



Coed Aber Artro

**Management Plan
2018-2023**

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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 Aber Artro
Location:	Llanbedr, Harlech
Grid reference:	SH599268, OS 1:50,000 Sheet No. 124
Area:	26.99 hectares (66.69 acres)
Designations:	Ancient Semi Natural Woodland, Ancient Woodland Site, National Park, Site of Special Scientific Interest, Special Area of Conservation

2.0 SITE DESCRIPTION

2.1 Summary Description

Coed Aber Artro is an ancient woodland boasting a stunning display of bluebells in the spring, making it popular with locals and visitors.

2.2 Extended Description

Coed Aber Artro is a component of the well-wooded local landscape to the east of the village of Llanbedr. Characterised by semi-natural broadleaved woodland (mainly semi-natural ancient woodland) and dominated by sessile oak with ash and alder in the damper areas, this woodland has been modified by the introduction of beech, which is a major feature of the eastern sector, and sycamore to the south. There are scattered mature conifers, including the remains of a small arboretum, which dates back to the period when the wood formed part of the grounds of the neighbouring Aber Artro Hall.

There are many rock outcrops and several springs and streams, one of which was dammed to create a small pond. The wood is located on a the popular route to Cwm Bychan and benefits from a network of public and permissive footpaths, many of which follow old trackways. It is an important local amenity enjoyed by walkers, both residents and visitors. In spring time in particular, its fantastic display of bluebells is a great draw, with roadside glades offering a springtime vista accessible even for those of limited mobility, although the informal parking is rather limited.

The entire woodland was thinned in the 2000s, prioritising the reduction of the heavily shading beech component. The latest Ancient Woodland Inventory now records the majority of the site as Restored Ancient Woodland, however, minor threats remain, in particular the spread of occasional rhododendron from neighbouring land.

The site is well-used particularly by local walkers, offering a spectacular spring display of bluebells and two moderate-grade circular walks. It is accessible from the nearby village of Llanbedr via public footpath and is one of a cluster of accessible woodlands in the valley.

The key features of the site are the Ancient Semi Natural Woodland and Connecting People with Woods and Trees.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

The woodland lies approximately 1 ½ miles east of the village of Llanbedr near Harlech. If heading south along the A496, turn left in the village centre, next to the Victoria Inn, signposted for Cwm Nantcol (turn right if heading North). Follow the road along, through the small hamlet of Pentre Gwynfryn, then turn right at the next junction signposted for Rhaeadr Nanctol. Follow the road over the bridge, ignore the junction on your left, continue up the hill, pass Aber Artro Hall. Once the road levels off at the top of the small climb, you will see the main entrance and informal roadside parking for Coed Aber Artro.

As well as access from the public road, there are three gated pedestrian access from adjoining properties. The main public rights of way follow broad paths and tracks across the southern sector of the wood. To the west of the road, two permissive loops link to the public right of way network, allowing circular walks, which to the east a permissive path leads from the public footpath to the Afon Cwmnantcol reservoir dam. Sections of all paths contain short climbs and may be muddy in places. The site lies close to the recently opened Taith Arduddy Way and would make an interesting detour from this route.

Parking is available in well used parking areas along both sides of the public road with space for up to roughly 6 cars. There is no bicycle locking post on site.

The nearest bus stop is in the village of Llanbedr, next to the Victoria Inn. It is found on route Number 38 (Barmouth - Harlech - Maentwrog - Blaenanau Ffestiniog). Llanbedr also has a railway station a mile from the village centre serviced by Arriva Trains Wales (Cambrian Coast Timetable).

<http://www.harlech.com/>

<http://www.secretsofnordonia.co.uk/>

3.2 Access / Walks

Coed Aber Artro can be accessed from a minor road leading from the hamlet of Pentregwynfryn, but why not make a day of it? The wood is easily accessible by walkers via the public footpath network from the village of Llanbedr, which boasts useful amenities, including a village pub.

There are two waymarked routes within the wood.

1. The South Circular (Moderate). 1km/ 1/2 mile. Allow 1/2 hour.

A gentle stroll through tranquil native woodland. Venture out in spring or autumn for a stunning seasonal kaleidoscope of colour.

Mostly on tracks and paths with gentle gradients. No steps or gates. Some sections can become muddy when wet, with some exposed rock. Occasional narrow or steeper path sections.

