COED CADW
WOODLAND
TRUST

Coed Oerddwr, Parc y Llys & Hafod Gwyfil

Management Plan

2018-2023

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MAPS

THE WOODLAND TRUST

INTRODUCTION

The Trust's corporate aims and management approach guide the management of all the Trust's properties, and are described on Page 4. These determine basic management policies and methods, which apply to all sites unless specifically stated otherwise. Such policies include free public access; keeping local people informed of major proposed work; the retention of old trees and dead wood; and a desire for management to be as unobtrusive as possible. The Trust also has available Policy Statements covering a variety of woodland management issues.

The Trust's management plans are based on the identification of Key Features for the site and setting objectives for their management. A monitoring programme (not included in this plan) ensures that these objectives are met and any necessary management works are carried out.

Any legally confidential or sensitive species information about this site is not included in this version of the plan.

PLAN REVIEW AND UPDATING

The information presented in this Management plan is held in a database which is continuously being amended and updated on our website. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.
Please either consult The Woodland Trust website www.woodlandtrust.org.uk or contact the Woodland Trust (wopsmail@woodlandtrust.org.uk) to confirm details of the current management programme.

There is a formal review of this plan every 5 years and a summary of monitoring results can be obtained on request.

WOODLAND MANAGEMENT APPROACH

The management of our woods is based on our charitable purposes, and is therefore focused on improving woodland biodiversity and increasing peoples' understanding and enjoyment of woodland.

Our strategic aims are to:

- Protect native woods, trees and their wildlife for the future
- Work with others to create more native woodlands and places rich in trees
- Inspire everyone to enjoy and value woods and trees

All our sites have a management plan which is freely accessible via our website www.woodlandtrust.org.uk. Our woods are managed to the UK Woodland Assurance Standard (UKWAS) and are certified with the Forest Stewardship Council® (FSC®) under licence FSC-C009406 and through independent audit.

In addition to the guidelines below we have specific guidance and policies on issues of woodland management which we review and update from time to time.

We recognise that all woods are different and that the management of our sites should also reflect their local landscape and where appropriate support local projects and initiatives. Guidelines like these provide a necessary overarching framework to guide the management of our sites but such management also requires decisions based on local circumstances and our Site Manager's intimate knowledge of each site.

The following guidelines help to direct our woodland management:

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene when there is evidence that it is necessary to maintain or improve biodiversity and to further the development of more resilient woods and landscapes.
2. We establish new native woodland using both natural regeneration and tree planting, but largely the latter, particularly when there are opportunities for involving people.
3. We provide free public access to woods for quiet, informal recreation and our woods are managed to make them accessible, welcoming and safe.
4. The long term vision for our non-native plantations on ancient woodland sites is to restore them to predominantly native species composition and semi-natural structure, a vision that equally applies to our secondary woods.
5. Existing semi-natural open-ground and freshwater habitats are restored and maintained wherever their management can be sustained and new open ground habitats created where appropriate.
6. The heritage and cultural value of sites is taken into account in our management and, in particular, our ancient trees are retained for as long as possible.
7. Woods can offer the potential to generate income both from the sustainable harvesting of wood products and the delivery of other services. We will therefore consider the potential to generate income from our estate to help support our aims.
8. We work with neighbours, local people, organisations and other stakeholders in developing the management of our woods. We recognise the benefits of local community woodland ownership and management. Where appropriate we allow our woods to be used to support local woodland, conservation, education and access initiatives.
9. We use and offer the estate where appropriate, for the purpose of demonstration, evidence gathering and research associated with the conservation, recreational and sustainable management of woodlands. In particular we will develop and maintain a network of long-term monitoring sites across the estate.
10. Any activities we undertake will conform to sustainable forest management principles, be appropriate for the site and will be balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

SUMMARY

This public management plan briefly describes the site, specifically mentions information on public access, sets out the long term policy and lists the Key Features which drive management actions. The Key Features are specific to this site – their significance is outlined together with their long (50 year+) and short (5 year) term objectives. The short term objectives are complemented by a detailed Work Programme for the period of this management plan. Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. A short glossary of technical terms is at the end. The Key Features and general woodland condition of this site are subject to a formal monitoring programme which is maintained in a central database. A summary of monitoring results is available on request.

