



## ROAD VERGES AND WILDLIFE MANAGEMENT GUIDELINES

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### Vision

Plantlife's vision for Britain's road verges is one where verges are managed for wildlife as a matter of course, restoring and expanding flower-rich habitats along our road network, ensuring the survival and natural spread of both common and rare species, for their own sake, for the sake of the wildlife they support and environmental benefits they bring, and to enhance the contact with nature experienced by users of Britain's road network.

We know that verges are under considerable pressure. Priorities for safety and access, along with budget constraints and difficulties with the collection of litter and grass clippings all mean that enhancing their wildlife value is often low on the list. But we believe that the adoption of a few basic principles can significantly improve the biodiversity on our verges, bringing benefits for wildlife, for us and for future generations.

### Values

Across the length and breadth of Britain, road verges encompass many of our most **important habitats**, from woodland and scrub, through dry and wet grasslands, heathlands, moorlands and even rock outcrops. By cutting across a diverse range of different geologies with widely differing conditions, verges are even more important for wildlife than we might think.

With the loss of lowland meadows and pastures across the UK (over 97% of meadows destroyed in England since the 1930s, for example), grassy road verges in particular offer vital refuges for plants and other wildlife of flower-rich grassland. In much of lowland Britain today, the surrounding countryside is often deeply hostile to our flora and fauna. The approx 101,600 ha of rural road verges in the UK is equivalent to nearly half of our remaining priority grassland resource.

Road verges are hugely important for the **diversity of flowering plants** that they support. Grassy verges across the UK are home to over 570 plant species, 12% of which are either under threat or heading that way. If wooded and disturbed verges are included, the total number of species is astonishing: over 700 in all or nearly 45% of our native flora; 87 of them are threatened with extinction.

Road verges are of particular importance to **rare plants** and communities of species that give distinctive character to different parts of our islands. Thus sulphur clover and crested cow-wheat are features of the south parts of East Anglia, whilst wooded verges with bastard balm are a particular feature of our most south-westerly extremities. Grassy roadside banks are home to wood bitter-vetch in Wales and maiden pink in Scotland.

Amongst the largest British populations of rarities such as Deptford pink, tower mustard and spiked rampion occur on road verges.

Road verges can and should act as important refuges for many beneficial **key pollination insects**, especially bees, butterflies and moths. The majority of these rely on flower rich grassland and other open habitat to provide a diverse source of nectar and pollen throughout their life cycles. Their importance cannot be underestimated; the value of honeybees alone to the agricultural economy is thought to be between £120 and £150 million. The role of verges as sources of nectar and pollen is recognised in the National Pollinator Strategy for England; the Highways Agency, for example, have committed to restore and enhance 3,500 ha of verges by 2021 as part of this strategy.

Road verges provide **wildlife corridors** across Britain, linking habitats and allowing wildlife to re-colonise landscapes fragmented by modern agriculture. In this way, they help create 'permeability' in the landscape, facilitating the migration of species and increasing their resilience to climate change. And, of course, cars and other vehicles are hugely important as vectors of dispersal, with plant seeds and smaller invertebrates getting carried across Britain in their slipstreams.

Britain is a country noted for its **veteran trees**, and those of road verges and roadside hedgerows are of particular importance. These can be of considerable importance for their assemblages of fungi and lichens, mosses and liverworts.

Road verges are one of the **most viewed habitats in the country**, giving millions of people direct contact with the changing seasons and colours of the countryside every day. For many, the flower-filled verges seen on their daily commute or trip to the shops are their only contact with nature.

## Verges and the Law

Roads and road verges are managed by the relevant designated *highway authority*, typically as follows:

**NATIONAL ROADS** - motorways and trunk A roads: managed by the *Highways Agency*, *Transport Directorate of the Welsh Assembly* and *Transport Scotland*.

**COUNTY ROAD**: in rural areas, usually managed by the *council* that has been designated the *highway authority* though parish councils may undertake additional verge cutting within communities under delegated schemes.

The *Countryside and Rights of Way Act 2000* places a duty on government departments and public authorities in England and Wales to show regard for conserving biodiversity in all their actions. In particular, this regard must be shown on public authority managed land, including roads and verges.

