owned productive forestry.

CASE STUDY

CYMDEITHAS ERYRI SNOWDONIA SOCIETY

DURING WINTER 2023-24, OUR VOLUNTEERS PLANTED 4,376 BROADLEAF TREES.

Some of these were planted on the steep slopes of valleys, others bunched tightly together to form hedgerows, and still others dotted among felled conifers to create new native woodlands. While tree planting is beneficial for nature and the climate, its positive effects on people are frequently overlooked. Planting trees requires effort; you need to spend your time and energy digging holes in tough, stony ground, often in the rain and cold. However, this effort only serves to heighten the sense of achievement of having planted a tree that could grow for centuries, providing huge environmental benefits. These volunteer days are invaluable, offering opportunities for people to spend time outdoors, reconnect with nature, and, importantly, contribute something tangible and positive in a world that often feels beyond our control

Woodland maintenance – Woodland Trust & Snowdonia Society

2C. HISTORIC ENVIRONMENT:

Archaeological and historically important sites, including historic trees, are proactively managed.
Historic wooded areas and trees are researched, identified and shared publicly.

WHAT WE NEED TO DO TO ACHIEVE THIS:

- → Commit to identifying and protecting ancient woodland as part of the historic landscape as well as where woodland and trees were situated historically.
- → Ensure care is taken so that any planting avoids sensitive areas, woodland and forestry operations do not have an adverse impact on archaeological sites and their settings, and that features are protected from erosion.
- → Integrate archaeological record sources, including the regional Historic Environment Record and the National Monument Record with woodland planning and consultation processes. Key sources of information also include historic maps and documents, LiDAR data, archaeological records, landscape characterisation data in LANDMAP and place / field names.
- → Owners, managers and contractors are aware of the location and extent of archaeological remains in the woodland areas under their control.

STEPS TO DO THIS INCLUDE:

- → Provide advice, information, guidance and support for avoiding and managing the possible impacts of planting on archaeology, signposting to appropriate specialists within ENPA, Cadw and Heneb.
- → Increase public engagement activities and messaging around historic trees and landscapes.
- → Better integrate archaeological records and specialist advice with woodland planting and planning consultation processes.
- → Enhance archaeological records, particularly polygonization, from LiDAR and other sources through specialist commissions and volunteer training and engagement. Archaeological records go beyond point locations to include the mapped extent of features (i.e., as GIS polygons).
- → Commission a review of existing paleoenvironmental research, including an assessment of gaps and opportunities. Use this as the basis for directing future research, allocation of resources and engagement with academic organisations to promote and facilitate work in Eryri.

> *I'm an apprentice in woodland management and currently work on a productive broadleaf woodland site that produces timber under a CCF strategy. I believe this style of management allows for woodland to be productive whilst also providing space for recreation as well as a diverse and healthy habitat for wildlife.*

3. Sustainable Management and Utilisation

3A. WELL-MANAGED WOODLANDS:

Woodlands across Eryri are expertly managed, providing quality habitat as well as environmentally and economically sustainable timber resources while supporting local employment. This includes fostering dynamic ecosystems and adapting to changing conditions through active and informed management, considering the needs of the species affected, some of which are internationally scarce and protected.

WHAT WE NEED TO DO TO ACHIEVE THIS:

- → Support the establishment of well-designed mixed secondary forests across the park on appropriate sites which will increase the timber resource and take the pressure off PAWS to supply softwood.
- → Diversify the forest economy, including supply to smaller local users and non-timber forest products.
- → Protect soils and water on, and surrounding, sites by encouraging low impact silviculture and continuous cover methods.
- → Drive and reward improvement in forest management standards.
- → Build a skilled local woodland management workforce.
- → Encourage local tree seed collecting and increased capacity for tree growing businesses.
- → Support collaborative monitoring and control of pests, diseases and animals that damage woodland, that may be encouraged by increased connectivity.

STEPS TO DO THIS INCLUDE:

- → Use UKWAS / UKFS to underpin standards and management practice, and certification to recognise good practice.
- → Recognise that minimal intervention may be appropriate for some sites and species, such as those that depend on decaying trees, high forest and a dense, dark, cluttered understorey.
- → Collaborate with industry, colleges and local woodland organisations, such as Llais y Goedwig, to facilitate local supply and uptake of skills training and forestry education to help address labour supply challenges.
- → Support and encourage best practice and UKISG certification for tree growing.
- → Collaborate with university research studies on biodiversity, pests, diseases, related social issues and other areas of interest.

CASE STUDY

ALLT BOETH CONTINUOUS COVER FORESTRY

ALLT BOETH IS AN ANCIENT WOODLAND OF 22.5 HECTARES AT THE HEAD OF CWM RHEIDOL, NEAR ABERYSTWYTH.

The site was once a good example of temperate rainforest. However, in the mid 20th century the native woodland canopy was removed, and the site was planted with Beech (*Fagus sylvatica*), Scots pine (*Pinus sylvestris*), Sitka spruce (*Picea sitchensis*), Japanese larch (*Larix leptolepsis*) and Lawsons cypress (*Chamaecyparis lawsoniana*). As a plantation on an ancient woodland site (PAWS), Allt Boeth provides a case study for demonstrating and monitoring the process of restoring PAWS through the transformation of even-aged stands to irregular native woodlands managed through continuous cover forestry (CCF).

Detailed measurement of the volume and distribution of the plantation trees has enabled the Woodland Trust to plan a process of gradual thinning. This is transforming the even-aged plantation to a more complex structure with greater space for a diversity of site native trees of varying ages. The first of these operations took place in 2019 and we are already seeing a more open and diverse woodland developing. This move towards more light and greater diversity has enabled the fragmented ancient woodland habitat to be preserved and further work will continue to enhance the conditions. In the long-term, the restored woodland will be in a good ecological condition and future visitors to this part of west Wales will experience dramatic and rich temperate rainforest where plant life is lush and abundant, and wildlife is diverse.

Ancient woodland restoration work – Ben Lee WTML

3B. TREES ON FARMS:

Incorporation of trees within both lowland and upland farmed landscapes, such as through well managed hedgerows, wood pasture, ffridd, appropriately grazed woodland or carefully planned shelterbelt planting, provide direct benefits to farm businesses, e.g., provision of shade and shelter.

WHAT WE NEED TO DO TO ACHIEVE THIS:

→ Provide advice, guidance and support to increase the use of native and local provenance trees in farming for hedges and edges and wider agroforestry.

→ Support the planting of trees to mitigate against some of the pollution from livestock and poultry units and to protect rivers and other sensitive habitats from erosion and pollution.

→ Support farms to move to regenerative systems grazing, using new hedges and shelterbelts as essential infrastructure.

→ Raise awareness of the historic presence and extent of woodland and its important role in agricultural systems.

STEPS TO DO THIS INCLUDE:

→ Use no-fence tree-planting techniques to establish scattered trees in grazed landscapes, such as ffridd.

→ Support agroforestry and conservation grazing, so this can be scaled up across the park, using strategic support from ENPA and Welsh Government.

→ Work with Welsh Government, farmer-focused and forestry organisations to ensure that farmers and land managers have access to appropriate land use advice, training and support for the establishment and management of new woodlands or agroforestry systems.

→ Work with landowners to facilitate the establishment of trees on tenanted land where appropriate.

→ Develop engaging information about historic woodland presence and traditions in Eryri and in particular the strong links to robust rural communities.

> *"I know my animals need the shelter and increasingly shade provided by trees. An animal with an optimum body temperature is a happy animal, and a happy animal is a productive animal."*

4. Forward Thinking and Collaboration

4A. LONG-TERM PLANNING:

The Vision is achieved through a 5-year Action Plan, with milestones through to 2050 and forward planning up to 2125, embracing a long-term commitment to sustainable tree and woodland management.

4B. COLLABORATIVE STEWARDSHIP:

Emphasising inclusivity, everyone within the National Park plays a crucial role in achieving and reviewing the Vision and Objectives and designing and delivering Action Plans.

WHAT WE NEED TO DO TO ACHIEVE THIS:

- → Ensure that all sections of society are given meaningful opportunities to participate in Strategy reviews and delivery through continued co-design.
- → Ensure top level support in ENPA management and governance.
- → Agree our five-year plan and longer-term targets, monitor our performance annually against the plan and share the results.
- → Allocate resources, monetary and time, to delivery of the Strategy and ongoing Action Plan.
- → Develop a strong partnership within the Authority and with external stakeholders to deliver the TAWS and ongoing Action Plan.
- → Commit to the country-wide support for Wales' temperate rainforests.

STEPS TO DO THIS INCLUDE:

- → Focus on supporting farmers, foresters and landowners with relevant assistance related to protecting, restoring, maintaining and planting appropriate trees and woodlands.
- → Make the case for coordinated scaling up of rainforest recovery through a Temperate Rainforest Restoration Programme across Eryri and beyond to influence restoration throughout north and west Wales.
- → Fundraise for delivery of the action plan.
- → Seek resources to enable recruitment to deliver the plan.
- → Collate multi-partner data, records, information and analysis to support informed decisions.
- → Build stronger links with Bangor University, other research institutions and local and national woodland organisations, and engage with relevant research and projects.
- → Continue to build and maintain community links, explaining what the TAWS is and how people can be involved in its continuing development and delivery.

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CASE STUDY

TREES FOR LIVESTOCK, SOIL AND FOOD — RHYS EVANS

WITH MY PARENTS AND BROTHER, I RUN TWO FARM HOLDINGS IN RHYD-Y-MAIN NEAR DOLGELLAU, NORTH WALES.



We have a flock of Welsh Mountain sheep and pedigree Welsh Black cattle which are used to manage about 700 acres of hill and mountain land. Trees play a crucial role on both of the farm holdings. We have both grazed and fenced off woodlands which provide shelter for livestock during extreme weather conditions - be it shade during summer droughts or shelter during harsh winters. The woodlands also help to slow the flow of water and reduce run-off which helps the farm's resilience to an ever-changing climate and improves our financial resilience. We have over 4km of hedgerows, as well as tree lines and riparian corridors, that create natural buffers along the farm's boundaries, enhancing biosecurity and protecting against disease transmission. We have planted apple trees in unproductive field corners and hope to plant more fruit and nut trees in the future, which of course helps with food security. The soils are better for it as well. It is a shame that trees are sometimes viewed as a threat to agriculture and food production. Planting the right tree in the right place can yield huge environmental and farm business benefits. However, woodland creation requires a strategic approach and careful consideration in order to deliver multiple benefits for both the environment and the farm business.

Cattle & Trees – Rhys Evans. Pigs & sheep on wood pasture – Laura Shewring

Hardwood product in workshop - ENPA

> TARGETS TO ACHIEVE THE VISION

Ancient woodland and rainforest

As the most precious of woodland resources, this is the highest priority, and progress will continue to be made to protect and restore at scale within the National Park. A key element will be to buffer and extend the fragmented sites to ensure that good condition is retained or, where restoration has taken place, that this is maintained. Landscape-scale thinking is required to properly address wider impacts such as disease, herbivore management and invasive species.