1.0 SITE DETAILS

Site name:	Coed Oerddwr, Parc y Llys & Hafod Gwyfil
Location:	Beddgelert
Grid reference:	SH588448, OS 1:50,000 Sheet No. 115
Area:	52.26 hectares (129.14 acres)
Designations:	Ancient Semi Natural Woodland, National Park, Planted Ancient Woodland Site, Site of Special Scientific Interest, Special Area of Conservation

2.0 SITE DESCRIPTION

2.1 Summary Description

Coed Oerddwr, Parc y Llys and Hafod Gwyfil rise steeply from the banks of the Afon Glaslyn near Beddgelert. Oak and ash woodland gradually gives way to rough ground with scattered trees in a landscape inhabited by people since prehistory: old dry stone walls and three ancient hut circles survive as reminders of the wood's human past. More recently, planted conifer and rhododendron has had an unwelcome impact on this ancient wood. Fortunately, gradual restoration work by the Woodland Trust is turning the tide.

2.2 Extended Description

Facing eastwards across the Glaslyn valley, the property rises very steeply over rocky and stream-crossed land and consists of both woodland and open pasture. It is an important component of the wooded landscape of the western side of the lower Glaslyn.

The woodland is highly varied in character. Parc y Llys, on boulder-strewn land at the southern extremity, contains mixed broadleaves, dominated by oak and ash, although sycamore is common.

The largest woodland block, Coed Oerddwr, lies on very steep land interspersed with cliffs and boulders: although pockets of semi-natural oak woodland remain, large areas have been inter- and under-planted with conifers including dense pure blocks of spruce and western hemlock. Extensive wind throw occurred in some of the conifer stands in 2002 and a programme of gradual thinning has also started to reduce the density of conifer.

Above 200m is the open rough ground of Hafod Gwyfil, with scattered blocks of over mature pine and larch, and stands of oak and birch closest to the lower woodland wall.

The property is little visited. A public footpath crosses Coed Oerddwr, but its remote location means it, and a linked permissive path, are infrequently used. Other public access is possible in Parc y Llys via a track from the main road, but this does not link into the rest of the property. Management access is directly from the road frontage via the same track, or via a right of way on an external track to the property's northern boundary.

None of the management access routes are adequate for timber extraction during the restoration work required in Coed Oerddwr.

Drystone walls form many of the external boundaries and are also the internal divisions between the three component parts of the property. In addition there are many other stone features which indicate various historical uses within the property, including 3 prehistoric "hut circles" identified in the monuments register.

The key features of the property are:

Ancient Woodland Site
Mixed Habitat Mosaic
Informal public access

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

The woodland is located 2 miles south of Beddgelert, on the western slopes next to the main road. Head south from the village of Beddgelert on the A498 heading for Tremadog, through the upper Glaslyn pass. The nearest formal parking is located over the Aberglaslyn bridge at Nantmor, maintained by the National Trust. As access is primarily along footpaths from neighbouring farm land, it is recommended that visitors combine a visit with a longer walk in the locality, from Beddgelert itself or from the nearby Nantmor car park. Access from the latter is via a footpath ascending to the north of Aberglaslyn Hall, bearing south at Pen-y-Gaer. From here, a public footpath crosses the wood, entering at a pedestrian gate and stile to the north and exiting via a stile to the south. A permissive path also crosses this part of the wood, although both paths can be steep in places. Alternatively, drive on, and after a ½ mile the road straightens out, with the river Glaslyn on your left hand side. On the steep slopes to you right you will see a woodland behind a small holding. This is Coed Oeddwr. Parking is available at the small pull in on the A498 at the lower end of the wood with enough space for two cars. From here the southern part of the wood can be accessed via a permissive path.

The nearest bus stop is at Pont Aberglaslyn (at the junction of the A498 with A4085 Nantmor road), approx 1 mile away. It is found on route number no. 97A (Porthmadog – Beddgelert). The nearest train station is Porthmadog, approx 4 miles away, and is serviced by Arriva Trains Wales (Cambrian Coast Timetable). The Welsh Highland narrow gauge railway has stations at Beddgelert and Nantmor nearby.