2. Promenâd y Plas (Moderate). 1.2km/ 3/4 mile. Allow 3/4 hour.

A quiet and varied walk through oak and beech woodland. Look out for the old ornamental pond and the intriguing 'kissing tree'.

Tracks and paths may become muddy when wet and are largely on an earth surface. Some short sections with steeper gradients and a few steps. Occasional narrow path sections/ rock steps.

4.0 LONG TERM POLICY

Coed Aber Artro will be a semi-natural woodland with a diverse species and age composition, consisting mainly of site-native species, notably oak and alder, but with beech and sycamore accepted as a natural component, and with diverse, well developed shrub and field layers including hazel and swathes of bluebell, along with other vascular woodland specialist plants. Mosses, ferns, and patches of ericaceous flora will also be characteristic. There will be an increasing number of mature and veteran trees, including a small number of historically planted conifer and beech specimens. The gorge will continue to support a rich oceanic bryophyte flora. Invasive species will be rare or absent.

Visitors will be drawn to Coed Aber Artro for its spectacular display of bluebells and to access its opportunities for quiet woodland walking. Many will visit the site on a longer walk from the village centre, making use of local facilities, and may visit a number of different woods in the vicinity, including Coed Lletywalter. The majority of visitors will be mature or retired visitors keen to explore off the beaten track. The wood will also retain its special place in the minds of local people, who will visit regularly, especially in spring: views of the roadside bluebell glades will be accessible even to those with limited mobility. Visitors will feel welcome, gain an appreciation of the natural and cultural significance of the ancient wooded landscape and will be inspired to support the Woodland Trust.

Local people will be involved with the management of the site. Community groups will be welcomed to engage with conservation and wildlife management and there will be opportunities for volunteers to support the maintenance of visitor facilities as wardens or to promote the site as guided walk leaders.

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 Connecting People with woods & trees

Description

The wood is accessible on foot from the village of Llanbedr via the public rights of way network, as well as by minor road. There is limited informal parking available at the roadside. Internally there are a number of public and permissive paths of typically moderate gradient, some of which have an underlying surface and follow a network of leisure paths probably first created in the 19th century or earlier. There are two waymarked circuits: a moderate graded 1km 'South Circular' loop to the south of the wood and the moderate graded 1.2km

'Promenâd y Plas' on the northern side of the wood. (As at Jan 2018, some waymarkers are missing and colours do not match the info panel).

A minor road bisects the wood, with a welcome sign located on the roadside at the southern entrance (in poor condition, Jan 2018). Aside from the road entrances, there are seven public pedestrian access points: four from the minor road and a further three at the outer boundary of the wood. The main visitor 'hub' is at a crossroads where three paths lead off from the minor road and informal parking is available. An information board was installed here in 2013, replacing an earlier panel. A further track leads from the minor road further to the north and is marked with a Trust welcome sign in reasonable condition. All track entrances that provide access from the minor road and are protected by well-made oak vehicle barriers and roadside log barriers, installed in the late 2000s to deter unauthorised off road vehicle use.

The site is also accessible at two points along its southern boundary by public footpath, neither of which are currently equipped with welcome signs. The eastern track above the lake leads through a metal vehicle gate and is also a third party access route. The southern footpath passes through stone steps and a narrow metal gate in the boundary wall. The final main entrance is via a new heritage-style metal gate installed to the west of the wood on the main public right of way giving access on foot from the village. As at January 2018, Trust signage was also missing from this entrance. (NB metal gates were chosen as in-keeping with the existing historic infrastructure). Generally, exit signs are missing or in poor condition (Jan 2018). Some visitors also appear to access the site via the dam to the east of the wood, entering via a metal gate. This is not a formal access point as there is no right of way over the neighbouring property. No signage is currently present here.

The site is popular with local visitors, located near to the village of Llanbedr to the west (population c1000). The ward itself has a significantly aging population, meaning a higher than average proportion of people who have a disability or limiting illness or are pensioners living alone. The west coast of Meirionnydd also attracts many visitors including walkers, catered for by developments such as the Taith Arduddy Way which passes to the east of the wood. Local accommodation ranges from nearby campsites to self-catering, and nearby attractions include Harlech castle, which attracts 80,000 visitors per annum. The current visitors are probably primarily drawn from the older age

categories, being retirees, mature couples or mature independents, although there is still a small primary school in the village, adjacent to the new community centre.

