Butterfly Conservation

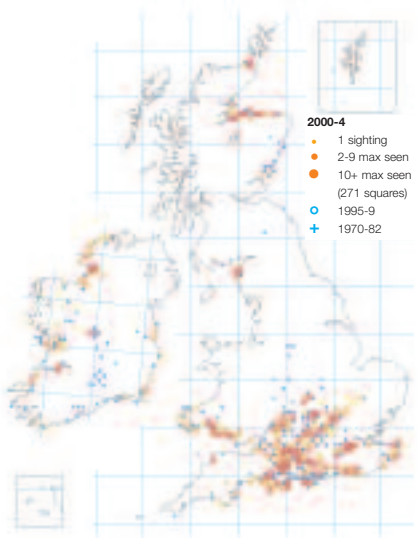
factsheet

Small Blue

Cupido minimus

Conservation status

Priority Species in UK Biodiversity Action Plan.
The Wildlife and Countryside Act (1981) specifies that a licence is needed for trading in this species.
Fully protected in Northern Ireland.



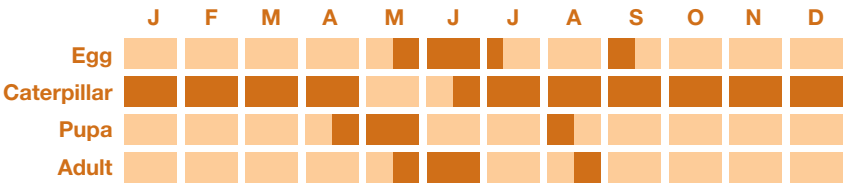
Our smallest resident butterfly is easily overlooked, partly because of its size and dusky colouring, and partly because it is often confined to small patches of sheltered grassland where Kidney Vetch is found. Males set up territories in sheltered positions, perching on tall grass or scrub. Once mated, the females disperse to lay eggs but both sexes may be found from late afternoon onwards in communal roosts, facing head down in long grass. This butterfly occurs very locally throughout Britain, tends to live in small colonies and is declining in most areas.

Life cycle

Small blues are single brooded with adults usually flying from mid-May to late June, with a partial second brood on southerly sites in late July and August. Eggs are laid singly, tucked into the young flower heads of prominent Kidney Vetch plants. The larvae feed on the developing flowers, burrowing deep into the floret. The larvae are cannibalistic and eat younger larvae they encounter. Females seldom lay on plants where an egg is already present. As the larvae grow, they sit more openly on the flower heads, biting holes in the base of the flowers to eat the seed. When fully grown they descend to the ground and pass the winter in soil crevices or under moss. They pupate the following spring also at ground level.

Population structure

The butterfly typically forms small, discrete colonies (<30 individuals at peak in most years) although some large populations are known. It is normally highly sedentary, with adults rarely moving more than 40m and males more sedentary than females. However, far longer movements have been recorded, and there is evidence that mobility may be greater and dispersal more frequent during hotter years. The butterfly has also been known to colonise newly created sites such as road cuttings where these are close to existing colonies. Populations fluctuate greatly from year to year, possibly in relation to flowering cycles in the foodplant.



Foodplants

The sole foodplant is Kidney Vetch *Anthyllis vulneraria*. The larvae live only in the flower heads where they feed on developing anthers and seed.

Habitat

The Small Blue relies on grassland habitats that have a very specific combination of shelter to provide a warm micro-climate for the adults and early successional conditions where Kidney Vetch can flourish. Such habitats include chalk and limestone grassland, coastal grassland and dunes, river gravels and man-made habitats such as quarries, gravel pits on eskers, road embankments and disused railways.

Habitat management for the Small Blue

Aim to maintain a mosaic of short and tall vegetation with high densities of flowering Kidney Vetch with flower or seed heads persisting through the year.

Grazing

Care should be taken not to graze too heavily during the summer, especially with sheep, which can remove the flower-heads where larvae are feeding. Extensive cattle grazing throughout the year is ideal, although grazing with sheep during the autumn and winter months can provide suitable conditions. Rotational grazing is another option provided substantial areas are left ungrazed each year. Moderate rabbit grazing and burrowing can result in suitable conditions but populations need to be carefully monitored. A contingency plan needs to be established to implement spasmodic stock grazing in the event of a crash in the rabbit population, or alternately rabbit control or fencing in the event of a population explosion.

Ground Disturbance

Periodic and or patchy disturbance with a bulldozer, tractor, flail or hand tools can help maintain suitable breeding habitat. Regular disturbance on some sites is essential to maintain a regular supply of seedlings and continuity of flowering Kidney Vetch. The monitoring of Kidney Vetch seedling establishment and bare ground is a useful way of determining habitat continuity; the lack of seedlings in a closed turf is an early warning of future problems.

Connectivity

Due to the small size and increasing isolation of its populations, the Small Blue is under threat. Local extinction events are probably common place due to the reliance on early successional habitat and in the past these would have been balanced by colonisations. However, due to loss and fragmentation of habitat, colonisations are becoming less frequent. Restoring connections between colonies, for example along disused railway lines, on derelict sites and quarries and on new road verges, is vital for the long-term conservation of this species.

Habitat Creation

Breeding conditions for the Small Blue are relatively easy to create by either allowing sites to colonise naturally with Kidney Vetch or by planting Kidney Vetch of local provenance; best results are seen on uneven ground.

How to survey/monitor

The best method is to search for adults and carry out timed counts or single species transects. Eggs can be found by diligent searches of flower heads during, or shortly after the egg-laying period. Habitat condition surveys are also useful to identify suitable breeding areas where the foodplant, Kidney Vetch should be present.

below Ideal brownfield habitat

Butterfly Conservation

Saving butterflies, moths and their habitats

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