ANCIENT WOODLAND RESTORATION		
Vision 2125	80% restored, protected and in good condition	50% buffered, extended and connected
By 2050	30% restored, protected and in good condition	10% buffered, extended or connected
By 2030	15% restored, protected and in good condition	957 ha/yr in an active restoration plan

Ancient and veteran trees

Our resource of these important trees, which provide continuity of habitat in addition to woodland sites, is largely unknown and getting a true picture of the resource and potential threats is key in the short term. Ensuring that successional trees are identified and protected, plus new wood pasture is created, will be longer term objectives. Protection and securing longevity of this specialist habitat and culturally important trees are the ultimate aim.

ANCIENT & VETERAN TREES		
Vision 2125	100% of known trees under positive management	
By 2050	50% of known trees under positive management	
By 2030	10% of estimated A&V trees recorded and mapped	25% of known trees are under positive management

Increase in tree cover

The proposal is for the tree and woodland resource across the National Park to be made up of 75% native trees and woods, with bigger, better and more connected woodland habitat being the highest priority. It is envisaged that upland ffridd and low-density trees on steep bracken sites will make up a large proportion of the new area. Increasing trees on farms to provide resilience for the farm business in the future changing climate will also be an important element.

The remaining 25% will be made up of conifer and other non-native trees. This results in a real life decrease of conifer plantations in the National Park which it is acknowledged will have an impact on the softwood resource. This takes into consideration the ambition at local and national level that all ancient woodland sites and rainforest needs to be restored and buffered. It also takes into account national policy and economic considerations leading to other reductions in conifers, such as peatland restoration, the likelihood of non-profitable high altitude conifer plantation conversion, as well as the remaining plantations on ancient woodland sites on the public forest estate transitioning to native woodland. This is particularly pertinent when terrain and topography is challenging for economic timber extraction, and mills and markets are not locally available.

However, there will be plenty of scope for well-designed mixed forest types producing high quality timber to still be a considerable part of the landscape within the National Park. It will require significant investment and the right planning and consideration to achieve a robust supply and functioning forestry sector which includes a hardwood supply chain. In addition there will need to be a commitment to support the measurement and valuation of non-timber and niche-market tree and woodland products to assist with the financial viability of trees and woodland.

TREE & WOODLAND EXPANSION	TREE COVER INCREASE (HA)	TREE COVER INCREASE IN HECTARES/YR
30% tree cover by 2125	21,576	216
25% tree cover by 2050	10,877	435
21% tree cover by 2030	2,319	464

Key points:

→ The Vision and Objectives provide a holistic way of increasing, maintaining and appropriately caring for Eryri National Park's trees and woodland resource, which is internationally important.

→ People and nature are at the heart of decision-making about the National Park's treescape.

→ The evidence shows that change is needed. The strategy is a realistic proposal to address fragmentation, loss and declining condition of the treed landscape, as well as wider issues such as preventing nature recovery, natural flood management, extreme weather mitigation and many others.

Amount and distribution of trees and woodland in different settings within Eryri

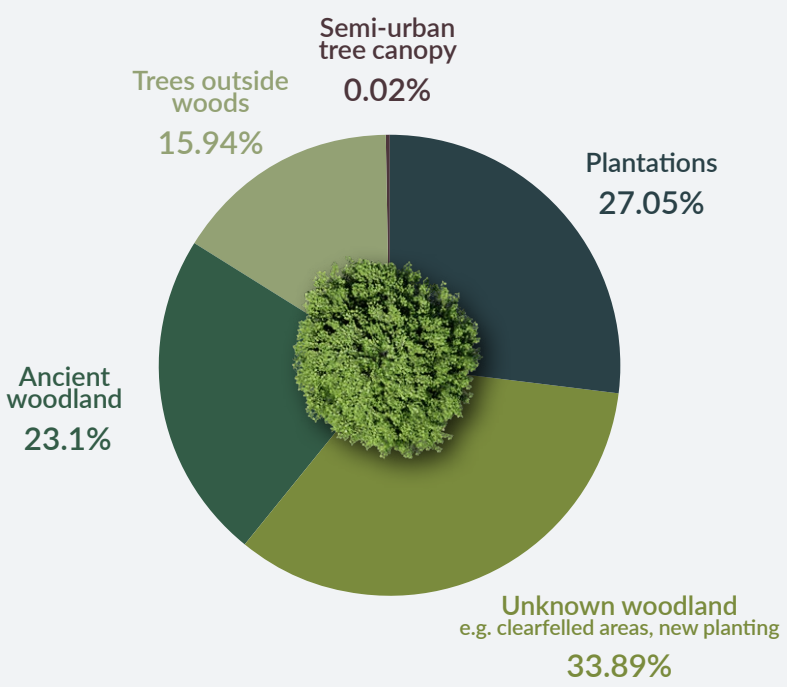

Figure 1: Current tree cover

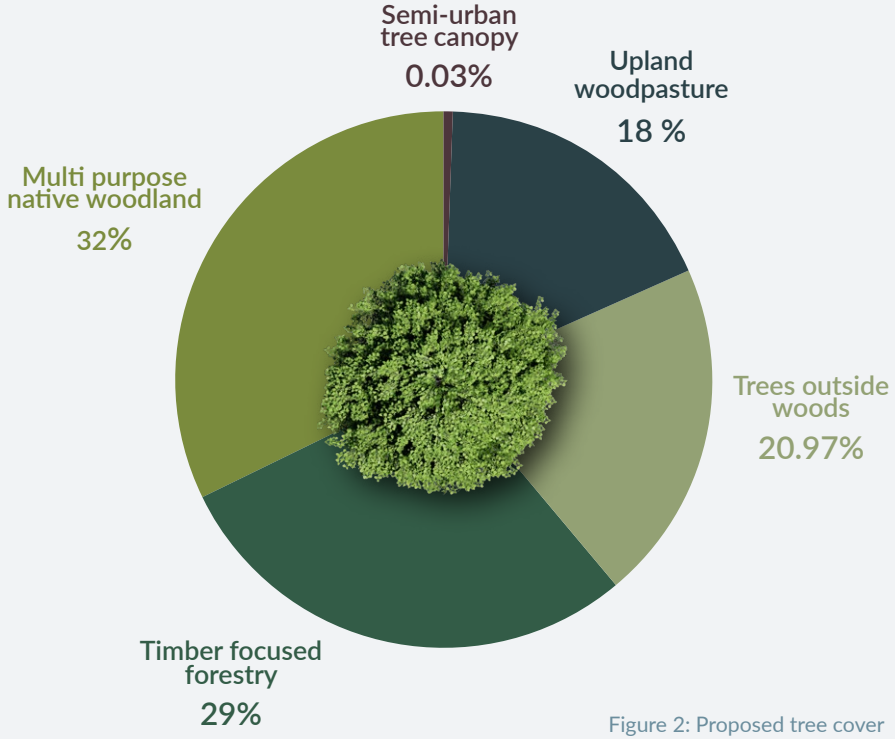

Figure 2: Proposed tree cover

> COLLABORATION AND ENGAGEMENT

Collaboration and partnership are key for the successful development and implementation of the TAWS. We have been using a collaborative co-production approach enabling people to share power and responsibility and to work together in equal, reciprocal and caring relationships, including in equality of preferred language.

Similar partnership principles have been used to develop Cynllun Eryri, engaging many of the same stakeholders as the TAWS. This enables the TAWS to sit alongside Cynllun Eryri, which will help to ensure its success.

How have we been ensuring co-production?

This TAWS has been developed via public engagement through the following mechanisms:

- → **2 joint face-to-face and online workshops.**
- → **7 public online workshops, and additional one-to-one meetings as requested.**
- → **3 open access online public documents to gather people's opinions about specific sections of the TAWS.**
- → **One survey gathering views on woodland creation.**
- → **One survey about people's relationships to woodlands which identified over 36 different woodlands within Eryri as being particularly significant.**
- → **3 meetings with key stakeholders.**
- → **Regular updates and discussions with members of Fforwm Eryri.**
- → **On going conversations with local experts in farming, forestry and conservation.**

This has resulted in over 160 hours of discussion, with 404 people from a variety of sectors interacting with the TAWS so far (see Figure 3)

Efforts were made to reach people who use the National Park in different ways, including farming, conservation, forestry, tourism and local residents, recognising that more than one activity is undertaken in many areas. This helped to inform the development of the TAWS by ensuring that a broad range of opinions and evidence from different woodland users, managers and owners was incorporated. This was especially important in balancing the input from the conservation sector (which was initially over-represented) with that of farming and forestry.

The TAWS is a living document that will be regularly updated and reviewed. One of the best ways of maintaining this is to have a diverse group of people involved, from volunteers to landowners to ENPA staff, who have a direct stake in the outcomes of the TAWS. Stakeholders will thus be involved on an ongoing basis, ensuring people are at the heart of decisions. Collaboration on the TAWS will continue, with the development of an Action Plan (see next section), and with regular reviews of the TAWS in line with Cynllun Eryri.

Understanding ancient woodland management in Coed Llwybr Caerynwch, near Dolgellau

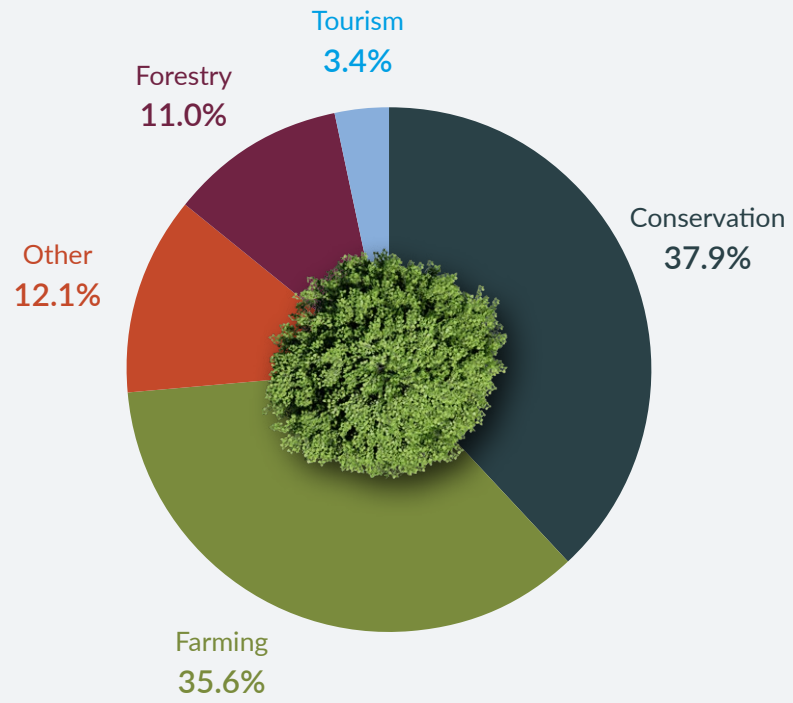

Figure 3: Sector engagement with the development of the TAWS

This will be done by:

- → Using a wide range of inclusive methods to ensure that everyone who wants to and can be included is able to contribute to revisions of the Strategy and activities in the Action Plan.
- → Ensuring that the TAWS is an ongoing process of engagement and learning that reconnects people and place across the landscape.