The Public Toilet is located in the village of Beddgelert, next to the main car park and the Snowdonia National Park visitor centre. There are disabled facilities available.

http://www.beddgelerttourism.com/index_main.htm
http://www.snowdonia.org/

3.2 Access / Walks

4.0 LONG TERM POLICY

Overall the aim of management will be to restore the woodland to a largely broadleaved woodland dominated by site-native broadleaved trees, bringing the habitat within the coniferised areas more in line with that currently present in Parc y Llys and compartment 1a. This will be achieved by a programme of PAWS restoration involving gradual thinning of conifer and invasive species control.

Ground flora will be typical of upland oakwoods, with an abundance of mosses, lichens and liverworts, except in more base-rich areas where a diversity of woodland specialist vascular plants can be expected. Natural regeneration will be frequent and there will a significant quantity of deadwood habitat, including some standing mature trees retained to senescence. Invasive species will be absent.

To the higher ground, there will be a transition from woodland to open mosaic habitats, adding species interest and diversity to the site. The site will be remain accessible to walkers using the network of footpaths in the Glaslyn valley, who will enjoy excellent views of this historic well-wooded landscape.

5.0 KEY FEATURES

The Key Features of the site are identified and described below. They encapsulate what is important about the site. The short and long-term objectives are stated and any management necessary to maintain and improve the Key Feature.

5.1 Ancient Woodland Site

Description

Most of Coed Oerddwr (cpt1) and Parc y Llys (cpt 2) have been identified as ancient woodland. Semi-natural broadleaved woodland habitats persist in parts of Coed Oerddwr (cpt 1a) and throughout Parc y Llys, whilst scattered mature trees and natural regeneration, especially of rowan, are also present in Hafod Gwyfil (cpt 3).

Oak is the dominant tree, and the natural character of much of the wood is that of upland oakwood, but birch and ash are common. Ash in Parc y Llys has developed into stands closer to upland ashwood, and in these areas sycamore is also common, with hazel frequent in the understorey. Pockets of planted beech, introduced at the time of coniferisation, are also present. The oak woodland is without significant understorey, except where holly is locally frequent, and the ground layer ranges from mosses to bilberry and heather. The more base-flushed woodland in Parc y Llys has a more developed ground layer, often characterised by fern species, luxuriant moss cover especially on bouldery ground, with honeysuckle and bramble as well as vascular woodland specialist plants such as wood sorrel, violet, bluebell and celandine. The largest trees tend to be overmature beeches, scattered through Coed Oerddwr, but there also large old oak and ash trees.

Extensive coniferisation occurred over most of Coed Oerddwr in the mid 1960s (cpt 1b), including on ancient woodland areas and across other previously broadleaved woodland. Dense stands of Sitka spruce and pine typically exhibit a very sparse ground flora, other than in small pockets where crop trees have failed, despite thinning in 2006 and 2014. Other areas where Douglas fir and western hemlock were planted under and amidst broadleaves have varying degrees of surviving native trees (principally oak) and typical ground flora remnants. Occasional groups of Japanese larch have the least detrimental effect on ground layers. Amongst the conifers are surviving mature oaks and also scattered over-mature beech trees of notable girth: these trees have been given an initial 'halo thin' to reduce critical shading impacts. Cpt 3b contains stands of European larch (mostly ringbarked) and pine, with an understorey of ericaceous ground flora, bracken and Molinia. Although, with the exception of blocks of old oaks on crags to the lower edge of the ffridd, these blocks are almost certainly secondary woodland, the same objectives apply in terms of gradual increase in broadleaf components. Following significant windblow in 2002, areas to the north of the site were restocked/ regenerated and now typically comprise young trees with a predominance of birch.

At the last assessment, 4 stands were deemed 'secure' or RAWS, however, cpt 1b is still largely 'threatened' (see PAWS assessment 2016). There has been some progress toward diversification of the age structure, and some site-native species are regenerating, although there remains a way to travel along the road to restoration (Phase 2). Some specialist ground flora survives, although the levels of coarse vegetation are a concern, as bramble is showing a strong response to any opening of the canopy e.g. by windblow. Browsing of broadleaf regen is probably not helping matters, in particular the lack of a shrub layer, although it may also help to constrain the bramble. The brash from felled and particularly windblown trees is also accumulating and may hamper future management and encourage bramble thickets, making it difficult to selectively manage regeneration. Rhododendron is present and is spreading from adjacent land while conifer, especially hemlock, is regenerating rapidly following previous thinning operations (despite the ringbarking of the remaining mature hemlock in 2014).

