



Produced by Butterfly Conservation's Herefordshire Woodlands Project, with financial support from:



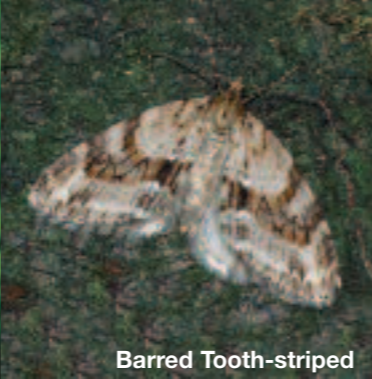
Wood White



Dingy Skipper



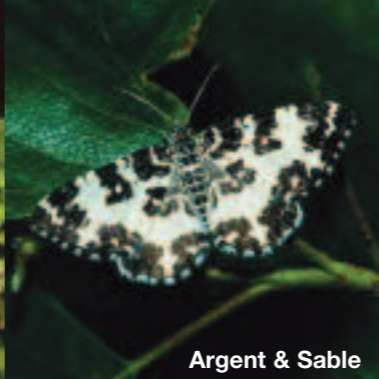
Small Pearl-bordered Fritillary



Barred Tooth-striped



Drab Looper



Argent & Sable



woodlands for butterflies and moths in Herefordshire

Why are butterflies and moths important?

Butterflies and moths are amongst the most beautiful and popular groups of our wildlife. They respond rapidly to change and are good indicators of the health of the environment. They are also an important food source for many animals such as birds.

In recent years the numbers of butterflies and moths have seriously declined. We need your help in managing habitats that are important for butterflies and moths but also in recording their presence and distribution in Herefordshire. If you would like to get involved then please contact us.

Join Butterfly Conservation

Butterfly Conservation is the UK charity taking action to save butterflies, moths and their habitats. We work with a wide range of partners to carry out this important work. You can directly support us in this vital work by joining Butterfly Conservation. With an annual membership you will receive a welcome pack, a colourful magazine *Butterfly* three times a year and membership of your local branch of Butterfly Conservation. The West Midlands Branch carries out practical conservation work as well as running public moth and butterfly events. For a membership form or for further information, please contact us or visit our website.

Butterfly Conservation

Head Office Manor Yard East Lulworth Wareham Dorset BH20 5QP

Tel: 01929 400209 Email: info@butterfly-conservation.org

www.butterfly-conservation.org

West Midlands Branch of Butterfly Conservation

www.westmidlandsbutterflyconservation.org.uk

Text by: Norman Lowe, Caroline Bulman and Bernadette Noake

Photographs by: Anna Jordan, Norman Lowe, David Green, Jim Asher,

Dan Hoare, Martin Warren, Les Hill, Tom Brereton, Phil Sterling, Nick Greatorex-Davies

Butterfly Conservation is a registered charity and non-profit making company, limited by guarantee.

Registered Office: Manor Yard, East Lulworth, Wareham, Dorset, BH20 5QP

Registered in England No. 2206468 - Registered Charity No. 254937

Designed by [cellcreative](http://cellcreative.com) 01942 681648. Printed on 100% recycled paper made from post-consumer waste

Herefordshire's rare woodland butterflies

The woodlands of Herefordshire are home to a number of scarce butterflies, most of which are known to be declining in numbers. It is important to protect these species by managing woodland to provide the habitat they need to flourish.

The Wood White lives in open, sunny rides and glades. The larva feeds on vetches and their relatives such as bird's-foot-trefoil. It has seriously declined over the past 30 years, but can be seen in good numbers in some Herefordshire woodlands. The aim of management is to ensure that sunny woodland rides are present, containing a good supply of foodplants and nectar sources.

The Pearl-bordered Fritillary used to be common and widespread in our woodlands but is now endangered. Like many fritillaries, the larva feeds on violets growing in open, sunny conditions within Bracken and leaf litter. In woodlands the butterfly uses flower-rich sunny rides and clearings (usually recently coppiced or clear felled). Light grazing by cattle or deer can also be beneficial.

