Woodland Ecosystem Group Priority Action
Restoration of Plantations on Ancient Woodland Sites

Summary

What is ancient woodland?

Ancient woodland is defined as woodland that has existed on the same site since at least 1600 AD, and can be categorised as:

- **Ancient semi-natural woodland** (ASNW) consisting of native trees and shrubs that appear not to have been planted, though the woodland may have been managed by coppicing or felling and allowed to regenerate naturally;
- **Plantations on Ancient Woodland Sites** (PAWS), or ancient replanted woodland. sites which have been continuously wooded for over 400 years and currently have a canopy cover of >50% non-native tree species. These sites may contain conifers or broadleaf trees.
- **Restored Ancient Woodland Site** (RAWS) (on the revised Ancient Woodland Inventory for Wales 2011) identifies woodlands which are predominately broadleaves now and have been continually wooded for over 400 years. They will have gone through a phase when canopy cover will have been >50% non-native conifer tree species but are now >50% broadleaf.

Why is ancient woodland important?

Ancient woodlands have special values. They are

- particularly important wildlife habitat;
- indicators of continuity in the landscape;
- culturally, historically and archaeologically significant;

Native woodlands are recognised as being the most diverse terrestrial habitats, in terms of the number of native species of wildlife they support, and **Ancient Semi-Natural Woodlands (ASNW)** tend to be the richest. Some species of fungi, ferns, mosses, lichens and invertebrates are found only in ancient woodlands and their presence is an indication of the continuity of woodland habitat on the site. Ancient semi-natural woodland is the closest we have to the original 'wildwood' which once covered much of Wales following the retreat of the glaciers, and some areas have been continuously wooded since prehistoric times. This is important not only ecologically, conserving genetic resources for instance, but because these woods also conserve other undisturbed features such as water courses and soils.

Plantations on Ancient Woodland Sites (PAWS)**,** or **ancient replanted woodland** can display many of the same features as ancient semi-natural woodland, but the effect of disturbance is evident. Native tree cover may have been wholly or partly replaced by planting, often of non-native trees. However, many ancient woodland sites still retain much of their special interest, for instance, remnants of the original ground flora. Appropriate management can enhance the value of these woodlands.

Restoration of a functioning native woodland ecosystem in these woods is a priority, before they lose their remaining semi-natural characteristics. Guidance on restoration is available, and a key recommendation is that restoration should be gradual.

Ancient woodlands often provide tangible links to the past, representing continuity and stability in a landscape which seems to be changing rapidly. Trees can have a potential life span measured in centuries and, as such, are the oldest living things in our landscape. The longevity of individual trees gives them an inherent value and, sometimes, a cultural significance. Many people regard them as living monuments to be respected and protected. Ancient woodlands often contain features relating to past management, like coppice or pollarded trees, and archaeological features such as ancient boundaries and charcoal hearths; however lack of management can often result in loss of remnant ancient woodland features.

Threats to ancient woodland

Ancient woodland is vulnerable to loss of its special value through destruction, fragmentation or inappropriate management. Larger woodlands tend to support more species, particularly woodland specialists, and are less vulnerable to external impacts. Threats include:

- If not restored, PAWS may gradually decline in condition and lose their ancient woodland characteristics.
- Inappropriate management will also lead to a loss of the special value of ancient woodland sites.
- Built development leading to destruction of ancient woodland
- Fragmentation of ancient woodlands. For example buildings, new roads or quarrying may only result in the destruction of a portion of the woodland, but this may cause significant damage to the remaining area, particularly if the development creates a barrier between patches of woodland and prevents species movement between them.
- Fragmentation can result in changes to the physical characteristics (such as increased light, decreased humidity levels, changes in hydrology, or increased dust or pollution) in the remaining woodland.
- Other risks include opportunities for non-native species to invade, loss of habitat for woodland species such as bats and dormice, or hazards for mobile species such as otters.
- Adjacent development can also cause damage by destroying links to surrounding semi-natural habitats, or by causing changes to the environment of the woodland, for example by changing drainage patterns. A network of semi-natural habitats helps to support wildlife communities and efforts should be made to retain and enhance links between semi-natural areas. The Habitats Directive highlights the importance of this function.
- Damage by invasive species such as Rhododendron.

Action Required

- A priority of the Woodland Ecosystem Group is that PAWS are restored to native woodland wherever possible.