Feedback from discussions within the community suggests that the spring bluebell display is particularly valued by local people, especially as it can be easily viewed from the roadside by those with limited mobility. The seasonal colour of the wood is among its strongest draws for visitors, who access the site for quiet walks/ wildlife spotting/ dog walking. In the past, horse-riders and mountain bikers have been actively discouraged with signage, although some informal activity does occur. Non-local visitors are likely to be those seeking a nature experience away from the hotspots of Snowdonia National Park and may well be staying in local holiday accommodation.

There is a local community woodland group (Friends of Llanbedr Woodlands), with whom the Trust have worked on an initial volunteer work party (Nov 2016) and a joint Active Woods event coordinated by Coed Lleol in 2017. The group have a licence for some practical activities within Coed Aber Artro and Coed Lletywalter and have run a few small scale community and wildlife recording events at the site since 2016, although the main focus of the group has been work on a nearby National Park woodland.

In 2017, the Community Council started work on a project to create walks guides for the village, including a woodland walk leaflet, with the aim of stimulating tourism. The Trust have supported this with the provision of maps and information and have committed to be partners in the project as it goes forward, as the proposed route would bring in walkers from the village to Trust woods.

Significance

The woodland has a spectacular display of bluebells, as well as good autumn colour, and therefore lends itself to visits at key seasonal moments. The wood is a recreational resource much valued by the local community, who have also indicated an interest in promoting the local landscape to attract tourism business to the village and in engaging with wildlife monitoring and conservation work through the local woodland group. The wood is part of a network of woodlands (including the WT wood at Coed Lletywalter) than offer extensive opportunities for low level exploration off the beaten track.

Coed Aber Artro is located in South Snowdonia , an area where the Trust will focus our landscape scale partnership work over the coming years. One of the objectives of this programme is to ‘promote the distinctive identity of the Meirionnydd Tree-scape, with the Trust at its heart, increasing visitor appreciation of woods and trees and encouraging everyone to explore beyond the key tourist areas.’

Opportunities & Constraints

The site signage and information is starting to look tired (or indeed is absent): there is an opportunity to refresh this to improve the visitor welcome and awareness of the Trust's ownership. With some relatively minor replacements/ maintenance and improvements to the waymarking scheme, however, there is already a sufficient existing path network to provide a range of experiences and also pleasant informal roadside parking for those who cannot walk into the wood to appreciate the spring flora. The ASNW status of the woodland means that it would be undesirable to increase the footprint of paths and access infrastructure, however, existing hard standing areas could be sensitively repaired or improved.

There is an opportunity to work with the community council and local woodland group to develop a woodland walk guide that will highlight the extensive woodland walking opportunities: this is likely to increase the number of North Wales local and tourist visitors to the wood, particularly those in the 'mature' and retired categories who are seeking a more tranquil experience in nature. The community council report demand for more opportunities for routes that meet the Countryside for All access standards (to meet the needs of an aging population), and while the terrain in much of the wood precludes development of such trails, there may be options to upgrade a short section of track heading eastward from the existing visitor hub to allow access to a viewpoint over the bluebell glades, lake and gorge below (subject to funding). The village boasts good visitor facilities, including a pub, public toilets, local shops and cycle hire, providing a good base from which to explore. External funding is currently being sought.

There is the opportunity to work closely with the community group, if they continue to operate and grow in future, to deliver wildlife and conservation action. The group are passionate about woods and trees and may wish to support wider campaigns and actions taken by the Trust. Volunteers may also be able to support the development of the local woodland walks guide and help maintain visitor facilities.

Parking at the wood itself is a constraint, however, as there are limited informal spaces and their current condition is poor. The steep and rocky terrain limits the walking opportunities available in the 'easy' category. In the past, concerns have been raised about conflict between walkers and other unauthorised users, although at present the low level of horse riding and mountain biking which seems to occur does not appear to be a major problem. If usage were to be formally widened, however, conflict would need to be anticipated and managed. Very occasional litter, camping and dumping occurs along the minor road, but again this is fairly infrequent.

The path to the dam is a third party access and any path improvements would need to take this usage into account.