Rhododendron is present throughout and reinvades relentlessly from adjacent land. There is a low level of sheep grazing from incursion through poor boundaries on all sides.

Significance

Ancient woodland is one of our most biodiverse and yet our rarest habitats, comprising just 2% of land use in the UK. The woodland comprises two UK Biodiversity Action Plan (BAP) and European priority woodland habitats (upland oakwood and upland mixed ashwoods) and is designated SSSI and SAC. Restoration of the PAWS elements would significantly improve the area of these priority habitats and go a long way to delivering favourable conservation status for the SAC compartment. The site supports lower plant assemblages typical of Atlantic woodland including scarce species such as filmy fern. The woodland habitat, in particular the semi-natural and restored elements, is also likely to be of value to a number of fauna groups/species including invertebrates, birds and bats. The woodland is prominent in the landscape.

Opportunities & Constraints

The terrain is particularly steep and bouldery and there is little practicable management or extraction access, despite the site being adjacent to a major road, with attendant safety implications. The woodland occupies a prominent and visible position and is part of an extensively wooded locale. The ecological importance, landscape position and topography of the site preclude development of new extraction tracks within the wood. This restricts the range of management methods available. Fell to waste operations generate brash, which can be difficult to manage and may create dense an impenetrable areas easily infested with rhody and bramble if unmanaged.

However, the restoration of PAWS presents the only opportunity to increase the area of ancient semi-natural woodland on any realistic time scale: there is scope in the medium term to secure and enhance the remnant features of the planted areas and transform the habitat of the PAWS zones into broadleaf woodland resembling the adjacent ancient stands.

The area around Beddgelert has been the focus of landscape-scale efforts at control of invasives such as Rhododendron.

The current state of the boundaries, both internal and external, is poor: stockproofing and management of informal or formal grazing schemes is therefore likely to prove extremely challenging and costly, if required.

Old sheepfolds and walls exist within the plantation and are of some historical interest, so should be preserved.

Factors Causing Change

Rhododendron ponticum is present both in and around the wood, and will inevitably spread without control. Himalayan balsam and Japanese knotweed are also present along the highway boundary and could spread into the woodland. The continuation or otherwise of wider control efforts will impact on the achievability of long term eradication within the wood.

During the restoration phase of adjoining coniferised areas there will be an increased likelihood of conifer regeneration throughout. Windblow of native trees may occur as conifers are removed: the site is very steep and exposed. Bramble may respond strongly if areas were to be over-thinned or subject to windblow, while changes in humidity, relevant to the more sensitive Atlantic bryophytes species, are likely occur as canopy cover changes.

Uncontrolled grazing may affect natural regeneration and ground flora, although browsing is likely to reduce coarse vegetation abundance. Ash dieback is also present, which may impact on the species composition of native stands in the medium term, with the prospect of the loss of a high proportion of current natural regeneration in Parc y Llys.

Long term Objective (50 years+)

In the long term, the entire wooded area will be dominated by a diversity of predominantly site-native tree and shrub species such as oak and hazel, with non-natives comprising less than 20% of the canopy and regeneration. Remnant PAWS features will be secured through successive thinning and all planted zones restored. The canopy will be of mixed age structure including a high proportion of mature to over-mature trees. The ground flora will generally reflect the typical oakwood communities, with areas of base flushing exhibiting additional diversity of woodland specialist flora. The quantity of deadwood, particularly standing deadwood, will increase naturally over time. Grazing will not occur at a level sufficient to preclude natural regeneration of tree species, although in the long term some light grazing may be beneficial for the control of coarse and competitive vegetation. Rhododendron ponticum and other invasive species will be eradicated.

Short term management Objectives for the plan period (5 years)

The wood will continue to exhibit a diversity of tree species and structure, with robust ground flora typical of upland oak and ash woodland. Mature trees and standing deadwood will be retained in situ except where proximity to the main road precludes this. Woodland condition will be reviewed every five years.

