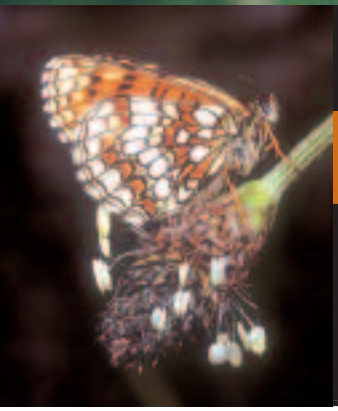
Butterfly Conservation

factsheet

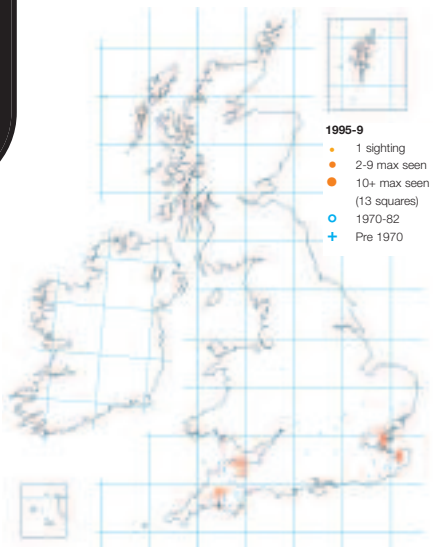


Heath Fritillary

Melitaea athalia

Conservation status

Priority Species in UK Biodiversity Action Plan.
Fully protected under Section 9 of the Wildlife and Countryside Act (1981).



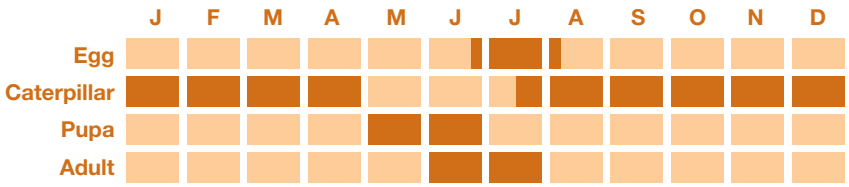
The Heath Fritillary is one of the rarest of our small fritillary species, distinguished by its dusky wing colours. It is restricted to a few specialized habitats where it flies close to the ground with characteristic flits and glides. The butterfly has historically been linked with the traditional practice of woodland coppicing, giving it the local name of the 'Woodman's Follower'. Its main strongholds are now in sheltered heathland combes on Exmoor and woods in the Blean Woods of Kent. The butterfly has also been re-established at four woodland sites in Essex and one site in Devon since the 1980s.

Life cycle

The Heath Fritillary flies from the end of May until early July in Cornwall but somewhat later (from mid-June to early August) on Exmoor and in south-east England. In the south -east there can be a small second generation in hot years during late August and early September. The eggs are laid typically in batches of between 80-150, close to the ground on the underside of a leaf immediately next to the foodplant, and only rarely on the foodplant itself. The larvae feed in a small, inconspicuous web, but soon disperse into smaller groups. These groups overwinter during their third instar close to the ground, where they form a hibernaculum usually by spinning together the edges of a dead, tightly rolled leaf. The larvae emerge again in March or April and feed sporadically between lengthy bouts of basking on dead leaves or twigs. They pupate within the leaf litter, often within curled-up dead leaves.

Colony structure

The species is highly sedentary and forms compact colonies centred on its favoured breeding areas. Adults rarely move more than 100 m but a few individuals have been recorded to disperse up to 2 km. Despite the fact that its habitats are often short-lived, it has a very limited colonising ability: suitable habitats more than 600 m from a population are colonised only slowly, if at all. On Exmoor, it has survived best on larger, less isolated sites and effective conservation therefore has to consider the pattern of its habitats.