Factors Causing Change

There may be deterioration of poorly drained paths in wet conditions. Strong bramble and holly growth may invade bluebell glades along the road and main rides and impact on visitors' ability to view the spring display.

The trend in the local population is toward an aging profile: while this is likely to reduce undesirable activities such as unauthorised camping and vandalism, it may also mean that fewer locals are physically able to access the woods without path improvements. Local tourism profiles may also change over time. The impact of proposed future developments such as the Llanbedr bypass and Llanbedr enterprise zone are uncertain: they may bring more residents and visitors to the area by improving accessibility and profile, or equally work in the opposite direction.

Membership and activity levels of the local community woodland group may fluctuate as individuals come and go. External funding in support of community woodland groups and initiatives such as the village walks guides may be limited.

Long term Objective (50 years+)

Visitors will be drawn to Coed Aber Artro for its spectacular display of bluebells and to access its opportunities for quiet woodland walking. Many will visit the site on a longer walk from the village centre, making use of local facilities, and may visit a number of different woods in the vicinity, including Coed Lletywalter. The majority of visitors will be mature or retired visitors keen to explore off the beaten track. The wood will also retain its special place in the minds of local people, who will visit regularly, especially in spring: views of the roadside bluebell glades will be accessible even to those with limited mobility. Visitors will feel welcome, gain an appreciation of the natural and cultural significance of the ancient wooded landscape and will be inspired to support the Woodland Trust.

Local people will be involved with the management of the site. Community groups will be welcomed to engage with conservation and wildlife management and there will be opportunities for volunteers to support the maintenance of visitor facilities as wardens or to promote the site as guided walk leaders.

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

By the end of 2018, all entrances will meet the Trust's 'welcome site' standard. Welcome (and exit) signage will be replaced where aging/ missing (5 no. welcome signs), with ladderboard signage introduced at the main entrance from the village, through which walkers following village walks routes may access. Thereafter, visitor infrastructure will be maintained.

By the end of 2018, the waymarking scheme will also be upgraded to match the current information signage and waterlogged paths improved by restoring the camber and improving drainage. Existing roadside pull-ins and management entrances will also be scraped and infilled where the previous gravel surfacing has sunk and become muddy. Thereafter, all paths, bays and waymarking will be maintained to a good standard. Any residual materials will be removed and not spread on bluebell glades.

These improvements should be in place in time for the launch of the proposed village walks guides, the production of which is to be led by the Community Council. The Trust will assist with this process by providing information, maps and assisting as appropriate with practical infrastructure works at the site. This could take the form of staff or volunteer time in kind to help with GPS mapping and profiling of the woodland walk route. The guide will promote circular walking opportunities across a

cluster of local woods and include information about the Trust and the wildlife and history of Coed Aber Artro (and Coed Lletywalter nearby), among other sites. The Trust will also attend and assist with any proposed launch event for this guide.

By end 2019, at least two benches will be installed on the path network as resting points for visitors at key viewpoints (subject to funding). Throughout the plan period, bluebell glades along the main rides and at the roadside will be cut annually in late winter to remove encroaching bramble and holly: the bluebell display in spring will remain a major draw and be easily viewed from easily accessible vantage points.

Subject to funding, a short section of the track leading east from the information panel will be improved to meet Countryside for All 'rural and working' access standards (<http://www.fieldfare.org.uk/countryside-for-all/physical-access-standards/rural-and-working/>) and will allow less able access to a viewpoint. The design of the path must be minimally intrusive and remain within the footprint of the existing surfaced right of way. The specification for the work to require local and visually appropriate materials (not tarmac or concrete) and must be robust enough to withstand occasional vehicle traffic.

As part of a cluster of Trust 'welcome sites' within Meirionnydd, by end 2019, Coed Aber Artro will feature within a proposed WT cluster booklet and a feature sculpture installed as a focal point. Gpx files and further information will be made available on the Trust website and guided walk leader volunteers will run a programme of scheduled and on-demand walks for local and tourist audiences, which may include Coed Aber Artro.

Also by end 2019, the orientation panel at the main hub will be replaced: the new orientation panel will feature updated walks information and highlight ways that visitors can support the Trust in its work.