Key points:

- → This TAWS has been developed using a co-production approach and much engagement with the public, partners, sector representatives and ENPA staff.
- → Collaboration will continue as the TAWS is delivered, reviewed and developed.

> PLANNING FOR ACTION

Successfully delivering an ambitious TAWS in an area as ecologically and geographically complex as Eryri National Park needs the co-operation of the whole community. The Action Plan will describe how the TAWS' Vision and Objectives will be achieved. This will require interested stakeholders to share responsibilities for specific actions which will then be reviewed annually. Actions should be flexible and adaptable enough to allow for hyper-local activities to be delivered based on the needs of the area and the people within them. Delivering this Action Plan, through continuing collaboration, especially to obtain future funding for these actions, will be key to the success of the TAWS.

The Action Plan will follow co-production principles using a variety of proven methods of engagement, but particularly face-to-face conversations, building on the engagement that took place during the development of this Strategy.

Action Plan points should include the following information:

- → What (the overall action will do)
- → Why it is needed (relate to aim)
- → How it will be achieved (more detailed action)
- → Who will contribute to it (partners and lead)
- → What success will look like (including review or delivery date)
- → Inputs / resources needed for delivery (if required)
- → Implementation deadline (if a staggered or delayed start is needed)

Next steps:

- → Develop an Action Plan which aims to meet the Vision and Objectives
- → Organise online and face-to-face workshops
- → Integrate key actions into Cynllun Eryri
- → Get sign up from stakeholders to the guiding principles
- → Establish a tree and woodland working group to review and discuss the Action Plan annually and feed into the Cynllun Eryri reviews
- → Undertake 5 yearly reviews of the Strategy and Action Plan
- → Identify the need for funding, capacity or other resources
- → Secure funding for delivery through partnership working
- → Develop indicators which monitor progress towards meeting objectives

Large fruiting and flowering coastal hedgerow - Laura Shewring

> FUNDING AND CAPACITY

ENPA will take the lead on ensuring future funding across departments and projects accounts for the importance of the current and future tree and woodland resource within the National Park. As part of the annual review of the TAWS and the Action Plan, ENPA and its partners will work together to identify resources and funding streams to deliver the strategy.

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CASE STUDY

TIMBER AND FOREST PRODUCTS

The timber economy is dependent upon being able to harvest trees, and needs security for future supplies. However, not all woodland management can be paid for from timber harvesting, and overharvesting can compromise the delivery of other benefits and services from woodland. The management of the public forest estate is under the remit of Natural Resources Wales, who work with communities and stakeholders to enhance the condition and use of woodlands. Using timber as fuel is not the only use of forest products. By supporting local businesses and increasing capacity we can encourage the use of local high-quality timber in construction, which has the added benefits of local skilled jobs and ensuring carbon is locked away for the longer term.

Plantation harvesting – Ben Lee WTML

Group walking through woodland – Jade Phillips

Much can be achieved without grants, especially through the sharing of experience and information, for example though on-site events, and by the pooling of resources, for example for harvesting and processing timber, or in community-based tree nurseries. ENPA can play a leading role in facilitating such co-operation, working with organisations including Llais y Goedwig, Coed Cadw / Woodland Trust as Coed Lleol / Smallwoods, Tir Coed, Farming Connect, NRW, and the Celtic Rainforest AfterLIFE Plan, which is the continuation of the Celtic Rainforest LIFE project. Furthermore, opportunities for landscape-scale working should be prioritised where appropriate, which will ensure a more holistic tree and woodland management approach.

Potential new investment could come from the following sources:

- → **Partnership working – landscape scale projects which draw on multiple partners and funding sources. The co-design process highlighted this as a key opportunity for trees and woodlands across the National Park and both individuals through to organisations highlighted partnership working as a key opportunity for future tree and woodland maintenance and development.**
- → **Private sector – some private companies sponsor land management work. This can be through "socially responsible investment" (SRI) which may be offered through community-based grants, or through the purchase of carbon offsets for new woodland creation through the Woodland Carbon Code. Some companies, such as Dŵr Cymru, insurance companies, food processors and tourism operators, may or can be encouraged to have a direct interest in supporting particular interventions at particular locations.**
- → **New infrastructure and housing developments are likely to be subject to planning consent conditions that require pollution mitigation and some net biodiversity benefit. This may mean that developers may be prepared to pay for habitat creation or improvement in the vicinity of the development. ENPA, as the planning authority, has responsibility for guiding this and maintaining suitable policies to guide requirements.**

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CASE STUDY

URBAN TREE PLANTING AND CARE

Urban trees are vital in addressing the challenges of climate change and have many benefits: they help to regulate heat, reduce rainwater run-off, enhance biodiversity, sequester carbon, promote health and wellbeing and add to the character and quality of spaces which in turn can lead to inward investment. Street trees should be identified in Green Infrastructure Assessments, Green Infrastructure Strategies and County Council Tree and Woodland Strategies. Local Development Plans should include policies on trees, woodland protection and planting with canopy cover targets. Tree pit design, best practice and technology are advancing and helping to reduce resource demand, and the cost of implementing and maintaining urban schemes.

Trees on the High Street, Y Bala - Rhydian Roberts

- → Government grant schemes tend to be reviewed regularly and may only be available for short periods of time. The Park will be a source of advice for what is currently available – e.g. Woodland Creation Grant, Woodland Restoration Scheme.
- → The National Forest of Wales is a longer-term initiative that should support the development of resource-sharing hubs and provides grants for specific woodland purposes, including currently the Coedtiroedd Bach and TWIG grants.
- → The Sustainable Farming Scheme, which is due to begin at the start of 2026, proposes payments to participating farmers for woodland and habitat maintenance and new woodland creation. A Collaborative Option supporting multi-landowner actions is also proposed.
- → Charities – there are a number of relevant environmental, heritage and community charities, such as The Tree Council, Woodland Trust, Wildlife Trusts and National Lottery Heritage Fund, although these are unlikely to match the scale or availability of government or corporate business funding.

ENPA will be responsible for helping to raise awareness of funding options available to landowners for the management and planting of trees; this can be done in partnership with other organisations to help build capacity across the Park.

Along with Cynllun Eryri and other relevant plans, the TAWS can be used to help draw in funding to deliver the tree- and woodland-related actions identified here and in other strategies.

CASE STUDY

NEW MULTI PURPOSE WOODLAND

Coed Hendre Ddu was established in 2006 and now extends to an area of 125ha. It is a mixed broadleaf woodland and was awarded National Forest status in December 2023. The woodland meets many of the six outputs desirable for the National Forest, including: accessibility via multiple public footpaths and a carpark; education via interpretation boards, collaboration with Bangor University and use of the woodlands by Scouting and Guiding groups; continuous cover forestry within the timber compartments; social prescribing activities with Coed Lleol; and managing the woodlands through livestock grazing.

Family walking in woods - Michael Heffernan WTML

Capacity

Accessing funding is one branch of the resource needed: we must also ensure that there is capacity in terms of skills within communities and those employed in tree- and woodland-related activities. It is essential that any grants associated with the TAWS also target the need for training in woodland skills, such as tree planting, establishing seed nurseries, managing woodlands at difference scales and others. Funding can also build the capacity to provide advice and guidance to landowners and to build knowledge and confidence in how to manage woodlands e.g., appropriate grazing.

Key points:

- → **ENPA will take the lead in sourcing funding for Strategy-related actions, and work with partners to make the best use of existing and new resources.**
- → **There are many potential sources of funding – commercial and grant-aided – depending on the use for which money and resources are required.**
- → **ENPA will help raise awareness of relevant funding options available to landowners and communities within the National Park.**

> *Gwydir Forest was invaluable to my university degree whilst studying in Bangor, allowing us to see first-hand the ecosystems and industry we were studying.*

> MONITORING AND REVIEW

It is vital that the TAWS includes monitoring and evaluation to measure the progress and success of actions. This must be put in place at the outset and sufficient resources allocated for the long term. The Eryri TAWS will be reviewed annually and have a 5-year action plan, with the first Action Plan from 2025-2030, in line with Cynllun Eryri. The long-term Objectives will be until 2050 (25 years) and the Vision covers the period until 2125 (100 years).

Baseline data should be gathered prior to intervention and monitoring, and should ensure the accurate measurement of changes and impact of conservation activity. Monitoring should follow the commonly accepted 'Pressure–State–Response' framework. Applied to tree strategies, this requires:

- → **Identification of environmental pressures**
- → **Tracking of tree and woodland loss; evaluating the condition of trees and woodland**
- → **Monitoring actions, including the success of wooded habitat restoration.**

Woodland monitoring should use agreed common standards, such as Plantlife's Rapid Rainforest Assessment, the Woodland Trust's methodology and standard for Ancient Woodland Assessments and the INNS mapping system. Monitoring using a range of woodland wildlife indicators (e.g., birds, butterflies and plants) should continue via the UK Joint Nature Conservation Committee's national species monitoring scheme. Monitoring is also highly valuable at the local level, and this is where citizen science can help in both data capture and engagement though the local biodiversity records centre, COFNOD.

There will be a distinction between landscape-scale change and measures for direct interventions: at both scales there will need to be measures of activity and separate measures of outcome. It is likely that the site-scale will be based on some basic monitoring (woodland condition assessment, etc.), but the landscape-scale could be derived from existing data sources – British Trust for Ornithology bird surveys, Butterfly Conservation butterfly transects, archaeological records, etc. Indicators also need to consider wider ecosystem services, on-farm benefits, economic indicators and social factors, many of which have no standardised measures or use multiple models.

Key points:

- → **A plan for monitoring and evaluation must be developed in conjunction with the Action Plan.**
- → **Monitoring will take place at a variety of scales (from landscape to site specific) and the indicators for this will vary accordingly.**
- → **ENPA will lead on the development of monitoring and evaluation but partners and interested stakeholders will also be involved through co-design.**

> RECOMMENDATIONS

These specific recommendations appeared continuously throughout the co-design phase of the strategy and are therefore highlighted as being central to any action plan:

→ Encourage and support farming which incorporates protecting and introducing trees as an integral part of the farm plan

→ Successfully deliver the Celtic Rainforest LIFE project and the follow-up AfterLIFE Plan, and build on the partnership and momentum to provide a legacy of rainforest protection in collaboration with existing and new partners at the landscape-scale.