By 2023, remaining threats to ancient woodland, primarily from conifer shade, in compartment 1b will be reduced through light thinning. Regeneration - including that of broadleaves - will be initiated in the remaining conifer-dominated stands as basal area reduces. The handful of mature hemlock which survived the 2014 operation will be felled asap (before March 2019) to remove the local seed source. Mature broadleaves within the PAWS zone will be in recovering and largely windfirm condition. The PAWS assessment will be reviewed no later than spring 2023 and should record improvements.

By the end of the plan period, conifer regeneration will be only an occasional component of the field layer and understorey, with no western hemlock retained beyond pole stage. Rhododendron will be no more than occasional, with no flowering specimens. Any other invasive species, such as balsam and Japanese knotweed, will also be monitored and controlled promptly, should they colonise within the wood. The Trust will work with other organisations to support landscape-scale control where the opportunity arises.

Coarse vegetation will remain occasional within the semi-natural stands and should not increase in abundance in the PAWS zones, ideally reducing to 'frequent' over the coming 5-10 years. To this end, natural regeneration may be supplemented with locally sourced shrub planting, particularly hazel, if natural shrub regeneration alone proves inadequate.

During the coming plan period, an assessment will be undertaken of work required to stock-proof the current boundaries and introduce subsequent formal light winter grazing, to be taken forward subject to feasibility and funding.

This will be achieved through the following actions:
2019 - fell all remaining mature hemlock in cpt 1b (3-4 trees).
2020 - Phase 2 PAWS thinning in PAWS zones 4,6,7,11 & 13. Stack timber and utilise brash as brash hedging to protect areas of actual or potential regeneration wherever possible.
Annual control of conifer regen <4in dbh and rhododendron by cutting/ herbicide application. Control any other invasives as they occur.
2020 - commission grazing assessment to include costed specification for infrastructure and recommended stocking intensity.
2021 - review levels of natural regeneration/ shrub growth post-thinning. Consider hazel under-planting into bramble if required.

5.2 Mixed Habitat Mosaic

Description

Hafod Gwyfil (cpt 3a/b) in the high western sector of the site supports a mosaic of primarily open non-woodland habitat. Drier ground is primarily unimproved upland acidic grassland (NVC U4) whilst wetter ground consists of mire vegetation (NVC M25) dominated by Molinia and rushes. Bracken is dominant on deeper drier soils, whilst rocky knolls support gorse and heathers. Unstockproof external boundaries allow uncontrolled grazing by sheep. Areas adjoining the grassland/mire in Hafod Gwyfil contain a patchwork of semi-natural and planted woodland: cpt 3b contains remnants of an old plantation of European larch and Scots pine, which is accompanied nearest Coed Oerddwr by an area of primarily oak woodland with birch and rowan (see also Ancient Woodland Site Key Feature).

Significance

The habitat mosaics present are likely to be of value to a number of bird and invertebrate species. Development of further areas of native broadleaved woodland will contribute towards upland oakwood HAP targets, however, transition zones between woodland habitat and open ground should be maintained as these are potentially biologically rich. Diverse internal landscapes are a valued feature of visitor appeal.

Opportunities & Constraints

While grazing is needed for maintaining the open habitat mosaic in the long term, it may inhibit tree regeneration: the current poor state of the boundaries precludes active management of grazing levels, with the cost of repair and maintenance, poor management access, as well as uncertainty over the likelihood of securing a formal grazing agreement, being a constraint.

Archaeological features of note (sheepfolds as well as a post-mediaeval long hut and three round hut circles from the Roman period) are present within the open ground areas and could be damaged by management or obscured by tree growth.

Factors Causing Change

Grazing levels, and whether or not these can be managed, will largely dictate the habitat composition and structure in these areas e.g. controlling the extent of scrub and bracken encroachment.

Invasive Rhododendron ponticum is spreading into open areas.

Much of the conifer canopy crop is failing or in poor condition, however, conifers may provide a 'nurse' crop for broadleaved regeneration.

Long term Objective (50 years+)

Hafod Gwyfil will continue to support a patchwork of habitats including open ground, comprising a mix of acid grassland, mire and heathland species, punctuated by naturally regenerating broadleaved trees and shrubs. Conifer will not significantly expand within this compartment (cpt 3). Rhododendron ponticum will be eradicated.