The Dingy Skipper is sometimes found in open, sunny woodlands. The larva feeds on birds-foot-trefoil and is also associated with bare ground habitat.

The larva of the White-letter Hairstreak feeds on elm. Although it prefers flowering trees, smaller plants including hedgerow elms and suckers may be used. The butterfly seems to prefer sites in the vicinity of Ash, Field Maple or lime trees. Disease-free elm populations can be maintained by felling infected trees, by establishing a 10-year coppice cycle and by planting disease-resistant trees if there is a source of local provenance.

The Small Pearl-bordered Fritillary is another rare butterfly in Herefordshire. The larva feeds on violets. Management should aim to maintain open sunny rides and clearings.

The Grizzled Skipper feeds on plants from the *Rosaceae* family such as Agrimony, in its larval stage. It is associated with herb-rich grassland that contains some bare ground. These conditions can be found in woodland rides, glades and clearings, including coppiced areas. Management practices should aim to maintain these and in particular to link them in an open network. Bare ground can be created by scarification or occasional ground disturbance from vehicles or machinery.

Herefordshire's rare woodland moths

There are a number of scarce moths to be found in Herefordshire's woodlands. Most of these require sunny, open spaces. Consequently it is important to provide these by managing the woodland to provide rides and clearings, and for some species, to undertake coppicing by rotation.

The Barred Tooth-striped has recently been rediscovered at two sites in Herefordshire after a period of 20 years. The larva feeds on Wild Privet in areas of coppice and regularly managed rides.

The Waved Carpet may be found in damp woodland, such as steep-sided river and stream valleys in west Herefordshire. In Herefordshire, larvae have been found feeding on the leaves of Alder, but birch, sallows and Sweet Chestnut may also be used. It is also associated with medium-age coppice, which is the main recommendation for management.

The larva of the Drab Looper feeds on Wood Spurge in woodland rides and clearings. The moth flies during the day. It is uncommon in Herefordshire, but is present in good numbers at some sites. In localities where Wood Spurge occurs, the plant should be encouraged by short-rotation coppicing.

The larva of the White-barred Clearwing feeds on birch and Alder. The moth uses areas of coppice, woodland glades and stream-sides and has been recorded at one site in Herefordshire. Coppicing is the main recommendation for management.

The Argent & Sable has declined significantly and has not been seen in Herefordshire since 2004. The larva feeds on young birch saplings, especially those less than 1.5m tall.

The White-spotted Sable Moth¹ is a distinctive day-flying moth. The larva feeds on the leaves of Goldenrod and can be found in limestone grassland, but also in woodland glades and rides which are managed on a short coppice rotation. The Bleached Pug also uses Goldenrod in woodland rides and clearings, especially recently coppiced areas.

¹More commonly known by its scientific name *Anania funebris*.



Pearl-bordered Fritillary



White-letter Hairstreak



Grizzled Skipper



Waved Carpet



White-barred Clearwing



White-spotted Sable Moth



Wood White

Woodlands in Herefordshire are the home of many species of butterflies and moths. Butterfly Conservation needs your help to protect them.



Actively managed habitat in Haugh Wood



Speckled Wood



Holly Blue



Yellow Shell



Speckled Yellow



Drinker



Comma



Varied ground flora following coppicing



Coppice



Box junction



Woodland ride

The importance of woodlands

Britain was once covered in woodland but since the last Ice Age woodland cover has declined to about 12% due to human intervention. Woodland habitats support 39 (66%) of Britain's 59 butterfly species. Of these 39 species, 17 rely on woodland habitats. A vast number of moth species occur in woodland, oak alone supports over 200 species!