→ Develop a 30x30 report and NRAP which fully consider the TAWS and which contributes actions that are embedded in the TAWS

→ Continue to lead in tackling INNS throughout the National Park, including better recording and monitoring of success

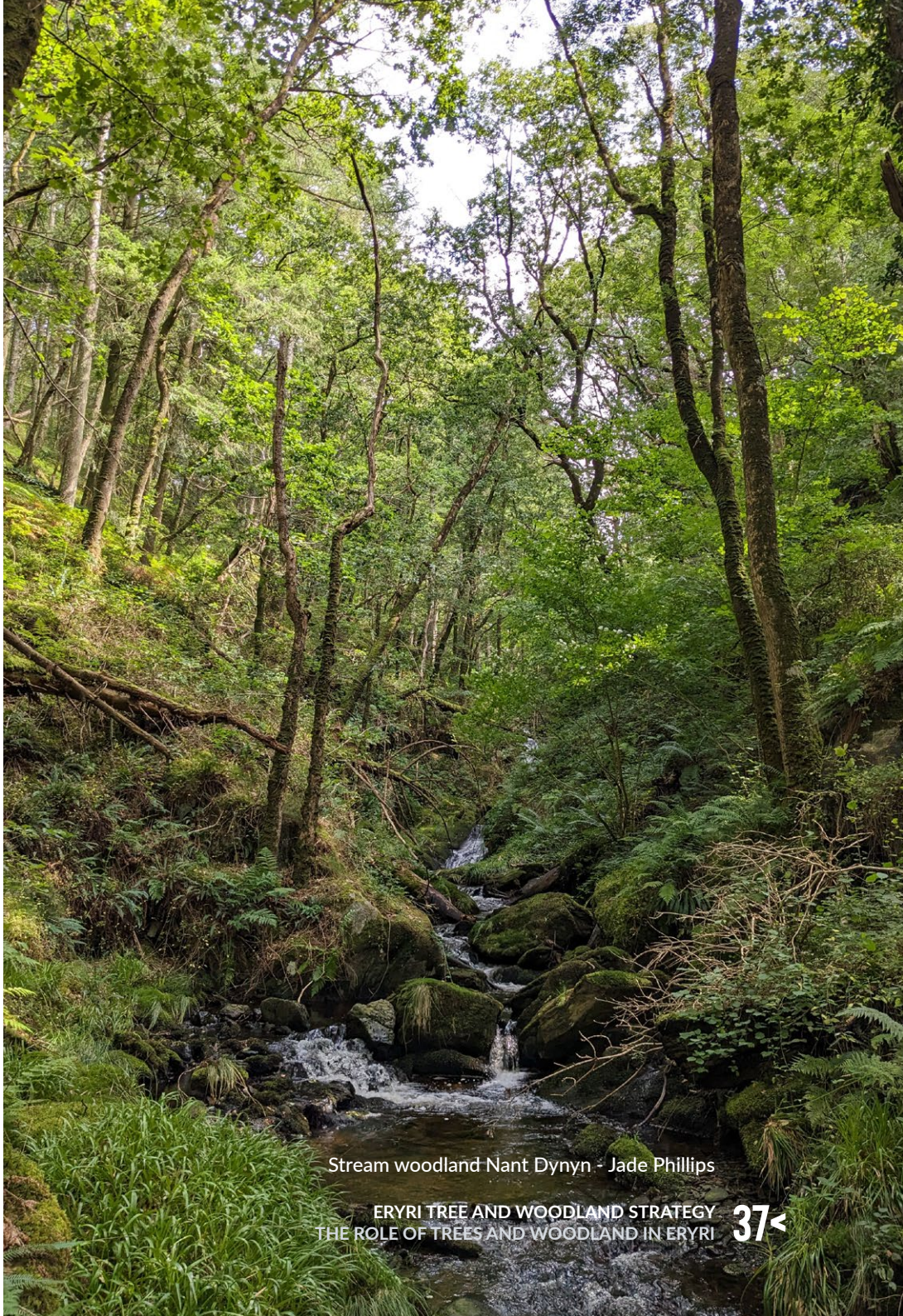
→ Focus on preventing the spread of tree pests and diseases by encouraging all tree nurseries within Eryri National Park and boundaries to be UKISG

The ENPA will in addition:

- Embed the TAWS under the Cynllun Eryri and throughout ENPA's strategic and practical work
- Lead the development and implementation of a 5 year Action Plan, continuing to use the knowledge and expertise of partners and stakeholders to fine tune objectives
- Review the TAWS every 5 years in line with the Action Plan, using a codesign approach
- Develop indicators for monitoring positive progress towards agreed objectives
- Report annually on delivery progress towards the Objectives and Vision
- Set up a Tree and Woodland Working Group which will lead the annual review of the Strategy and monitor progress towards the Objectives
- Source funding for TAWS-related actions, particularly around preventing further loss of wooded habitat
- Develop a communications plan to fully explain the TAWS messages across the National Park which includes the benefits of woods and trees in areas such as: rural skills and jobs, farm businesses, wellbeing, resilience, climate mitigation and biodiversity

- Work in partnerships across Wales to fully protect and expand appropriate woodland to the highest forestry standards in Eryri National Park
- Commit to encouraging collaborative landscape-scale projects which can deliver the TAWS
- Ensure woodland regeneration and new planting does not have an adverse impact on other special features of Eryri, such as important habitats and archaeological sites and landscapes. Planting should always follow the method of the right tree in the right place
- Promote the cultural importance and heritage of woodland in Eryri National Park, including woodland and tree place names and particularly those in the Welsh language
- Consider how the rights of nature concept could be used to ensure long term protection for ancient woodland and temperate rainforest habitat in Eryri National Park
- Commit to understanding how the tree equity score could be applied in Eryri National Park to identify the areas in greatest need of people-focused investment in trees.

> *My children have been brought up going for walks in the magical woodland of Dyffryn Maentwrog, and now as adults appreciate it for its unspoilt beauty.*



Stream woodland Nant Dynyn - Jade Phillips

02 CONTEXT

Native Woodland - Robin Sandham

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CASE STUDY

TEMPERATE RAINFOREST

TEMPERATE RAINFOREST IS A GLOBALLY RARE WOODLAND TYPE ALONG THE ATLANTIC SEABOARD OF EUROPE.

These native and ancient woods are characterised by very high rainfall and consistent year-round mild temperatures, creating woodland of high nature conservation importance for their lichens and bryophytes which festoon the trees and give them their special quality and unique appearance. They contain numerous species that are rare and threatened at the regional, national and international levels.

However, these rainforests have shrunk to a fraction of their former extent and are under threat from the presence of invasive non-native species such as rhododendron, as well as inappropriate grazing pressure, past conversion to coniferous plantation, and now lack of restorative management and diseases such as ash dieback. Across Eryri and the Mawddach valley, we are working with our many project partners and woodland owners and managers in the Celtic Rainforest Wales project to start the long-term process of restoring and extending this important rainforest habitat.

Coed Felenrhyd & Llennyrch - John Dietz WTML

> BENEFITS OF TREES AND WOODLAND

Trees and woodlands in Eryri provide crucial economic, social and environmental benefits, from shade and shelter for livestock[1], additional farm browse[2] and biosecurity benefits to on- and off-site timber production.

> *I work in the forestry sector; trees and woodland mean employment and security for my family. Not only this but woodlands are usually the places we choose to spend our family time and free time, in or close to them, whether it being walking, running, biking, kayaking, picnicking etc.*

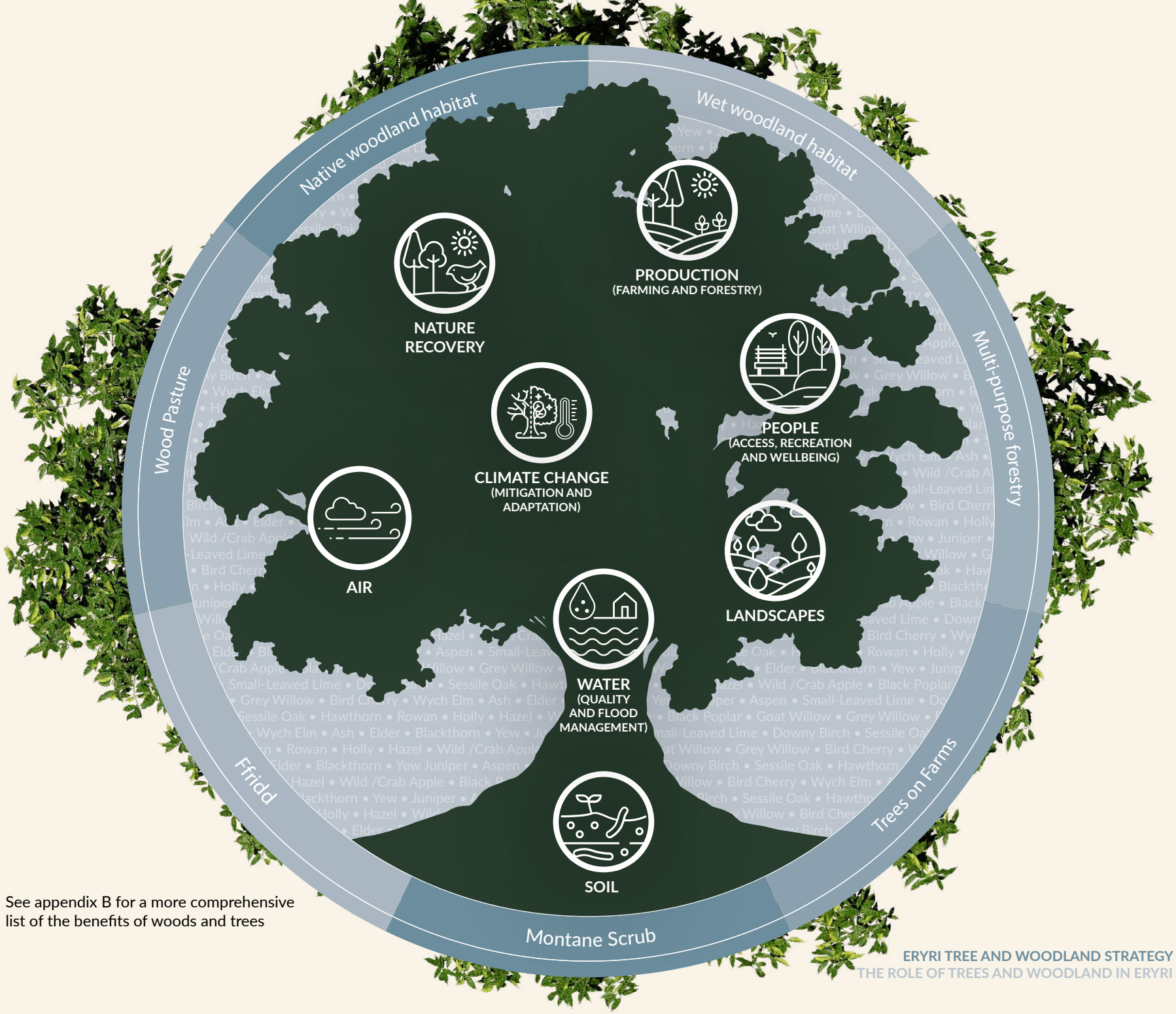
Many of today's woodlands are the remnants of more extensive woodland cover in the past. In many areas, they underpin landscape character and play an important role in our history and culture. Not least, nature-rich environments improve physical[3], mental[4] and emotional[5] health, aid recovery and provide opportunities for physical activity and recreation for local communities and visitors.