Short term management Objectives for the plan period (5 years)

The current balance of open ground habitats in cpt 3a (M25 mire vegetation c 20%, U4 acid grassland c 65%, heathland and rocky outcrops c 10%, scattered tree cover c 5%) will undergo no significant change in the current plan period, as gauged by monitoring/ fixed point photography on a five yearly basis, although some modest expansion in tree cover would be acceptable, particularly to the fringes of cpt 3b. Bracken will not increase in cover or density. Rhododendron will be rare with no flowering specimens.

The open ground will be included in the grazing assessment (2020) and if feasible, funding sought for boundary improvements to enable management of grazing levels.

5.3 Informal Public Access

Description

A public footpath crosses the highest part of Coed Oerddwr, linking in to longer-distance routes, however, the site attracts a low level of use as it is not close to any immediate settlement and parking is limited. A permissive path allows walkers to make a loop within the site, while a further permissive footpath crosses Parc y Llys. The topography and site location keep visitor numbers are low and the routes are rather strenuous. All routes can be wet and involve streams and rock steps. The wood may be of interest to specialist audiences as an example of uneconomic ancient woodland restoration in an exposed upland environment.

Occasional volunteer activity is largely restricted to the control of rhody seedlings and conifer regen.

Significance

The site provides potential opportunities for walking within the National Park, being located within day hiking distance of the tourist hub of Beddgelert. The wood offers an example of ancient woodland restoration in action on a challenging site.

Opportunities & Constraints

Access to the site is difficult due to the lack of convenient parking, terrain and restricted access to internal routes. There is a presumption against creating new parking areas outside settlements within the National Park. However, the site is located close to existing amenities such as Beddgelert, the Ffestiniog Railway and parking at Nantmor.

Repeated windblow occurs in Coed Oerddwr, hence the creation of further permissive access routes may not be appropriate. The SSSI/ SAC designation and ASNW status of the wood also put restrictions on 'development' activity.

The track through Parc y Llys is a third party access.

Factors Causing Change

Ongoing windthrow and bramble encroachment will require management in order to maintain the current path network. Access infrastructure will need periodic replacement as it deteriorates over time.

Long term Objective (50 years+)

The existing path network will be maintained, offering the opportunity for passing visitors to explore the wood and the excellent and changing views offered through its restoration phase. The path network will also allow occasional access for volunteers in support of the wood's conservation objectives.

Short term management Objectives for the plan period (5 years)

Existing paths will be clear of obstruction. Entrances and signage will be maintained in moderate to good condition. Occasional third party volunteer group assistance will help support conservation objectives at the site.

6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By

APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	5.00	Sessile oak	1920	High forest	Landscape factors, No/poor vehicular access to the site, Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Informal Public Access	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Special Area of Conservation
This sub-compartment comprises those parts of Coed Oerddwr that have retained their semi-natural broadleaf woodland character, occupying a patchwork of areas through the compartment. The terrain is steep to precipitous with many cliffs and boulder-strewn areas. Predominantly upland oakwood in character (NVC W17) without significant understorey, and a ground layer ranging from mosses to ericaceous shrubs. Birch is another component, especially in areas on edges of failed conifers. Flushed areas, especially on lower slopes, have an ash component. Pockets of planted beech, introduced at the time of coniferisation are also present. There are also scattered specimens of over-mature beech. Rhododendron is lightly scattered through the compartment. A public footpath and a branch permissive path cross these areas. There is a low level of sheep grazing from incursion through poor boundaries to the north. Archaeological features are present, including stone enclosures.							
1b	17.60	Sitka spruce	1965	PAWS restoration	Archaeological features, Landscape factors, No/poor vehicular access to the site, Services & wayleaves, Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Informal Public Access	National Park, Planted Ancient Woodland Site, Site of Special Scientific Interest, Special Area of Conservation

The majority of Coed Oerddwr, represented by this subcompartment, was coniferised in 1963-66. The results range from dense blocks of Sitka spruce, lodgepole pine and western hemlock, mainly on more undulating ground to the north and west of the compartment and covering about 9ha in total, to varying intermixtures of Douglas fir and western hemlock amidst the remnant broadleaved woodland (principally oak, with birch) on the middle and lower slopes. These stands have since been thinned, and the remaining hemlock was ringbarked in 2014.