Foodplants

The main foodplant on woodland and heathland sites is Common Cow-wheat *Melampyrum pratense*. Foxglove *Digitalis purpurea* can be a secondary foodplant, especially on Exmoor. On rare grassland habitats in south-west England, it can also use Ribwort Plantain *Plantago lanceolata*, Germander Speedwell *Veronica chamaedrys*, and occasionally other speedwells *Veronica spp.*.

Habitat

The species uses sunny, warm, and sheltered habitats of three main types:

1. Sheltered heathland combes (valleys) on Exmoor (up to 200-400 m above sea level) where Common Cow-wheat grows as scattered plants on mineral soils amongst vegetation dominated by Bilberry;
2. Coppiced or newly felled woodland on acid soils where Common Cow-wheat is abundant;
3. On a few sites in south-west England, the butterfly breeds on unimproved grassland with abundant Ribwort Plantain and/or Germander Speedwell growing in short (5-15cm) or sparse swards on stony soils.

Habitat management for the Heath Fritillary

Sheltered Heathland Combes (Exmoor)

Aim is to maintain short heathy vegetation with scattered Common Cow-wheat growing amongst Bilberry.

Burning

The Heath Fritillary can thrive in immediate post-burn vegetation, providing that colonies survive nearby to re-colonise. Burning on rotation during winter can thus be highly beneficial to restore short vegetation on sites that have become too tall or too Bracken dominated to be suitable (e.g. as a result of low grazing pressure). Some periodic burning may also be essential to maintain habitat suitability under all grazing systems. Any burning undertaken must be in line with 'The Heather and Grass burning Code'. Wherever possible, burn before the bird nesting season in March and burn only a part of the breeding habitat in any single year and allow to regenerate before burning adjacent patches. Ideal burning frequency for each habitat patch is probably once every 10-15 years (e.g. one-fifth of the area every 2-3 years). Burning is best followed by Bracken control in the same year (see below) as this plant is invigorated by burning.

Grazing

Suitable habitat can be maintained by grazing through the year by sheep, cattle, ponies and deer. Some winter grazing may be preferable to provide some disturbance and shorter vegetation in spring when Common Cow-wheat germinates. Ideal grazing levels will depend on the pattern and timing of grazing as well as density. Grazing probably needs to be combined with periodic burning.

Bracken

Many good sites have a light cover of Bracken, though it is not clear how important this is in providing suitable breeding habitat and in sustaining the larval foodplant. Dense Bracken can be controlled by spraying with Asulox in patches, while moderate densities can be suppressed by appropriately timed cutting or rolling (e.g. with a Bracken bruiser), or by encouraging localised grazing. Bracken spraying may be crucial after burning and is best carried out during mid July and early August.

Grasslands (Cornwall and Devon)

Aim to maintain herb-rich grassland, with abundant Ribwort Plantain growing in short/medium vegetation (i.e. 5 - 15cm) usually on stony substrates.

Cutting/mowing

The following two regimes have successfully provided suitable habitat:

1. Cutting every other year during autumn or winter with brush cutters so that half the habitat is cut each year, and raking cut material.
2. Annual mowing in autumn with tractor-drawn 'bush-hog' cutter. Sites may need periodic ground disturbance to encourage high Plantain densities, so occasional more severe cutting or scraping may be necessary.

Woodland (Kent and Essex)

Aim to ensure a succession of sunny clearings with abundant Common Cow-wheat, in otherwise sparse vegetation. Coppicing or group felling of high forest woodland best produces such clearings, but continuity of management is essential.

Wide sunny rides are needed for the species to move to new, freshly cleared areas where conditions are suitable for breeding. Coppice small plots (0.4 -2ha) on a rotation of 10-20 years, preferably cutting adjacent plots within 3 years, or within 300m of an existing colony. Where deer are abundant it may be necessary to fence newly coppiced areas to allow good regrowth, though managing deer populations is a preferable long-term option.

above Ideal habitat in young coppice with abundant Cow-wheat

below Habitat in recently burnt, bilberry-dominated heathland on Exmoor

Butterfly Conservation

Saving butterflies, moths and their habitats

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