> *Being around the trees and woodlands in Coed Llyn Mair is very grounding, and feels as though you can escape your daily routine for a moment of peace, giving you an opportunity to improve your sense of wellbeing*

Trees and woodlands also play a key role in nature-based solutions, such as helping to mitigate against flooding[6]; providing important green space, habitat for birds and pollinators; reducing the impact of heatwaves[7]; and soaking up heavy rain. In localised settings, trees also help to intercept and filter noise[8] and air pollution[9] and provide visual screening. They are a highly successful mechanism for pulling carbon out of the atmosphere to mitigate against climate change[10].

Although there are many benefits to trees and woodlands, having the right tree in the right place for the right reason is key to ensuring trees and woodlands have longevity and continue to bring long-term benefits to both nature and people. There is a wide range of wooded habitats with different amounts of tree cover that require different levels of management. Understanding this will ensure a move towards a fully-functioning, ecologically-rich landscape where people and nature can thrive.

1 Summarised by Whistance (2018)
2 Kendall *et al* (2019)
3 Li *et al.* (2007); Lee *et al.* (2012)
4 Astell-Burt and Feng (2019)
5 Bielinis *et al* (2018)
6 Cooper *et al.* (2021); Keenleyside, (2013); Nisbet and Thomas (2006); Xiao *et al.* (2022)
7 Yang *et al.* (2023)
8 Van Renterghem *et al.* (2012)
9 Grylls and van Reeuwijk (2022); Yang *et al.* (2023)
10 Harris *et al.* (2021)



See appendix B for a more comprehensive list of the benefits of woods and trees

Veteran tree providing shade for native ponies in the uplands - Jade Phillips

> POLICY FRAMEWORK: NATIONAL AND LOCAL

ENPA acknowledges that in the past, conflicting policies have made it challenging to ensure trees and woodlands are managed, used or planted appropriately to the site. Appendix C highlights some key policies and frameworks that ENPA must work within and towards. The TAWS may then be used by ENPA to inform and guide decision-making and to act as a framework for others within the National Park who own, manage or are planting trees and / or woodland.

Key points:

- → The Eryri TAWS is not a stand-alone document: it sits within a broader policy and land management context.
- → It should be read and applied in conjunction with Cynllun Eryri, Eryri National Park's Statutory Management Plan.
- → Imminent new policies, strategies or reviewed documents, such as the Sustainable Farming Scheme, the Welsh Timber Industry strategy and the Eryri Nature Recovery Action Plan, will be acknowledged and integrated where appropriate into future iterations of this Strategy.

Policies may often be conflicting; therefore, it is up to ENPA and those managing or owning woodland to ensure appropriate flexibility towards positive woodland management, create well designed and implemented woodland creation and provide suitable woods and tree protection.

> EVIDENCE

In gathering evidence to develop and support this TAWS, a wide variety of data has been used including:

- → Contextual environmental data, e.g., Ordnance Survey and Meteorological Office data
- → Tree and woodland-related data, e.g., Ancient Woodland Inventory and satellite generated data
- → Landownership data from His Majesty's Land Registry
- → Primary data, e.g., surveys
- → Other secondary sources, e.g., literature reviews.

A full review of the evidence is presented in Appendix D. The key points are highlighted below:

- → Eryri National Park provides favourable climatic conditions for the internationally important temperate rainforest habitat and many of its associated species.
- → Tree cover makes up approximately 20% of the Park (43,734ha including recently felled and newly planted areas).
- → Accurate assessments of some habitats, particularly felled and newly planted woodland areas, ffridd and areas of natural regeneration, are difficult to make as they are not easily identifiable on satellite imagery and are not captured by other records.
- → Roughly half of the standing woodland is coniferous and half broadleaved.
- → Ancient woodland covers only 4.5% (9,566ha) of the National Park, and the number of important veteran and ancient trees is under-recorded. Most of these individual trees are not within woodland and so lack protection and planning for succession.
- → Some Invasive Non-Native Species, notably Japanese Knotweed (*Reynoutria japonica*) and Himalayan Balsam (*Impatiens glandulifera*), are increasing, but good progress is being made to control Rhododendron (*Rhododendron ponticum*).

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CASE STUDY

MONTANE WOODLANDS

TEMPERATE RAINFOREST IS A GLOBALLY RARE WOODLAND TYPE ALONG THE ATLANTIC SEABOARD OF EUROPE.

Mountain woodland and the natural upper treeline is a habitat that has become extremely fragmented in Eryri National Park and is now only found on cliff ledges, high ridges and in areas that are inaccessible to browsing animals. However, this habitat is ecologically important for the wider ecology of Eryri's mountains. Treelines also play an important role for hydrology, as the presence of trees at high altitudes increases soil depth and reduces erosion. These upper treeline communities have been shown to reduce surface runoff and increase drought resilience.

Mountain woodland has not been entirely lost from Eryri, but it is highly fragmented and there is huge potential for its restoration. Important species for planting at higher elevations include: Downy birch *(Betula pubescens)*, Alder *(Alnus glutinosa)*, Hazel *(Corylus avellana)*, Goat Willow *(Salix caprea)*, Grey Willow (*Salix cinerea)*, Rusty Willow *(Salix cinerea subsp. oleifolia)*, Creeping Willow *(Salix repens)* and Eared Willow *(Salix aurita)*, Aspen *(Populus tremula)*, Wild Cherry *(Prunus cerasifera)*, Dwarf Willow *(Salix herbacea*) and Alpine Juniper *(Juniperus communis subsp. nana)*.

Tree Planting ffridd - Snowdonia Society

Hardwood milling from ancient woodland site - Laura Shewring

> GUIDING PRINCIPLES FOR THE STRATEGY

TO ENSURE THAT THE TAWS IS ACHIEVED IN A COLLABORATIVE, FAIR AND EQUITABLE WAY, WE WILL FOLLOW THESE GUIDING PRINCIPLES WHEN DEVELOPING AN ACTION PLAN AND FOR DELIVERY OF THE TAWS:

PUT PEOPLE AT THE HEART OF DECISION-MAKING AND ACTION

Woods and trees are a key part of our landscape and the benefits they provide are essential to communities and businesses throughout Eryri. Ensure that decisions around management and creation of new woods and trees are well thought through and supported by a strong evidence base. Local people are encouraged to bring their knowledge, expertise and views (recognising that these will vary) to any plans, including any reviews of this TAWS.

PROTECT WHAT WE HAVE

We may only be left with fragments of the oldest woodland within the landscape, but we can't forget about it. We must prioritise protecting our existing ancient trees and precious pockets of ancient woodland, as well as ensuring a thriving, sustainable woodland economy.

Work with partners to protect the existing temperate rainforest, improve our understanding of its condition and develop a Temperate Rainforest Restoration Plan, to encourage its expansion within and beyond the Park.

Through consultation, a strong evidence base and commitment towards recording and monitoring, we will ensure that woodland planting and enhancement schemes do not have an adverse impact on Eryri's special qualities such as important habitats, archaeological sites and landscapes and culture.

> *In the presence of an ancient tree I feel the sense of history and resilience as well as being awestruck by their immense beauty, we must protect these most valuable trees!*

MANAGE OUR WOODLAND BETTER

Many of our woods are in poor ecological condition, not under optimum management, and not providing for nature, people or the economy. With the right support for appropriate management, we can ensure they become places which add to a thriving environment and economy. Forestry areas can be helped to diversify in their composition and management, especially in terms of using natural regeneration and local provenance trees for restocking, which will help to build resilience to pests, diseases and climate change.

Creating a stronger basis for recording and monitoring our woodlands will help us tackle future challenges, inform management and allocate funding.

CONNECT, EXPAND AND ADAPT

Alongside restoring existing woods, allowing well considered and planned increases in hedge, tree and woodland cover, and encouraging trees to regenerate on their own will bring crucial benefits for wildlife, people and our landscape.

Support greater use of native trees in farming by way of hedges and edges and integrated trees on farms. In the uplands, prioritise native tree colonisation and appropriate low density planting to enable ancient woods and temperate rainforest to expand, protect freshwater habitats, encourage slow and partial native tree colonisation along upland valleys, and restore dynamic successional habitats and ecotones. Ideally, trees for new planting will be of local origin and provenance, and efforts will be made to encourage the development of nurseries able to supply native species grown from local seed.

THESE GUIDING PRINCIPLES ARE KEY TO ENSURING THE TAWS WILL HELP TO BOOST ERYRI'S SOCIAL AND ECOLOGICAL RESILIENCE IN THE LONG TERM AND WILL HELP STEER ONGOING PARTNERSHIP WORK.

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Woodland Wildlife Toolkit: https://woodlandwildlifetoolkit.sylva.org.uk/

> APPENDICES

Conservation grazing Coed Garth Gell - Helen Upson

GLOSSARY

AGROFORESTRY: The practice of deliberately integrating woody vegetation (trees or shrubs) with crop and/or animal systems to benefit from the resulting ecological and economic interactions; for example, shelter belts and hedges for livestock shelter or rows of fruit and nut trees.

ANCIENT TREE: A tree that has passed beyond maturity into an ancient life stage, or is old in comparison with other trees of the same species. The typical lifespans of trees differ according to species; for example, birches tend to live shorter lives than oaks. They often have characteristics including: a low, fat, squat shape, a wide trunk compared with others of the same species and hollowing of the trunk, and play an important role in maintaining ecological processes and in supporting many species.

ANCIENT WOODLAND: In Wales, England and Northern Ireland, this is woodland that has existed continuously since 1600, or since 1750 in Scotland. This is when tree planting is assumed to have started, so we can presume that areas from before this would have been continuously covered by wooded habitat. Ancient woodland is considered an irreplaceable habitat for wildlife, soils, carbon and cultural heritage.