WOODLANDS CAN HAVE VERY RICH WILDLIFE

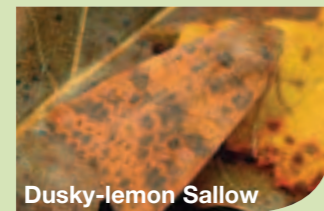
Butterflies and moths occur in a variety of places within woodlands. Most tree species will be food for some butterfly and moth caterpillars (larvae), but native broadleaved trees such as oak, elm and birch, have more species associated with them than conifers. The larvae of many woodland butterflies and moths actually feed on shrubs or low-growing plants that grow in woodland open spaces, such as rides and clearings. A woodland with a diversity of structure and trees will usually support a greater number of species than a uniform and shaded canopy.

Butterflies and moths are only a small part of the wildlife supported by woodlands. Many other invertebrates such as beetles, flies, bees and wasps live in woodland and these in turn provide food for other wildlife such as birds and bats. This means that managing woodland for butterflies and moths brings benefits to these other species as well.

THE HISTORY OF WOODLAND MANAGEMENT

Woodlands and forest have been utilised by man for about 5000 years. Areas have been cleared for agriculture and trees have been felled for timber. There has been a long tradition of coppicing in many woods. This involves the regular cutting of re-growth from cut stumps, providing small timber for fencing and charcoal.

The open spaces created by felling and regular coppicing were colonised by butterflies and moths. By the medieval period, this active management of woodland provided foodplants and nectar sources for a very rich and diverse population of butterflies and moths.



Dusky-lemon Sallow

Many British butterflies and moths are declining

Two-thirds of common and widespread moths have declined in numbers over the period 1968 to 2002. Many of these moths are woodland species, including the Dusky-lemon Sallow, which declined by 92% over this period. Since the 1970s, three quarters of the UK resident butterflies also declined and 21 of these suffered distribution decreases of greater than 30%.

Common butterflies and moths to be seen in woodland

The **Speckled Wood** can be seen between March and October. It inhabits woodland with dappled shade. The larva feeds on various grasses including False Brome, Cock's-foot, Yorkshire-fog and Common Couch.

The **Speckled Yellow** is a common and conspicuous moth which flies in sunshine in open parts of woodland in May and June. The larva feeds on Wood Sage and related plants.



Drinker larva

The **Holly Blue** is one of the first butterflies to be seen in spring with a second generation in summer. Larvae of the spring generation usually feed on Holy and those of the summer generation on Ivy.

The **Drinker** is a large moth that flies at night during July and August. The males are usually chestnut brown, whilst the larger females are usually a lighter golden colour. In the daytime the conspicuous larva is often seen on stems of coarse grasses and reeds. The larvae often drink droplets of dew from plants, which gives the moth its name.

The **Yellow Shell** flies during the day when disturbed from vegetation in rides, clearings and along hedgerows. The adult moth can be seen between June and August. The larva feeds on cleavers and other bedstraws.

The **Comma** was once rare, but it has expanded its range and is now commonly found along woodland rides and wood margins. It overwinters as an adult and can be seen flying any time between March and October. The larvae are usually found on nettles but may also feed on Wych Elm and Hop.

How to manage your woodland to encourage butterflies and moths

AIM FOR A DIVERSE WOODLAND STRUCTURE THAT CONSISTS OF:

- Temporary open space following clearance such as coppicing; many species breed on the ground flora, such as violets, that flourishes following clearance.
- Wide rides and permanent open space; the important features are the levels of shade and composition and structure of the vegetation.
- High forest and mature woodland.

HIGH FOREST

High forest is the name given to areas of woodland managed to produce large timber. Most butterflies and moths are associated with native broadleaved species and these should be favoured where possible. Relatively few butterflies are associated with a closed canopy forest; most are associated with the open spaces that have arisen from the removal of timber.

Timber can be removed by **clear felling** (removal of timber in coupes), the **shelterwood system** (gradual thinning of trees) or the **selection system** (harvesting individual selected trees).