The ground layer beneath the conifers is generally sparse, but some mossy ground cover is present in areas with a higher proportion of broadleaves. Severe windblow affected the woodland in 2002, with the worst damage in a 0.5ha block of western hemlock near the northern boundary, although other stands were also afflicted. The area continues to be affected by windblow events.

Two streams are present in the north (Nant Oerddwr Isaf and its tributary – the latter in a small gorge), Ffos y Llys intermittently forms the southern boundary and other seasonal streams cross the area. Rhododendron is lightly scattered through the compartment and is spreading into the area from adjoining land, while Western hemlock is regenerating strongly after PAWS thinning. There is a low level of sheep grazing from incursion through poor boundaries to the north. A public footpath and a branch permissive path cross these areas. Archaeological features are present, including hut circles and various other stone enclosures.

2a	7.00	Sessile oak	1920	High forest	Landscape factors, Legal issues, No/poor vehicular access to the site, Services & wayleaves, Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Informal Public Access	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Special Area of Conservation

Parc y Llys is the southernmost part of the site, adjoining the A498, from which a vehicle track crosses the northern sector. The sub-compartment is semi-natural ancient woodland and consists mainly of oak, but with significant proportions of ash and sycamore, and birch is also common. Hazel understorey is present, in association with ash. The ground rises steeply to the west, and is covered in boulders with deep fissures between them. Ground flora is diverse with a significant fern component (male fern, common polypody and hard fern); mosses cover the rocks and there are swathes of bramble and honeysuckle in places. Scattered Rhododendron ponticum is present, especially near the road, where there are stands on the highway verge and in the garden of Glanydon.

3a	13.40	NULL		Non-wood habitat	Archaeological features, No/poor vehicular access to the site, Services & wayleaves	Informal Public Access	National Park

Hafod Gwyfil is the western extremity of the property and consists largely of open acidic grassland above 200m on undulating to steep ground, represented by this subcompartment. Drier areas support typical acidic upland grass pasture (NVC U4) with bracken dominant on deeper soils. Rocky knolls have heathers (ling, bell and cross-leaved are present) interspersed with sedge species, Cladonia gardens and gorse patches. There is scattered regeneration of rowan throughout. Areas of bare rock and cliffs are present in the north-western corner of the compartment. Several streams cross the compartment, including Nant Oerddwr Isaf. A central basin running diagonally north-eastwards across the centre of the compartment is wetter ground associated with the southern side of one of the streams: it consists of mire vegetation (NVC M25) dominated by Molinia and rushes. The whole compartment is de facto lightly grazed at present as it is not stockproof to sheep pastures to the north and west. Archaeological features are present, particularly notable being long and round hut circles listed on the National Monuments Register for Wales. The external boundaries of the compartment are mainly drystone walls. No public access provision is made into the area at present, but there are superb views from the higher ground across the mountains of Snowdonia.

3b	9.40	European larch	1920	Min-intervention	Archaeological features, No/poor vehicular access to the site, Services & wayleaves	Informal Public Access	National Park

This subcompartment consists of the wooded parts of Hafod Gwyfil and is essentially found in two areas of the compartment. The largest area is on the eastern side and adjoins Coed Oerddwr. It consists of an intimate mixture of naturally regenerated broadleaves, dominated by oak but accompanied by birch and rowan, and the overmature remnants of an old plantation of European larch (much of which has been ringbarked) and Scots pine, together with some open glades more typical of the adjoining open habitats (the area being almost certainly largely secondary woodland). The second area is in the north-western corner of the compartment and is dominated by another old larch / pine stand. The conifers in both areas are in various stages of decline and collapse. Regeneration of all species other than birch and rowan, with occasional oak, appears at present to be in check due to de facto grazing of the whole compartment as it is not stockproof to sheep pastures to the north and west. Another consequence of this is that ground layers are reflective of the typical open habitats described in the adjoining subcompartment 3a. Several streams cross the compartment, including Nant Oerddwr Isaf which occupies a deep gorge in the wooded stand near the western boundary. The external boundaries of the compartment are mainly drystone walls. No public access provision is made into the area at present.