The Highways Agency Biodiversity Action Plan (HABAP) is a long-term strategy for the conservation of habitats and species on the motorway and trunk road verges of England. It is still within its 10 year life and still carries some relevance, but a revised Biodiversity Action Plan is currently in the process of being developed.

The Welsh Assembly Government published its 10-year Trunk Road Estate Biodiversity Action Plan (TREBAP) in January 2004. This set actions and targets for 2014, made links

with relevant species and habitat Biodiversity Action Plans, and aimed to raise awareness of the biodiversity interest of the trunk road and motorway network.

In Scotland, the Nature Conservation Act (2004) places a duty on Transport Scotland, as a public body to 'further the conservation of biodiversity in exercising its functions'. Furthermore, the Landscape and Ecosystems objective seeks a landscape level outcome in which, "*Organisms can move, feed, reproduce and disperse effectively, and are better able to adapt to changing circumstances of land use and climate change*".

## **Management: guiding principles**

**MANAGEMENT IS ESSENTIAL:** some form of verge management is essential on lowland verges to maintain flower-rich habitats. Without regular management, studies have shown that most grassland flowers rapidly disappear as verges become dominated by coarse vegetation and ultimately turn into scrub and woodland. Changes in vegetation can become apparent after just one or two years without grass being cut. On unenclosed verges in the uplands, less management is usually required.

**GROW, FLOWER, FRUIT:** Plants need to complete their full life cycle - i.e. to grow, flower and set seed - in order to thrive. Generally, flowers take roughly 6 to 8 weeks from flowering to successfully set and shed viable seed. Cutting plants when flowering or shortly afterward deprives invertebrates of nectar and pollen and stops plants reproducing from seed. Regular and early cutting can quickly eliminate some important grassland species, such as yellow rattle.

**REMOVAL OF CUTTINGS:** although expensive and time-consuming, studies show that removal of grass clippings is the ideal way to maintain the most species-rich vegetation on verges. It mimics traditional hay meadow practices, curbing the growth of vigorous plants that smother their neighbours, and can gradually reduce soil nutrient levels. It also removes the thatch of dead vegetation, exposing underlying soils and encouraging germination from seed. In places where the vegetation is naturally thin, such as on a steep slope, a cut alone may be enough to maintain the open conditions needed for seedling establishment.

**DIVERSITY OF HABITATS AND VEGETATION STRUCTURE:** different plants, insects and animals require different ecological conditions. Verges with a good diversity of open habitat, scrub and woodland conditions will favour the greatest number of species, and a wide diversity of long and short grass will benefit both plants and invertebrates. Leaving a strip of longer grass at the back of the verge can encourage wildlife, as long as it's also cut every 2-3 years.

**BRINGING BACK THE FLOWERS:** grassy verges rapidly become depleted of flowering plant species following poor management. In many cases, the number one priority should be getting the management right. This will allow flowers to return over time as they will spread naturally from neighbouring areas. For example, it's been estimated that pyramidal orchids on the 6 mile Ilminster Bypass (Somerset) generate 114 million seeds, which will be carried for miles in the slipstream of cars and lorries. Many other perennial flowers, such as cowslips and knapweeds, will spread quickly once allowed to flower and set seed. Over time, good management will encourage the appearance of many species at very little extra cost.

**NATURAL SEEDING:** In some cases, however, verges and the surrounding countryside are so depleted of wildflowers that natural colonisation is unlikely to take place. In such cases

Plantlife advocates the use of *natural seeding* techniques, using either green hay or seed collected from local verges or meadows. In this way the local character and genetic diversity of our verges is preserved and more species will become established more quickly than if using a commercial seed mixture. Such approaches also have the potential benefit of engaging local communities, who can become involved in collecting seed from nearby nature reserves and farms, and with sowing seed or growing plug plants.

**ARTIFICIAL SEEDING – AN ABSOLUTE LAST RESORT:** Plantlife believes the sowing of artificial seed mixes as unnecessary and costly: often the resulting verge vegetation bears little resemblance to naturally-occurring communities, has a uniform structure that results from the even distribution of species within sown mixes, and ultimately does not reflect the local character of vegetation that develops naturally. Accordingly, Plantlife believes that seeding verges with commercial seed mixes should only be used as a last resort, where there really is little hope of a diverse array of flowers establishing from the soil seed bank, from natural spread, or from using natural seeding techniques.