Clear felling is the most beneficial system for most species; the open spaces this creates are rapidly colonised by herbs, providing foodplants for larvae. It is important to ensure that clear-fell coupes are connected to other open areas, so that species can easily colonise new sites.

PERMANENT OPEN SPACE

Glades and clearings are often produced on a temporary basis but, wherever possible, these should be kept and maintained, particularly when they have been in existence for a long period. When felling new areas, consideration should be given to the retention of part of the cleared area as a permanent open space. Any open space will encourage butterflies and moths but the greatest benefit will result from clearings of at least 100m in diameter.

One convenient way of producing a clearing of sufficient size is to create a box junction at the intersection of two rides. Clearings may be kept open naturally by grazing (rabbits or deer) but mechanical cutting is often necessary.

WOOD MARGINS

The wood margin is of particular importance when the adjacent land is unsuitable, such as intensively-farmed land. Care should then be taken to achieve a gradual transition from the woodland to the adjoining habitat. This can be achieved by providing a hedge border, inside which is a strip of shrubs and tall herbs. Such a margin will provide foodplants and nectar sources for a wide variety of butterflies and moths.

RIDES

A network of rides throughout a woodland creates excellent open space. Rides are useful as they often link glades and open sunny clearings, allowing movement through the woodland. Rides should be at least one and a half times as wide as the height of the bordering trees in order to allow sunlight to penetrate sufficiently.

An east to west orientation is beneficial, since it allows sunlight to penetrate for a longer period during the day, although a variety of orientations is even better. Curved rides and scalloped edges are also beneficial.

It is important to create a varied structure, from open, bare ground (for Grizzled and Dingy Skippers and a range of other insects) to a scrub margin which then meets the mature trees.

Although rides may be maintained naturally by light grazing by rabbits or deer, some cutting may be needed. Best results are achieved by avoiding managing all areas in the same way at the same time. For example, different sections of ride edges should be cut in different years on different rotational cycles, using a zone system. An example of a zone system is shown in the diagram (right).

COPPICE

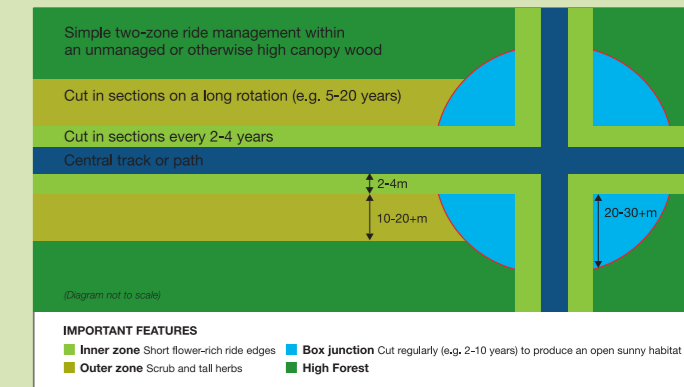
Coppice is the name given to areas of woodland managed, on rotation, to produce small poles of timber for fencing, charcoal and pulpwood. Coppicing creates a temporary open space until the coppice species re-grows.

Coppicing should take place annually, cutting sections of the wood (ideally larger than 0.5ha) sequentially. To allow butterflies and moths to move easily through the wood, it is important to connect coppiced areas with interlinking rides.

In order to suppress competitive plants such as Bramble and grasses, it is necessary to allow the coppice to mature sufficiently to provide a period of dense shade. Depending on the tree species, this can be anything from 7 to 20 years long.

DEER BROWSING

Overgrazing by deer is a major threat to the understorey of a wood, preventing the growth of flowering plants and the natural regeneration of coppice and other trees. It may be necessary to control deer numbers or erect deer fencing around newly cleared areas of the wood.



Adapted from *Woodlands for butterflies and moths*, Butterfly Conservation Hertfordshire and Middlesex Branch, 2005.