BIODIVERSITY: The variability among living organisms from all sources. As an overall term, it includes all forms of life from bacteria and protozoa to plants and animals and can be measured at any scale. In wooded settings it would mean a variety of tree and other plant species, many different age ranges (seedlings to ancient) and features such as water and open areas.

BROADLEAVED TREE / WOODLAND: A tree having broad, flat leaves, rather than narrow needles, that are typically shed in winter, a common exception being Holly. A woodland consisting of mostly (80% or more) broadleaved trees.

CARBON SEQUESTRATION: The removal of excess carbon dioxide from the atmosphere into another location (such as within woody material). It is part of the effort to mitigate against global warming, although not nearly as effective as reducing carbon emissions from fossil fuels and degraded peatland.

CLEAR-FELL: Where all (or almost all) the trees in an area are cut down in one operation. (see also continuous cover forestry).

CONIFEROUS TREE / WOODLAND: A tree that produces hard, oval-shaped fruit called cones, and has thin needle-like leaves. They almost all retain these needles throughout the year (described as “evergreen”), an exception being larch species. Coniferous woodland consists of almost all (80% or more) of this type of tree.

CONSERVATION GRAZING: The use of grazing livestock, commonly cattle or ponies, with their density and duration of grazing and browsing carefully managed to maintain and increase the biodiversity of natural or semi-natural habitats.

CONTINUOUS COVER FORESTRY: Where tree cover within a woodland is maintained in a permanently diverse structure, by harvesting through mainly selective thinning not large-scale clearfell. This maintains soil cover, avoids run-off and soil erosion.

CYNLLUN ERYRI: The long-term vision and management plan for Eryri National Park, as a whole.

DECIDUOUS: Trees and other plants that shed their leaves in winter.

ECOSYSTEM: The complex community of living organisms and their associated physical environment within an area.

ECOSYSTEM SERVICES: The benefits provided by ecosystems that contribute to making human life both possible and worth living. Examples of ecosystem services include products such as food and water; regulation of floods, soil erosion and disease outbreaks; and non-material benefits such as recreational and wellbeing benefits of natural areas.

FFRIDD: The upland fringe (also known as coedcae) where enclosed, more intensively managed fields meet the unenclosed hills and moorland. It is a mosaic of grassland, scattered trees, heath and rocky outcrops.

HIGH FOREST: Woodland where the large, tall mature trees dominate and mostly have touching canopies. High forests can occur naturally, or they can be created and maintained by human management.

LOCAL PROVENANCE: From the local area. This means that trees and other plants should be more adapted to local environmental conditions (altitude, soils, etc.) and interacting species such as pollinators are more in tune with the natural cycles they depend on (such as flowering).

LOW IMPACT SILVICULTURE: A type of woodland management that aims to maintain the different levels within the woodland through, for example, continuous cover forestry. It helps to increase species diversity and normally causes less rapid change to the landscape and physical environment than other management.

MIXED WOODLAND: A woodland containing a mix of broadleaved and coniferous tree species with more than 20% or each making up the woodland cover.

MONTANE: Growing in or inhabiting mountainous areas (e.g. montane woodland, with its specific community of tree species, types and associated wildlife).

MOSAIC HABITAT: An area composed of different habitats which mix and overlap without sharply defined borders often very rich in species due to its complexity.

NO-FENCE PLANTING: A range of techniques that allow trees to be planted in areas where herbivores are present (who would normally eat the young trees), but without using protective fencing. Including 'sabre planting', where trees are planted on a steep slope, reducing access by browsing animals or by making use of dense cover, such as gorse or other thorny bushes to disguise and protect the young trees.

NATURAL / SEMI-NATURAL HABITATS – those with higher plant diversity and minimal management changes compared to other habitats such as a crop field or urban park.

NATURAL COLONISATION: The natural process by which new trees and woodlands establish on sites which were previously unwooded.

NATURAL REGENERATION: Natural establishment of trees and shrubs in wooded habitats, from seed, layering or suckering.

RESILIENCE / RESILIENT (ECOSYSTEMS): The ability of an ecosystem to recover and continue to provide high quality wildlife habitat and ecosystem services after being disturbed and be more capable to resist or adapt to change, pests and diseases.

SCRUB: A habitat that can include shrubs and bushes, and often young trees. It is often described as a temporary transition between grassland that is left un- or under-grazed and woodland, but is an important environment for many species in its own right and can often support more biodiversity than highforest.

SECONDARY FOREST: Forest or woodland that has been established (through natural colonisation or planting) on a previously different land cover type.

TEMPERATE RAINFOREST: Also known as Atlantic or Celtic rainforest, native woodlands growing in areas with high and seasonally-consistent rainfall, high humidity and a low annual variation in temperature. These conditions are similar to tropical rainforest, but with lower temperatures.

TREES OUTSIDE OF WOODS (TOWs): TOWs include individual trees, small copses, hedgerows, street trees, trees on farms and along rivers, and in wood pastures and parklands i.e. any trees outside the standard definition of woodland.

UKISG - UK & Ireland Sourced and Grown trees

VETERAN TREE: A mature tree that has developed valuable decaying wood features, not necessarily as a consequence of time, but due to its life or environment. Veteran trees may not be very old, but share similarities with ancient trees, such as trunk or branch hollowing, or significant amounts of other decaying wood.

WOOD PASTURE AND PARKLAND: An area of wooded land with grazing animals, often a mosaic habitat of scattered mature trees (often containing ancient or veteran trees when in good ecological condition) growing in grassland or heath, with animals grazing under the canopy at least for part of the time.

> APPENDIX A: THE CASE FOR ACTION

Forests, trees and wooded areas are valuable natural assets for the people that live in and visit Eryri National Park, as well as for its biodiversity and ecosystems. Trees and woodlands cover approximately 42,615ha of the National Park. Without a TAWS there may be negative consequences such as:

- → Less resilient and dynamic landscapes being less able to respond to external threats
- → Inappropriate plantations being spread across the National Park
- → Tree cover negatively affecting other important habitats, such as species-rich grasslands / hay meadows
- → Further fragmentation and loss of ancient woods and trees
- → Uncontrolled and perhaps unmonitored outbreaks of pests and diseases
- → ENPA efforts and resources not being aligned or sufficiently focused
- → Communities and individuals within the National Park feeling separated from the changes happening to the landscape around them
- → Food production being undermined
- → Loss of traditional skills
- → Adverse impact on cultural heritage, including the Welsh language.

Type of woodlands

Although ENPA owns very little land, it does own some woodlands, which are managed to the highest possible environmental standard. ENPA protects, enhances and extends native deciduous woodlands and their biodiversity by providing advice, assistance and grants. Although coniferous woodlands are generally of lower ecological value, they still play an important role in biodiversity, such as at Coed y Brenin and Coed Gwydir and contribute jobs, skills and opportunities as well as timber products. They also help to reduce the carbon and other impacts of importing timber from abroad.

The native tree canopy cover of hedgerows, field and stream edges, and shelterbelts, are vital natural resources for farm businesses and for the survival and recovery of wildlife. They provide the most extensive habitat network in the lowland countryside and can be managed to provide shade, shelter, materials and other benefits. However, native trees and scrub are natural components of nearly every UK habitat – including grasslands, heathlands, peatlands and wetlands – where they add structure, diversity and resources for birds, invertebrates and mammals. Many priority species in grassland are associated with scrub, hedges and scattered trees. Trees and scrub are an important part of these habitats at appropriate levels to optimise the ecological value of these sites, with the right trees in the right places, while being mindful that in some places the best approach for nature may be no trees at all. Eryri's special ffridd landscape is a mixed cultural habitat at the boundary of the uplands and the more intensively farmed lowlands. Shifts in agriculture over time have created a rich and extensive mosaic of grassland, heath and scattered trees / woodland. It provides

considerable opportunity to extend and enhance historically wooded areas with continued livestock grazing to improve connectivity at scale, reduce fragmentation and extend tree cover.

Ancient woodland is rare, and many sites have been over-planted with non-native conifers. In particular, centuries old, ancient woodland sites have developed a complex soil ecology and special communities of plants, insects and animals not found elsewhere. In Eryri these ancient woodland sites are especially important as the majority are home to our temperate rainforest, which is internationally important.

People and woodlands

People are part of the ecosystems within the National Park, and it is vital to recognise this and to create and sustain woodlands that also work for local communities and for visitors. Woodland and tree management provides skilled jobs, sustainable and natural products, and opportunities to shorten supply chains, build a circular economy and demonstrate best practice through independent certification. Access to woodlands is known to improve mental and physical health and wellbeing, and can be enabled through working with health and social care providers and with those offering volunteering opportunities. In addition, woodlands and trees provide unparalleled ways of directly connecting people and nature, through recreation and outdoor education. These all help to engage people with their environment and thus protect it, creating a virtual circle of care for woodlands and individual trees, while also benefiting from them.

The beautiful, natural woodlands are the backdrop to many of Eryri's stories, folklore and mythology. Their Welsh names are still commonly used, but in danger of being lost, therefore the Register of Historic Place Names is important for helping to protect them. The high frequency of woodland-related place names, including in many places no longer associated with trees, reveal past patterns of woodland presence in the landscape, which further contributes to Eryri's sense of place.

Species and habitats

One of the key methods to boost Eryri's biodiversity and ecological resilience is by using a landscape-scale approach – an approach where habitats in Eryri are bigger, better and more connected. Trees and woodland can help to connect habitats and landscapes by offering corridors of travel for species and habitats for invertebrates, which form the basis of the food chain. Some key species within Eryri which are linked closely to trees and woodlands include: Pine marten (*Martes martes*), Dormouse (*Muscardinus avellanarus*), Lesser horseshoe bat (*Rhinolophus hpposideros*), Wood warbler (*Phylloscopus sibilatrix*), Redstart (*Phoenicurus phoenicurus*), Pied flycatcher (*Ficedula hypoleuca*), Goshawk (*Accipier gentilis*), Tree lungwort lichen (*Lobaria pulmonaria*), Blackberries-in-custard lichen (*Pyrenula hibernica*) and Hazel gloves fungus (*Hypocrepis rhododendri).*

> APPENDIX B: BENEFITS OF TREES AND WOODLANDS

Nature Recovery

→ Provision of diverse wildlife habitats, including globally and locally rare ones

→ Food source for wildlife

→ Enhance connectivity between existing habitats

→ Contribute to landscape scale diversity and resilience

Soil

→ Add soil nutrients and reduce need for fertilisers

→ Improve soil biodiversity, ecology and structure

→ Reduce erosion and stabilise banks

→ Increase soil aeration and water infiltration

→ Increase water storage capacity of soils

→ Buffer soils from exposure to extremes

Production (farming and forestry)

