



COED CADW
WOODLAND
TRUST

Coed Tyddyn Badyn

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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 Tyddyn Badyn
Location:	Pentir, nr Bangor
Grid reference:	SH565669, OS 1:50,000 Sheet No. 115
Area:	3.11 hectares (7.68 acres)
Designations:	

2.0 SITE DESCRIPTION

2.1 Summary Description

Coed Tyddyn Badyn lies to the west of the village of Pentir. There is currently no public access.

2.2 Extended Description

Coed Tyddyn Badyn comprises 3ha of secondary woodland situated to the west of the village of Pentir. On level ground, the site is generally very wet, intersected by a series of deep ditches and shallow pools and supports wet woodland dominated by goat willow with alder. Drier zones, particularly to the south and east, are dominated by downy birch with sessile oak and sycamore. Hawthorn, hazel, ash, holly and elder are also represented.

The wet woodland (which is the key feature of the site) is characterised by dense areas of multi-stemmed goat willow, many with collapsed or partially collapsed stems, with groups of native alder some of which is coppice. Much of the area is accessible only with extreme difficulty, particularly towards the northern tip of the woodland. The north-east boundary is delineated by a stream, which flows south to north into the Afon Cegin at the north apex of the woodland. A water filled ditch, which is overgrown with vegetation, extends along the north-west boundary. Plants typical of wet & waterlogged ground are abundant and pools created by upturned root plates are occupied by common moss species and opposite-leaved golden saxifrage. The ditches provide forage for otters.

Birch dominates the drier areas: to the south-west corner the trees are even-aged, closely spaced and tall with high crowns, whilst on the east side the trees tend to be larger with sessile oak common among the birch with hazel coppice. Sycamore is confined largely to the south-east boundary. Re-growth from cut stumps of *Rhododendron ponticum* persists and there are a few conifers present. The field layer in drier areas is fairly diverse and bramble is locally abundant.

The woodland area is roughly triangular in shape with an irregular shaped south-east corner created by an adjoining field (not in Coed Cadw ownership) of semi-improved rough pasture. Adjoining agricultural land to the north-west (and formerly to the north-east - destroyed by landfill in 2004) supports marsh and rush dominated wet pasture with developing goat willow scrub and some improved grassland occurs on the west side. The southern boundary comprises a concrete retaining wall to the A4244 with a steep drop of between 1.5 m to 3 m in height from the highway down into the woodland. Apart from this all of the woodland boundaries consist of traditional slate pillar fences, although patches have been replaced with stock fence over time. Public access is not feasible due to the difficulties of access and the hazards relating to deep water filled ditches.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

A right of way exists for management access only and access directly from the highway is not feasible as there is a steep drop of 1.5 - 3 metres into the wood. In addition the site is very wet and contains several deep water-filled drainage channels and therefore public access cannot be safely permitted.

3.2 Access / Walks

4.0 LONG TERM POLICY

Management will in general follow a course of minimum intervention, allowing the semi-natural wet woodland habitat to persist. Parts of the woodland area will naturally dry out as the birch matures and succeeding tree species establish (oak and perhaps some ash), but a substantial wet willow/alder woodland component will remain, with a typical diverse assemblage of wet woodland ground flora.

The woodland will have a diverse structure with a range of age classes including coppice and eventually old/veteran trees. Dead wood habitat, including standing dead trees, will be abundant, with canopy gaps created on an ongoing basis as trees collapse and reach senescence. Rhododendron will be rare or absent. The stream and woodland boundary ditch will provide favourable habitat for various species such as otter. The slate pillar boundary fences will be maintained in stockproof condition and retained as a traditional landscape feature.

Public access is not anticipated.

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 Wet Woodland

Description

A small wet secondary woodland, originally established by the Faenol estate, probably as a shooting covert, and which has developed a natural character on the marshy and wet ground. Goat/grey willow, alder and birch, all characteristic pioneer species, are the dominant canopy trees with some oak, sycamore and occasional ash. Hazel, elder and holly are also represented. Dense goat willow dominates the wettest areas with small groups of alder and alder coppice. The field layer is species rich and supports for example hemlock water-dropwort, reed canary-grass, water figwort, marsh marigold, marsh violet, yellow flag, meadowsweet, common valerian and horsetail,, rush and sedge species. Wet pools support common moss species. such as *Plagiomnium undulatum*, *Sphagnum* spp. and opposite-leaved golden saxifrage. Downy birch is the predominant canopy species in the drier woodland areas and is present in the transition from the wet woodland. Young-mature birch, closely spaced (1-2 m apart) and with high crowns, dominate the south-west corner. Sycamore occurs adjacent to the road with a few ash. Bramble is dominant with foxglove and a limited variety of moss species in areas recovering from rhododendron invasion. Nettle is abundant in the south-east corner near to the road with rosebay willow herb, ivy and enchanter's nightshade. Trees on the east side of the woodland tend to be larger with mature birch and sessile oak. Hazel occurs with some hawthorn. Field layer species on drier ground include red campion, honeysuckle, fern species (male, broad-buckler and lady fern), wood speedwell, creeping buttercup and some bluebell, wood anemone, wood sorrel and celandine have colonised these areas. Natural regeneration is sparse throughout the woodland although there are a few young alder, the occasional oak, some sycamore (most squirrel damaged) and a few Sitka spruce. Regrowth from collapsed stems is, however, frequent.