Section 42 Species Associated with Woodland Habitats

Monotropa hypopitys subsp. hypophegea	A bird's-nest
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Monotropa hypopitys	Yellow bird's-nest
Campanula patula	Spreading bellflower
Cephalanthera longifolia	Narrow-leaved helleborine
Melittis melissophyllum	Bastard balm
Sorbus leptophylla	A whitebeam
Sorbus leyana	Ley's whitebeam
Sorbus minima	A whitebeam
Sorbus eminens	A whitebeam
Cephalanthera longifolia	Narrow-leaved helleborine
Habrodon perpusillus	Lesser squirrel-tail moss
Anomodon longifolius	Long-leaved tail-moss
Leptodon smithii	A moss
Rhytidiadelphus subpinnatus	Scarce turf-moss
Hericium erinaceus	Bearded tooth
Acronicta psi	Grey dagger
Agrochola helvola	Flounced chestnut
Allophyes oxyacanthae	Green brindled chestnut
Argynnis adippe	High brown fritillary
Asteroscopus sphinx	The sprawler
Atethmia centrago	Centre-barred sallow
Boloria euphrosyne	Pearl-bordered fritillary
Boloria selene	Small pearl-bordered fritillary
Cosmia diffinis	White spotted pinion
Cupido minimus	Small blue
Cyclophora pendularia	Dingy mocha
Cymatophorima diluta	Oak lutestring
Diloba caeruleocephala	A figure of eight
Ennomos erosaria	September thorn
Ennomos fuscantaria	Dusky thorn
Ennomos quercinaria	August thorn
Erynnis tages	Dingy skipper
Eustroma reticulatum	Netted carpet moth
Formicoxenus nitidulus	Shining guest ant
Graphiphora augur	Double dart
Jodia croceago	Orange upperwing
Leptidea sinapis	Wood white
Limenitis camilla	White admiral
Lipsothrix errans	A cranefly
Lipsothrix nervosa	A cranefly

Lipsothrix nigristigma	A cranefly
Lycia hirtaria	Brindled beauty
Meioneta mollis	A money spider
Nemapogon picarella	A micro moth
Phyllonorycter sagitella	A micro moth
Saaristoa firma	A money spider
Sabra harpagula	Scarce hook tip
Satyrium w-album	White letter hairstreak
Synanthedon scoliaeformis	Welsh clearwing
Trichiura crataegi	Pale eggar
Watsonalla binaria	Oak hook-tip
Xanthia gilvago	Dusky lemon
Xanthia icteritia	The sallow
Xylena exsoleta	Sword grass
Anania funebris	A pyralid moth
Minoa murinata	Rosy minor
Thecla betulae	Brown hairstreak
Calosoma inquisitor	A ground beetle
Cossus cossus	Goat moth
Calosoma inquisitor	A ground beetle
Anguis fragilis	Slow worm
Triturus cristatus	Great crested newt
Bufo bufo	Common toad
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Anthus trivialis	Tree pipit
Parus montanus subsp. kleinschimdti	Willow tit
Parus palustris subsp. palustris/dresseri	Marsh tit
Phylloscopus sibilatrix	Wood warbler
Muscicapa striata	Spotted flycatcher
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Parus montanus subsp. kleinschimdti	Willow warbler
Muscardinus avellanarius	Dormouse
Barbastella barbastellus	Barbastelle bat
Martes martes	Pine marten
Muscardinus avellanarius	Dormouse
Myotis bechsteinii	Bechstein’s bat
Nyctalus noctula	Noctule bat
Plecotus auritus	Brown long-eared bat
Rhinolophus ferrumequinum	Greater horseshoe bat
Rhinolophus hipposideros	Lesser horseshoe bat

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The Ancient Woodland inventory 2011 is available in GIS format on the Forestry Commission Wales website via the online Wales map Viewer or as a data download.
http://www.forestry.gov.uk/forestry/INFD-8A9FPS

Sources of guidance and information on PAWS restoration:

Restoration of Native Woodland on Ancient Woodland Sites. Forestry Commission Practice Guide. FC 2003
Available to download at:
http://www.forestry.gov.uk/website/PDF.nsf/pdf/fcpg014.pdf/$FILE/fcpg014.pdf
The conservation and restoration of plantations on ancient woodland sites. Guide for woodland owners and managers Woodland Trust 2005. Available to download at:
http://www.woodland-trust.org.uk/publications/publicationsmore/pawsguide.pdf
(A more detailed report from the Woodland Trust is also available at
http://www.woodland-trust.org.uk/publications/publicationsmore/Cost_restoring_PAWS_report3.pdf)

Ancient Woodland on the Assembly's Estate. Survey Report. James Laing & Chris Tucker. Forestry Commission Wales (2004)