The current licence to Friends of Llanbedr Woodlands will be extended, subject to demand and conditions: the group will be welcome to undertake appropriate wildlife survey/ habitat maintenance work or hold small scale events according to the conditions of the licence and the Trust will support where necessary, for instance with joint volunteer days, advice or by attending walks arranged by the group. Subject to local interest, a woodland warden volunteer role may be recruited.

5.2 Ancient Semi Natural Woodland

Description

Typically tending to a mosaic of upland oak and upland mixed ash woodland, the wood has been modified by the introduction of beech and spread of sycamore. A significant proportion of the canopy comprises site-native species, notably oak with birch, and ash and alder in flushed zones, although beech remains locally dominant in a few remaining areas. There are scattered mature conifers, including some over-mature specimens in a small arboretum area. Age range and woodland structure is generally very varied, following thinning interventions and natural windthrow, and natural regeneration is good, although beech is locally abundant within the regen. Hazel, rowan and holly are also well represented in the under-storey, with thicket-forming holly in some pockets. The ground layer includes a variety of vascular woodland specialist plants, including some notable displays of bluebell. Bramble, ferns, mosses, honeysuckle and ivy are also plentiful, with small areas of ericaceous flora (heather and bilberry). Rhododendron infestation has been controlled, but scattered plants and seedlings continue to appear. The gorge of the Afon Cwmnantcol contains some oceanic bryophytes and filmy ferns, being designated a SSSI. The whole wood is part of the Meirionnydd Oakwoods and Bat Sites SAC.

The wood is well connected within the surrounding landscape, being part of a network of ancient woodlands extending from Llanbedr up the Artro and Nantcol valleys, including Coed Lletywalter (WT), Coed Hafod y Bryn (Snowdonia National Park) and Coed Crafnant (North Wales Wildlife Trust).

Significance

The woodland comprises two UK Biodiversity Action Plan (BAP) and European priority woodland habitats (upland mixed ashwoods and upland oakwood), being designated as a Special Area of Conservation, as part of a network of woods supporting important bryophyte flora and bat fauna. The gorge and immediately adjacent woodland are designated SSSI for its lower plant interest.

Opportunities & Constraints

The microclimate in the vicinity of the gorge must be maintained by minimal intervention to the canopy cover. Areas accessible to the minor road are prone to occasional firewood scavenging (and occasional unauthorised tree felling). Access for silvicultural works is reasonable in much of the site, including by horse, although past interventions have met with strong local opposition: the beechwood and bluebell combination is valued locally for its aesthetic qualities and the local demand for access - particularly easy and less-able trails - is high.

Factors Causing Change

Sycamore and beech may naturally increase over time as they are prominent in the understorey and climate change may increase their site adaptability. In the absence of grazing, it is likely that holly will come to dominate the understorey in places. Following past thinning, bramble may increase until the canopy re-closes. Feral goats are periodically seen and have caused problems with over-browsing in some woodlands further up the valley, although at present they rarely travel as far west as Coed Aber Artro. Tree disease may impact on native species composition, particularly given the arrival of ash dieback. Recent windthrow may be part of a trend toward more stochastic events, creating canopy gaps. Widespread windblow in March 2018 has the potential to increase bramble growth temporarily.

Long term Objective (50 years+)

Coed Aber Artro will be a semi-natural woodland with a diverse species and age composition, consisting mainly of site-native species, notably oak and alder, but with beech and sycamore accepted as a natural component, and with diverse, well developed shrub and field layers including hazel and swathes of bluebell, along with other vascular woodland specialist plants. Mosses, ferns, and patches of ericaceous flora will also be characteristic. There will be an increasing number of mature and veteran trees, including a small number of historically planted conifer and beech specimens. The gorge will continue to support a rich oceanic bryophyte flora. Invasive species will be rare or absent.

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

The plan period will see a continued policy of limited silvicultural intervention, with canopy gaps created by natural events such as storms and senescence of older trees. Where holly and beech are becoming locally dominant in the understorey, they may be thinned out by manual cutting, especially where assistance is available from local volunteer groups, however, both will be accepted as a common component of the woodland at all levels. Standing and fallen deadwood will increase in abundance, with mature trees retained wherever possible. Shrub and field layers will be well-developed and diverse, with abundant regeneration mainly of site-native species. Coarse vegetation will be occasional overall, although sometimes locally frequent. Rhododendron will be rare and subject to control.