→ Production of commercial timber products

→ Provision of household timber products such as firewood

→ Provision of farm timber for fencing and construction

→ Provision of feed and fodder

→ Provision of food crops

→ Increase livestock welfare and productivity

→ Reduced livestock mortality rates

→ Biosecurity benefits and secure boundaries

→ Support rural incomes through diversification

→ Safeguarding rural skills e.g. coppicing, hedge laying,

People (access, recreation and wellbeing)

→ Natural and diverse playgrounds

→ Reduce stress levels

→ Physical and emotional health benefits

→ Jobs and the retention of a local workforce

→ Opportunity for satisfying voluntary work

→ Noise reduction

→ Increase house prices[1]

→ Privacy

→ Tourism attracted by wildlife, nature and a diverse landscape, and absorbed more easily into a wooded landscape

→ Educational resource

→ Source of artistic inspiration for a wide variety of creative activities

1 Staats, H. and Swain, R. (2020) Cars, trees, and house prices: Evaluation of the residential environment as a function of numbers of cars and trees in the street. Urban Forestry & Urban Greening 47:126554. https://doi.org/10.1016/j.ufug.2019.126554

Climate Change (mitigation and adaptation)

→ Carbon sequestration
→ Temperature regulation
→ Reduction of fire risk
→ Shelter and shade for livestock
→ Shade for homes and buildings

Water (quality and flood management)

→ Increased water infiltration
→ Slowing overland flows
→ Natural flood management
→ Filtration of pollutants and agricultural runoff
→ Improve river health

Air

→ Improved air quality
→ Provide oxygen
→ Windbreaks
→ Buffer ancient woodlands from pollution

Landscape

→ Visual amenity
→ Safeguard landscape character

Culture and Heritage

→ Sustain and enhance historic landscape character
→ Help in understanding the changing relationship between people and nature over time
→ Preserving important archaeological remains that can survive in ancient woodlands in comparison to surrounding land where they have been damaged or destroyed
→ Mature trees can help shade archaeological sites and prevent damaging invasive scrub growth in some landscapes
→ Provide training opportunities for traditional woodland crafts and skills
→ Enhance the language heritage of the National Park and surrounding areas by recording and protecting woodland places names

> APPENDIX C: LINKS POLICY

The following are some of the key national and local policies and guidance relevant to the ENPA TAWS. This is not an exhaustive list and should be reviewed and updated regularly.

NATIONAL		
Policy/Guidance	**Purpose**	**Implications for the TAWS**
Wellbeing of Future Generations (Wales) Act 2015 https://www.gov.wales/well-being-of-future-generations-wales	The Act contains seven goals which aim to improve the social, economic, environmental and cultural wellbeing of Wales, now and in the future. The Act also encourages collaboration and joined up thinking to ensure prosperous future generations.	The TAWS will ensure that planting and managing trees should be done in a way that ensures benefits both now and for future generations.
Environment (Wales) Act 2016 https://www.legislation.gov.uk/anaw/2016/3/contents/enacted	Key goals include: delivering nature-based solutions, increasing renewable energy and resource efficiency, taking a place-based approach.	The TAWS will be both a mechanism and driver for reaching the key goals outlined in the act.
Planning (Wales) Act (2015) https://www.legislation.gov.uk/anaw/2015/4/contents/enacted	Makes provision for national, strategic and local development planning. Also see update addressing nature emergency: https://www.gov.wales/addressing-nature-emergency-through-planning-system-update-chapter-6-planning-policy-wales	Land use is subject to planning law, therefore planting of new trees and woodlands must follow this guidance. Refer to specific local development plans below. The update highlights the importance of planting the “right tree in the right place”.

NATIONAL

Policy/Guidance	Purpose	Implications for the TAWS
Historic Environment (Wales) Act 2016 https://www.legislation.gov.uk/anaw/2016/4/contents **Historic Environment (Wales) Act 2023** https://www.legislation.gov.uk/asc/2023/3/contents/enacted	Relates to the protection of ancient monuments, listed buildings, historic parks and gardens, in addition to historic place names. The 2023 Act consolidates legislation, by bringing together and re-stating pre-existing legislation in one place.	The TAWS will help ensure that damage to historic sites through inappropriate planting is avoided, while protecting ancient trees which form part of historic parks and gardens. It will ensure that archaeological records and specialist advice inform woodland planning and planting schemes. It will promote better awareness of the cultural significance and heritage of woodland in Eryri.
Agriculture (Wales) Act 2023 https://www.legislation.gov.uk/asc/2023/4/contents/enacted	Makes provisions for sustainable land management, agriculture, tree felling and wildlife.	Agricultural land will continue to have an important role for trees and woodlands. The TAWS will help ensure that tree planting is done in a way that is appropriate for the land and those that use the land.
Sustainable Farming Scheme https://www.gov.wales/sites/default/files/publications/2022-07/sustainable-farming-scheme-outline-proposals-for-2025.pdf	Payments for actions targeting climate, environment and sustainable food production.	

NATIONAL

Policy/Guidance	Purpose	Implications for the TAWS
(White paper) Environmental principles, governance and biodiversity targets for a greener Wales https://www.gov.wales/environmental-principles-governance-and-biodiversity-targets-white-paper	White paper proposing to embed environmental principles in Welsh law, establish an environmental governance body, and introduce targets and statutory duties for the protection and restoration of biodiversity in Wales.	ENPA is one of the bodies covered by this legislation, and the TAWS will help the National Park meet many of the proposed biodiversity targets in Part C.
Future Wales: The national plan 2040 https://www.gov.wales/future-wales-national-plan-2040-0	Strategy for addressing national priorities through the planning system.	Planning Policy Wales edition 12 includes consideration for not only urban trees and green infrastructure but all trees and woodland related to development. It specifically mentions local authority tree strategies.
Woodland for Wales Strategy (2018) https://www.gov.wales/woodlands-wales-strategy	Welsh Government's vision and targets for Wales' woodlands and forest for 50 years.	The TAWS will provide local stakeholders in Eryri with guidance on tree planting and management, which aligns with this Welsh Government strategy.
National Forest for Wales https://www.gov.wales/national-forest-wales	In 2020 the Welsh Government announced a National Forest for Wales, which aims to create woodland and maintain and restore some of our irreplaceable ancient woodland.	The TAWS can provide guidance on which woodlands may be appropriate to be part of the national forest.
Net Zero Wales https://www.gov.wales/net-zero-wales	The principles to make Wales net zero by 2050, with forests highlighted as important to sequester carbon and contribute towards the National Forest.	Eryri's TAWS will provide a local approach towards Wales' net zero goals, through the mechanism of management and planting of trees and woodlands.

NATIONAL		
Policy/Guidance	**Purpose**	**Implications for the TAWS**
NRW Flood Risk Management Plan 2023 -2029 https://naturalresources.wales/evidence-and-data/research-and-reports/flooding-reports-evidence-and-data/flood-risk-management-plans/?lang=en	NRW's approach to flood management, including the planting of trees and woodlands to mitigate potential flooding incidents.	Eryri's TAWS will be key in helping to identify key areas across the landscape for local flood management.
Welsh Government's Natural Resources Policy https://www.gov.wales/natural-resources-policy	Government's 3 priorities for managing natural resources.	The TAWS is an effective local strategy which can help to implement management of natural resources and a more local level.
The Nature Recovery Action Plan for Wales 2020 – 2021 https://www.gov.wales/sites/default/files/publications/2020-10/nature-recovery-action-plan-wales-2020-2021.pdf	Sets out a plan to reverse biodiversity loss in Wales.	The TAWS can provide guidance on how trees and woodland can help to increase biodiversity.
Welsh Government Tree Health Strategy https://www.gov.wales/sites/default/files/publications/2018-03/tree-health-strategy.pdf	Preserve the health and vitality of trees and woodlands in Wales through strategies which exclude, detect, and respond to, existing and new pests and pathogens of trees, whether of native or exotic origin. Take proactive measures to reduce the impact of pests and diseases on trees and woodlands in Wales.	By working with the Tree Health Strategy, the TAWS will ensure that tree cover is increased without compromising tree health or encouraging the spread of pests and diseases as far as possible.

LOCAL

Policy/Guidance	Purpose	Implications for the TAWS
Cynllun Eryri - National Park Plan https://authority.snowdonia.gov.wales/the-authority/partnerships/cynllun-eryri/	A management plan to preserve, enhance and celebrate Eryri National Park, developed through extensive consultation and collaboration.	The TAWS is a mechanism to support the National Park to meet its ambitions within Cynllun Eryri and as such can sit within this management plan.
Cynllun Yr Wyddfa Plan https://authority.snowdonia.gov.wales/the-authority/partnerships/cynllun-eryri/	A partnership to develop and implement a sustainable management plan for Yr Wyddfa.	The TAWS will work with and learn from both Cynllun Eryri and Cynllun Yr Wyddfa.
Eryri Nature Recovery Action Plan 2024-2034 **Gwynedd Nature Recovery Action Plan** **Conwy Nature Recovery Action Plan**	Strategic plans for the restoration of the natural environment in Eryri National Park and other areas.	The TAWS is a useful high-level guide for the woodland- and tree-related elements of these Action Plans.
North West Wales Area Statement (NRW) https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/area-statements/north-west-wales-area-statement/?lang=en	Outlines the key challenges facing North West Wales (including Eryri National Park) and identifies what can be done to meet them.	TAWS will feed into this ongoing work, helping to identify woodland and tree related actions.

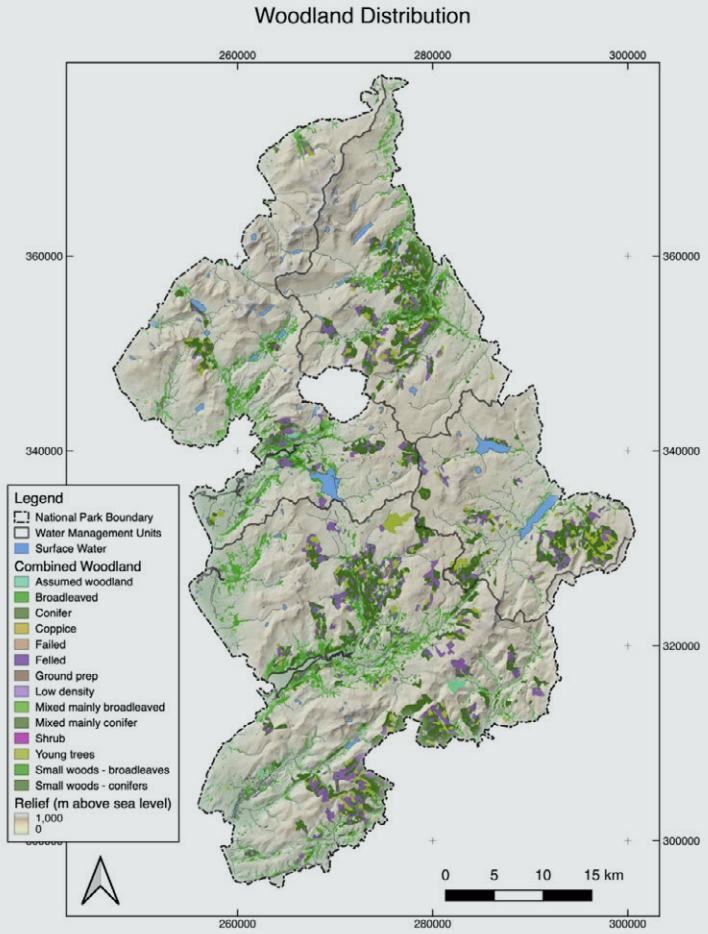
> APPENDIX D: EVIDENCE DETAIL

Climate and terrain: Parts of Eryri National Park sit within the hyperoceanic zone, which is particularly important for the internationally significant areas of temperate rainforest. In the areas of highest altitude, rainfall and temperature are not the limiting factors for tree growth and the natural treeline is much higher than that which is currently seen. Wind exposure, and waterlogged and thin soils cause trees to grow slowly, meaning that grazing pressure– even light grazing – is a major factor in preventing woodland establishment.