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	1b	Thin	14.33	59	850
2027	1b	Thin	14.33	45	650

GLOSSARY

Ancient Woodland

Ancient woods are defined as those where there has been continuous woodland cover since at least 1600 AD. In Scotland ancient woods are defined strictly as sites shown as semi-natural woodland on the 'Roy' maps (a military survey carried out in 1750 AD, which is the best source of historical map evidence) and as woodland all subsequent maps. However, they have been combined with long-established woods of semi-natural origin (originating from between 1750 and 1860) into a single category of Ancient Semi-Natural Woodland to take account of uncertainties in their identification. Ancient woods include Ancient Semi-Natural Woodland and plantations on Ancient Woodland Sites (see below). May support many species that are only found in ancient woodland.

Ancient Semi - Natural Woodland

Stands in ancient woods defined as those consisting predominantly of native trees and shrubs that have not obviously been planted, which have arisen from natural regeneration or coppice regrowth.

Ancient Woodland Site

Stands in ancient woods that have been converted to plantations, of coniferous, broadleaved or mixed species, usually for timber production, including plantations of native species planted so closely together that any semi-natural elements of the understorey have been suppressed.

Beating Up

Replacing any newly planted trees that have died in the first few years after planting.

Broadleaf

A tree having broad leaves (such as oak) rather than needles found on conifers (such as Scots pine).

Canopy

The uppermost layer of vegetation in a woodland, or the upper foliage and branches of an individual tree.

Clearfell

Felling of all trees within a defined area.

Compartment

Permanent management division of a woodland, usually defined on site by permanent features such as roads. See Sub-compartments.

Conifer

A tree having needles, rather than broadleaves, and typically bearing cones.

Continuous Cover forestry

A term used for managing woods to ensure that there are groups or individual trees of different ages scattered over the whole wood and that some mature tree cover is always maintained. Management is by repeated thinning and no large areas are ever completely felled all at once.

Coppice

Trees which are cut back to ground levels at regular intervals (3-25 years).

Exotic (non-native) Species

Species originating from other countries (or other parts of the UK) that have been introduced by humans, deliberately or accidentally.

Field Layer

Layer of small, non-woody herbaceous plants such as bluebells.

Group Fell

The felling of a small group of trees, often to promote natural regeneration or allow planting.

Long Term Retention

Discrete groups of trees (or in some cases single trees) that are retained significantly past their economic felling age. Operations may still be carried out within them and thinning is often necessary to maintain stability.

Minimum Intervention

Areas where no operations (such as thinning) will take place other than to protect public safety or possibly to control invasive exotic species.

Mixed Woodland

Woodland made up of broadleaved and coniferous trees.

National vegetation classification (NVC)

A classification scheme that allows an area of vegetation to be assigned to the standardised type that best matches the combination of plant species that it contains. All woodlands in the UK can be described as being one of 18 main woodland types (W1 - W18), which principally reflect soil and climatic conditions. For example, Upland Oakwoods are type W11, and normally occur on well drained infertile soils in the cooler and wetter north and west of Britain. Each main type can be subdivided into numerous subtypes. Most real woods contain more than one type or sub-type and inevitably some woods are intermediate in character and can't be properly described by any sub type.

Native Species

Species that arrived in Britain without human assistance.

Natural Regeneration

Naturally grown trees from seeds falling from mature trees. Also regeneration from coppicing and suckering.

Origin & Provenance

The provenance of a tree or seed is the place where seed was collected to grow the tree or plant. The origin is the geographical location within the natural range of a species from where seeds/tree originally derives. Thus an acorn collected from a Turkey oak in Edinburgh would have an Edinburgh provenance and a southern European origin.

Re-Stocking

Re-planting an area of woodland, after it has been felled.

Shrub Layer

Formed by woody plants 1-10m tall.

Silviculture

The growing and care of trees in woodlands.

Stand

Trees of one type or species, grouped together within a woodland.

Sub-Compartment

Temporary management division of a compartment, which may change between management plan periods.

Thinning

The felling of a proportion of individual trees within a given area. The remaining trees grow to fill in the space created.

Tubex or Grow or Tuley Tubes

Tubes placed over newly planted trees or natural regeneration that promote growth and provide protection from animals such as rabbits and deer.

Weeding

The control of vegetation immediately around newly planted trees or natural regeneration to promote tree growth until they become established. Either by hand cutting or with carefully selected weed killers such as glyphosate.

Windblow/Windthrow

Trees or groups of trees blown over (usually uprooted) by strong winds and gales.