6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
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APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	23.35	Sessile oak	1920	High forest	Gullies/Deep Valleys/Uneven/Rocky ground, Landscape factors, Mostly wet ground/exposed site, Sensitive habitats/species on or adjacent to site, Services & wayleaves	Ancient Semi Natural Woodland, Connecting People with woods & trees	Ancient Semi Natural Woodland, National Park, Special Area of Conservation

Although this sub compartment is quite large in area, the high forest canopy is relatively uniform in terms of both age and species. With a general northerly aspect and uneven terrain, mosses are abundant, particularly in the many rocky areas and gullies and low on tree trunks. Two streams cross the area, one of which was at one time dammed to form a pond. Beech and sessile oak are the dominant canopy species, with beech being slightly more abundant and oak being slightly older. The remainder of the canopy is mostly occupied by downy birch, ash, alder (along the wetter flushes) and Corsican pine. There are also several exotic conifer specimens present in the canopy, the majority of which may be found scattered amongst the canopy trees, although individuals are also grouped in the remains of a small arboretum on the southern side. Exotic species include Douglas fir, larch and monkey puzzle. A relatively abundant understorey is present and consists of occasional hazel coppice, along with natural regeneration. The natural regeneration has a very wide age range, from seedlings to individuals approaching canopy height. Species include frequent holly, and occasional sycamore and rowan. Ground flora species include fern, moss, bramble, ivy, honeysuckle and wood sorrel: the field layer has become denser since the last thinning operation. Moss is mostly found on rocky areas and on the lower stems of trees. Initial harvesting works took place in 1998. Subsequently, the Southern and Eastern half of the area was thinned in the Winter 2006 - 2007, selecting against immature sycamore and beech and regeneration of those species.

A small reservoir (with underground service pipe) serving Craig Artro is present and fed by a small stream. The sub-compartment is bisected by a public footpath, from which permissive circular paths were reopened in the late 1990s. Farmland is found outside the northern, southern and part eastern boundary, a private woodland outside the western boundary and a minor public road along the remaining eastern limits; there are several other footpaths.

2a	2.49	Beech	1900	High forest	Gullies/Deep Valleys/Uneven/ Rocky ground, Mostly wet ground/exposed site	Ancient Semi Natural Woodland, Connecting People with woods & trees	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Special Area of Conservation
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The canopy of this sub compartment is dominated by beech along the western and southern fringes, although sessile oak predominates to the east. The remainder of the canopy is mostly taken up by downy birch and rowan. Frequent holly regeneration forms the main body of the understorey, although occasional beech and rare sycamore regeneration is also present. The area was thinned in the Winter of 2007, selecting against immature sycamore and beech and regeneration of those species. Ground flora is more abundant here than in the rest of the compartment and species include bramble, moss, fern, honeysuckle, ivy and wood sorrel. Moss is mostly found growing on rocks and the lower stems of trees. There are also several piles of roundwood from the thinning operation that have been left to decay. The sub compartment has a north easterly aspect, with rocky knolls and is increasingly steep into the river gorge of Afon Cwmnantcol, which is notable for its oceanic bryophyte flora and designated as a SSSI. Its western boundary is the minor road whilst its southern boundary is a track from the minor road, off which a minor unmaintained path accesses the dam forming the reservoir on the eastern boundary.

3a	1.15	Beech	1880	High forest	People issues (+tve & -tve)	Ancient Semi Natural Woodland, Connecting People with woods & trees	Ancient Semi Natural Woodland, National Park, Special Area of Conservation
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Compartment three is a triangular sub-compartment located on the eastern fringes of the main woodland. Although thinned in 2007 to open up the denser areas of beech, the canopy is relatively uniform in terms of both age and species. Beech and now sessile oak are the dominant canopy species, with beech being slightly more abundant and older. The remainder of the canopy is mostly occupied by downy birch, ash and a few western red cedar. The understorey comprises frequent holly and occasional beech regeneration. Hazel is also present mostly along the fringes with adjoining farmland. Ground flora is dominated by bluebell: this striking spring display draws visitors to the woodland from Llanbedr and beyond. Other species present include fern, bramble and ivy. There are also the occasional piles of roundwood / branchwood from the thinning operation that have been left to decay. The sub-compartment is relatively flat and accessible, skirted by the road, public and permissive footpaths.

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.