Woodland cover: Broadleaved and coniferous standing woodland (i.e., woodland as land cover) accounts for 29,797ha (or approximately 14%) of the National Park area. When felled and newly planted areas are included (i.e. woodland as a land use), this increases to 43,734ha (or just over 20% compared with 15%) for Wales overall[1]. Overall, Eryri's standing woodland is about 50% conifer and 50% broadleaf.

Woodland distribution: Woodlands are unevenly located across the National Park, with twice as much woodland in the southwestern part of the Park as in the northwest. Broadleaved woodlands tend to be in the lowland areas in valleys, while conifers tend to be at higher elevations and further away from the main river courses, although this is not always the case. Figure 3 shows woodland distribution across the National Park

Figure 4: Woodland distribution in Eryri National Park



(Map supplied by Terra Sulis Research CIC.)

1 Forest Research (2023) Provisional Woodland Statistics 2023. https://cdn.forestresearch.gov.uk/2023/06/PWS-statsnotice-15jun23.pdf)

Ancient woodlands and trees: There are 9,566ha of ancient woodland in the National Park, which covers 4.47% of the land area (which is slightly lower than the average for Wales at 4.6%) and constitutes 22% of the National Park's woodland area. Forty per cent of this is classified as Ancient Semi Natural Woodland, with 33.5% being Plantations on Ancient Woodland Sites, 24% Restored Ancient Woodland Sites and 2.3% Ancient Woodland Sites of Unknown Category. The southwest of the National Park contains more than half of the ancient woodland area, but even here it is less than 6% of the land area. Four hundred and thirty-seven ancient trees are currently recorded on the Ancient Tree Inventory (ATI). This under-represents the actual number of ancient trees because the ATI relies on recording and reporting by volunteers, which is invaluable but has patchy geographical coverage. Three hundred and forty (78%) of the recorded trees are found outside ancient woodlands where they are at greater risk and lack successional habitat planning.

Woodland cover in protected and priority areas: 'Protected areas' refer to places with legal conservation designations, such as Special Protection Areas, Special Areas for Conservation, Sites of Special Scientific Interest, Scheduled Monuments and National Nature Reserves. A significant proportion of the National Park (almost 30%, 63,506ha) has statutory protection, with many areas having more than one designation. When priority habitats, which are not legally protected, are included, this rises to 49% (104,830ha). Within these areas, woodland accounts for 8% of designated areas (4,904ha) and 10.7% (6,788ha) when priority habitats are included. Some areas will be unsuitable for tree cover, and especially new planting, but there may be local opportunities. Other areas that may be unsuitable for new planting or encouraging woodland regeneration could include some of the extensive common land areas that occur in the Park.

Invasive Non-native Species (INNS): Evidence suggests that INNS are increasing in their extent and effect. Plant species of particular concern include Japanese Knotweed (*Reynoutria japonica*) and Himalayan Balsam (*Impatiens glandulifera*). Efforts to control Rhododendron (*Rhododendron ponticum*) are proving successful thanks to work undertaken as part of the Celtic Rainforest LIFE project, but continued and consistent management will be needed. Grey squirrels (*Sciurus carolinensis*), and native and non-native deer species are also thought to be increasing and are likely to affect woodland ecology, the re-stocking of existing woodlands, and the design and planting of new sites. INNS records are widely distributed, but there are clear hotspots.

Land ownership: From available data it is estimated that 42.8% of the National Park is "corporate or commercial" land, and that 4% of this land is wooded. Of this, more than half is mixed woodland, with over one third being coniferous. Natural Resources Wales (on behalf of the Welsh Government) manages 22,543ha (10.5% of the Park's area), of which 17,537ha are considered productive forest and this is the vast majority of such production in the National Park. The five largest commercial and corporate landowners own about 1/4 of the total Park area.

Woodland creation opportunities: Scores provided by the Welsh Government's Woodland Opportunity Map highlight areas that may be considered for new planting, avoiding inappropriate habitats such as peat soils. Planting could include silvopasture and hedgerow trees, as well as woodland.

Commercial forestry: Figures for the area of commercial forestry are difficult to derive, as not all of the coniferous areas (15,273ha in 2023) are commercial, while some broadleaved woodlands are harvested for timber. Further, within each woodland there are non-commercial areas. Planting rates have slowed in recent decades, and it is also likely that there will be a smaller area of conifers, as PAWS sites are restored, and new planting schemes are encouraged to include more broadleaved trees and open spaces. As a result, there may be a gradual decline in commercial timber production. For hardwood forestry, it is felt that the market is under-developed, while many farmers / land managers feel that they don't have the skills, equipment or time to harvest timber, process it, or transport it for processing elsewhere. However, there is a considerable demand for timber products, for example, fencing posts and hedging stakes, which appears not to be serviced within the National Park. There also seems to be a difference between the reported perception by many farmers, foresters and landowners, that new commercial planting in the National Park would not be allowed or the regulations would be too complicated for it to be worthwhile, and the attitude of ENPA itself, which is positive if the proposed planting is suitable.

Attitudes to planting:

Farmers: A survey of farmers within the National Park (by Terra Sulis Research CIC in 2023 in preparation for the co-creation of this TAWS) found that while 39% were not interested in planting more trees on their farms, 23% would be happy to and 38% expressed no preference, so could perhaps be encouraged to do so. Reasons against planting (or in some cases undertaking additional planting) included the perceived loss of agricultural land and resulting loss of income, the feeling that there are already plenty of trees, and that trees are a threat to ground-nesting birds. It was also implied that as a lot of land has conservation status, it is already in an optimum state and that planting trees would undo the good conservation work being done. Those interested in increasing tree cover were most keen on hedgerow and hedgerow tree planting or improvements, along with wood pasture, riparian planting and orchards, although other types of woodland and forestry were mentioned, including shelterbelts, trees for coppicing and parkland trees. The reasons for these choices revolved around livestock welfare, water quality and improving biodiversity, as well as carbon sequestration and a range of other motivations. Most of this theoretical planting would be on marginal agricultural land. Barriers against undertaking the work were largely financial, although this may be less of an issue as woodland creation grants are expanded. Lack of space, time and knowledge were also mentioned. Tenancy arrangements are a significant issue for many farmers, with a prohibition on planting being common, although this can be addressed through negotiation.

Other landowners: A small number of representatives from environmental charities were surveyed. Being particularly aware of the needs and potential of the sites that they care for, it was sometimes felt that the scope for increasing tree cover may be limited in these areas, as it is likely to have already been undertaken or be incompatible with the conservation aims for the specific site. The issue of defining tree cover – whether it includes hedgerows, individual trees and scattered trees on ffridd – was raised.

> IMPROVING THE EVIDENCE BASE

Below are some key areas where the evidence base needs to be improved to help with the future development of the TAWS, as well as wider understanding of trees and woodlands across the National Park.

- Using a variety of sources of data helps to reduce errors, particularly in the identification and classification of land use and cover. However, some areas remain **unclassified**. These tend to be where analysis by the Centre for Ecology and Hydrology designates patches of land as woodland, but neither the National Forest Inventory (NFI) nor Copernicus satellite systems do. These need further investigation.

- Similarly, areas of **scrub and natural regeneration** are prone to misclassification. The NFI records 167ha of scrub, but other reports occasionally appear; for example, sites of natural regeneration have also been described near Cadair Idris and Llyn Eigiau. However, there is no systematic survey of such locations. Light Detection And Ranging (LiDAR) may help with analysing these areas, but confusion (for example, caused by shadows and boulders) is still likely and sites may need ground-truthing.

- Careful and critical use could be made of **archaeological and historic data with specialist input** to help to inform discussion of areas that might be suitable for tree planting. Established records, including the regional Historic Environment Record and the National Monument Record, are already important sources of information, but their interpretation and application does require specialist commentary. Neither record is definitive, and each is subject to ongoing enhancement as new discoveries and information comes to light. LiDAR data and other techniques are transforming archaeological prospection and mapping and will become an increasingly important source for determining and understanding the distribution and extent of sites. Other sources include documents such as historic maps, sale catalogues and estate papers; ecofactual remains (such as ancient pollen preserved in peatland and other anaerobic situations, diatoms and plant macrofossils such as preserved wood, seeds and other remains); and place / field names.

- Accurate figures relating to **productive forestry** are almost impossible to obtain in their entirety. However, NRW, who manage the largest area of forestry, manages 22,633ha within the National Park and 17,653 is classed as productive forest. In the private forestry sector, commercial and non-commercial forestry are not always well-defined, as commercial stands include non-commercial areas.

- Despite the huge amount of data (of all taxa) held by the National Biodiversity Network Atlas, thanks to its many contributing partners, these records are not usually specifically related to **Invasive Non-Native Species** unless a specific survey has been arranged. Data collection for INNS is often fragmented and sporadic, and a cohesive effort to survey

such species and their effects would be valuable. This also applies to other native species that can cause problems when there is an imbalance in the ecology. For example, Ivy (*Hedera helix*) and Holly (*Ilex aquifolium*) can shade out rare rainforest lichens, although these areas may also be used by some rare woodland bat species that prefer darker areas.

- **Economic data** specific to the National Park area that would be useful includes those related to timber production, agriculture, nature-based services, and the cost of maintaining some of the unique habitats, including temperate rainforests.

- Survey data on the attitudes and **intentions of landowners and the forestry sector** are based on very few respondents and, while these provide valuable qualitative insights, their usefulness in providing a strong evidence base is limited.

Figure 4 (P.63) credits:

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Collated by Terra Sulis Research CIC.

Foothills of Cader with hawthorn forest - Ben Porter

Mosses in rainforest - Ben Porter

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Plas Tan y Bwlch Tree Nursery - Laura Shewring

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