Significance

Wet woodlands are a UK Biodiversity Action Plan (BAP) and European priority woodland habitat. Wet woodlands typically support a diverse range of wildlife including bird, invertebrate species and mammals such as otter. Glades will provide foraging habitat for bats. Willow species support a diversity of invertebrates, including moths - favourable for brown long-eared bats (a roost site is believed to be present at nearby farm). Water vole, otter and bats are UK BAP species. There are a number of invertebrate records, including caddis flies, from the wood.

Opportunities & Constraints

No practicable management access exists within the wood: extremely wet ground and deep water filled ditches bound the wood.

Lack of disturbance will, however, favour wildlife (e.g. otter, water vole and bird species). Willow scrub encroaching on neighbouring land (not in Coed Cadw ownership) provides links with trees alongside the Afon Cegin and potentially with woodland to the north.

Factors Causing Change

Regeneration and seeding of conifer and invasive rhododendron may compete with native flora.

Natural succession is likely in parts to birch-dominated woodland, which may be drier in character. Changes in hydrology could result through natural siltation or changes in drainage on neighbouring land.

Long term Objective (50 years+)

The woodland will mature and develop primarily through natural processes. The woodland will comprise local broadleaved species, including sycamore. A significant component of willow/alder wet woodland will exist. Drier areas around the periphery will develop from birch dominated stands to birch/oak woodland with a diverse structure and range of field layer species. Dead wood habitat will be abundant, including standing dead trees. Glades will occur (in both the predominantly wet woodland and in the drier periphery). Rhododendron (and any other invasive species) will be rare or absent. The woodland habitat will provide favourable conditions for a diverse range of plant, animal, bird and invertebrate species.

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

The site will remain stockproof through the current plan period (wherever possible retaining the existing slate fencing as a local landscape feature). Invasive species and conifer regeneration will be rare or absent, controlled by cutting/ pulling or herbicide treatment as required.

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	3.16	Goat willow	1960	Min-intervention	Mostly wet ground/exposed site, No/poor vehicular access to the site, No/poor vehicular access within the site, Sensitive habitats/species on or adjacent to site	Wet Woodland	

The woodland comprises a single compartment. The woodland area is roughly triangular in shape and is on level ground. The southern boundary comprises a concrete retaining wall to the road, which is topped with an iron rail fence. The north-east boundary is delineated by a stream and the majority of the north-west boundary with neighbouring marsh land comprises a deep ditch overgrown with vegetation. Slate pillar fences form stock proof boundaries to the neighbouring agricultural land (on all sides apart from the roadside), although these have over time been replaced with stock fencing in parts.

Much of the woodland and in particular the northern end, is extremely wet and largely inaccessible. The wet woodland is dominated by dense goat willow, much of it multi-stemmed and scrubby in appearance with collapsed stems, and interspersed with groups of native alder, some of which are multi-stemmed coppice. The area is intersected by a series of very wet ditches and shallow pools. Birch is encroaching into the wet woodland and is the dominant canopy species in the drier zones around the periphery, notably to the south-west and east. In the south-west corner the birch are young-mature closely spaced (1-2 m apart). To the south-east and along the eastern edge the trees tend to be mature and larger with groups of oak and some sycamore. Along the field boundary in the south-east corner occasional large mature trees include sycamore, birch and a single grand fir. There is also a single yew tree. A few small and stunted Norway spruce persist (cleared 1983-85). Trees alongside the north-eastern stream boundary include alder, sycamore, birch, goat willow, oak and oak coppice. On the east side the stream bank has been constructed with stone edging. Rhododendron re-growth occurs from stumps in the south-western end of the woodland and along the eastern edge. Roadside boundary trees include sycamore coppice (some with squirrel damage), birch and a few ash. Rubbish dumping from the roadside wall occurs and cotoneaster (garden escape) is present.

The wet woodland supports a fairly diverse ground flora comprising typical marshland species: hemlock water-dropwort is abundant and a feature of the ditches; marsh marigold, yellow flag, meadow sweet, marsh violet and reed canary-grass are all represented, with moss species and ferns in the more shaded locations. A very wet glade in the northern corner supports a patch of water figwort. The drier areas support species such as bluebell, wood sorrel, bluebell, wood anemone and celandine, red campion, enchanter's nightshade, ivy and nettle. Where the ground is recovering from rhododendron infestations, the field layer is notably sparse and bramble is dominant with foxglove.

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.