

Upland mixed ashwoods

Introduction

Ash mainly characterises woodland on base rich soils, as on limestone. Its canopy foliage tends to be not over-dense, thus allowing the growth of a flourishing and often diverse ground flora. The tree is one of the better ones for saproxylic (decaying wood) insects, especially flies.

Other tree species are generally present in ancient woodland of this type, such as Wych elm, Bird cherry and Rowan.

Base rich woods can be especially important for molluscs (which need calcium for their shells) and ancient upland Ash woods include some special species. Another feature is the local presence of base rich ground-water seepages and springs, the considerable invertebrate fauna including a number of rare species. Streams running through these woodlands include some very restricted caddisflies.

Threats

• Overgrazing

Overgrazing by sheep, deer and rabbits in the western and northern uplands, and expansion of populations of deer in southern districts, leading to change in the woodland structure, ground flora impoverishment and difficulties for regeneration

• Non-native tree species

Invasion by Sycamore, Beech and other species which are generally not native to these woods in most of Britain, leading to changes in the composition of the woods

• Quarrying

Quarrying, particularly of Carboniferous limestone in England and Wales, has destroyed and continues to threaten some sites

• Unsympathetic farming practices

Agricultural practices may lead to simplification of the landscape and greater ecological isolation of these woods through the removal of trees in field boundaries and small patches of ash-rich scrub in fields

• Nutrient enrichment

Enrichment leading to changes in soils and ground flora may occur from spray drift or runoff from adjacent agricultural land

• Cessation of traditional management

Abandonment of practices such as coppicing may in some areas lead to a reduction in structural diversity within the woods

• Climate change

Potentially resulting in changes in the vegetation communities

Habitat Management

If the site is an ancient woodland with a long, relatively stable history, it is essential to avoid drastic modification, which may have a negative impact on species such as the Nationally scarce snail *Acicula fusca*, which are used as indicators of primary woodland sites.

Ensure structural diversity

Woodlands with structural diversity will provide a much richer invertebrate habitat than stands of trees of uniform age and height. A varied vertical structure with trees of different ages offers a greater range of niches for invertebrates associated with upland ashwoods. It is important not only to retain tall, mature trees with leafy crowns, but also to ensure that there will be a number of younger trees to ensure succession and maintain continuity of habitat availability. Unfortunately, non-intervention is now rarely likely to provide adequate diversity in the majority of surviving British woodlands, so active management may be needed.

Much of the invertebrate interest may be associated with under-story shrubs, the ground flora and litter layer. Whilst dense shade has no contribution to make, the mosaic should include areas where light can penetrate to the herb layer, as is typical of ash canopy. Glades and the structure of edges can usefully allow local direct sunlight.

Maintain a mixture of native tree species

Maintaining a mixture of native tree species natural to the site is important in this habitat. Planting with conifers or such trees as Oak or Beech where they are not characteristic should be prevented. Coniferous trees create very different woodland conditions in terms of shade, leaf litter and soil acidity. Where present, Rowan (*Sorbus aucuparia*) should be maintained, as it is host to the weevils *Involvulus cupreus* and *Anthonomus conspersus*.

Retain dead wood habitats

Dead wood is an essential component of woodland ecosystems, but one that is often overlooked and cleared away as unsightly or on the grounds of safety or tidiness. As a result, invertebrate species that rely on dead wood are now some of the most threatened in Britain. It is essential to retain a variety of dead wood habitats within the woodland. This includes standing trees, dead branches, stems and snags on living trees and fallen branches and stumps.

Fallen dead wood on the ground provides shelter and over-wintering sites for adult ground beetles and woodlice such as the RDB Upland pill-woodlouse (*Armadillidium pictum*) as well as essential habitat for the developing larvae of saproxylic invertebrates such as many rove and longhorn beetles. Wherever possible, fallen trees and branches should be allowed to lie where they land, but if they need to be cleared for safety or access reasons, then the wood should not be moved far from its original position and placed in the shade to keep moist. Cutting fallen timber into logs to place in log piles can be damaging to species such as the longhorn beetles *Anoplodera sexguttata*, *Microrrhagus pygmaeus* and *Saperda scalaris*, whose larvae develop in dead branches and stems. Bark should be left on any dead wood, as invertebrates such as the rove beetle *Euplectus basilicus* and the Slender slug (*Malacolimax tenellus*), a rare ancient woodland species, are frequently found under bark.

Retention of standing dead wood is vital. Decaying branchwood supports a number of notable species of *Staphylinids*, while fungal and epiphytic growth on both sound and decaying timber provides subhabitat for many species. Fungal growth such as bracket fungi will also support a range of invertebrates, e.g. fungus gnats and the beetle *Acrulia inflata*. Trees with such growths should be retained. Fungal action is also responsible for producing heart rot in trees, which provides an extremely important habitat niche for the larvae of many fly and beetle species. Trees with heart rot can survive for many years as only the bulky heartwood is affected and the living tissues are not killed. Such forms of decay are an essential part of the woodland ecology, releasing nutrients and decreasing the bulk of ancient trees, making them less susceptible to wind-throw.

Do not disturb wet areas (seepages, springs, streams, etc.)

Wet areas within woodlands are extremely important invertebrate habitats and should not be drained. Springs and

seepages in upland mixed ash woods provide constantly wet conditions which may support crane flies and caddis fly species such as *Apatania muliebris*. Although these types of water body may be regarded as troublesome because erosion often occurs, it is precisely these unstable conditions that are preferred by the RDB caddis fly *Adicella filicornis*, so it is essential not to disturb such habitat. If there is a problem with the water crossing or eroding footpaths, it is preferable to bridge any stream or seepage, rather than channelling the water into pipes or drains. The provision of stepping-stones may avoid disruption of the hydrology. In fact, some of the special seepage invertebrates thrive where wet mud is exposed so public trampling along a path across a seepage may be an acceptable management concept if the damage does not spread unreasonably sideways, and more ecologically friendly than imposing a dry path.

If a river or stream runs through the woodland, naturalness is the prime concern. Ditching or canalisation is highly damaging, including the artificial deepening of the watercourse. Marginal vegetation and accumulations of sediment will be significant ecological features. If any work should prove essential, this should be undertaken on one bank only and on short stretches such as 50m in each 200m in any one year. This might enable continuity of habitat for any mayfly and stonefly species present

Any dead wood that has fallen into the water should be left in situ as this also supports a specialist invertebrate community.

Maintain any open areas

Where rides are an established feature of the wood, ride management should aim to maintain open sunny conditions. Open rides and glades provide the warmth necessary for some invertebrate species and also allow plants to flower, providing nectar and pollen for adult insects to feed on. Rides should be managed in small sections of, for example, 50m at a time, as cutting an entire ride at once could result in local extinction of the species that occur in those situations. Any long-established glades should be maintained where possible, and not be planted up with new trees.

Manage grazing carefully

Grazing needs to be carefully managed in species-rich woodlands. Although woodland grazing helps to maintain an open ground layer, which may be beneficial to some species such as butterflies, excessive grazing can reduce the supply of leaf litter on the woodland floor, which could damage populations of molluscs and other litter-dwelling invertebrates. The dung of larger herbivores such as deer, horses and cattle is essential for the notable dung beetles *Aphodius fasciatus*, *A. conspurcatus* and *A. nemoralis*, so erecting deer fences around woodlands where these beetles are found would be detrimental, as the beetles' food supply would be cut off. Nonetheless, grazing should not be introduced to ungrazed woods unless for sound reasons and under strict control. Usually if grazing is present, the issue will be how to prevent over-grazing.

For a more comprehensive list of species associated with this habitat, please see the download list.

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