## Plantlife's verge management guidelines

### Basic road verge management

The following should be undertaken on all grassy road verges (apart from those where safety is a priority)

*If only one cut is possible:*

- Cut the full width of the verge once a year, between mid July and September. This allows plants to flower and, importantly, gives time for seed to be set.

*If more cuts are required, do one of the following:*

- Cut the full width of the verge between mid July and September. Then cut once more before Christmas. **This is the ideal option to conserve and enhance wild flowers**, as it mimics the pattern of traditional meadow management.
- Cut the full verge as early as possible, during February and March. This is before most verge plants flower and it won't disturb ground-nesting birds. Cut the full verge again during September and October. This slightly later date for the second cut allows plants that were cut earlier in the year time to grow and set seed.

*If it is not practical to cut the whole width of the verge:*

- On a large verges, cut a 1m strip at edge of the verge as early as possible - during February and March. This allows grass at the back of the verge to grow longer, providing a diversity of habitat that is especially important for invertebrates.
- On small verge of less than 1m, leave some sections uncut, for example 100m sections every 200m.
- In both cases, cut the full width of the verge during September and October.

**Verges through woodland:** Where a road passes through woodland, no cutting should be carried out from end of January. This will allow early woodland flowers to grow and set seed.

**Verge hedgerows, scrub and woodland:** On larger verges, areas of woodland and scrub at the back of the verge should be retained, as these will support birds and other wildlife. These should be managed by cutting on a rotation of up to 10 years. Hedgerows also provide important shelter and should be maintained on a rotational basis. Any cut material should be removed from the verge.

**Upland road verges:** in many upland areas of Britain, heathy vegetation can predominate on verges with ling, heather and bilberry interspersed with grasses such as purple moor-grass and flowers including devil's-bit scabious. Such verges don't grow as vigorously. If they are unenclosed and open to grazing, many will not need any additional management. In the absence of grazing, though, more grassy upland verges may require a cut every 3-5 years, ideally in September.

**Herbicides:** Wherever possible, eliminate the general use of herbicides. They will have a role to play, however, in the control of invasive species and notifiable weeds, and for treating cut scrub and tree stumps where alternative techniques are ineffective.

**Ditches:** These are important components of the verge, providing both essential drainage and opportunities for wildlife. They should be maintained regularly; deposition of the spoil on the verge is generally not a problem and can be beneficial, providing bare soil for germination.

**Yellow rattle:** A special case can be made for the introduction of yellow rattle (*Rhinanthus minor*) to lowland grassy verges. This semi-parasitic annual plays an important role in meadow restoration as it suppresses the growth of competitive grasses. It taps into their roots to obtain water and nutrients, considerably reducing their vigour and allowing other more delicate meadow flowers to thrive. It's so effective that the grass burden can be considerably reduced so fewer cuts are needed and less grass clippings are left behind. Seed collected from local sources can be hand sown in late summer after the first grass cut. Once a verge has been inoculated with yellow rattle, it will spread rapidly as long as verges remain uncut until seed has been set.

## Enhanced road verge management

A full or partial survey of the wildlife interests of a network of verges can be very useful in determining their nature conservation value and to determine management priorities. Those identified as being of medium or high quality, depending on the type of vegetation and diversity of species present, should receive more careful management as follows.

**Tall meadow grassland verges:** To maintain a tall meadow grassland (e.g. grassland around knee-height with oxeye daisy, ragged-robin, meadow crane's-bill, orchids, meadow buttercup etc), cut the full width of the verge twice a year between mid-July and Christmas. See also 'collection of clippings' below.

**Short, flower-rich grassland verges:** On dry soils and in coastal situations, with short grassland around ankle height, frequent cutting can take place up until April and restarting after the end of August (i.e. avoiding the main flowering period from mid-May through to end of August). This will help develop a flower-rich turf with clovers, trefoils,

self-heal and other small species, providing a long continuity of flowers (valuable for bees and other insects).

*Collection of clippings:* On all grassy verges of wildlife importance, it very beneficial to gather and remove grass cuttings, either by hand or by use of suitable cut-and-collect machinery. This will reduce the build of up organic material (i.e. a thatch of cut grass), keep nutrient levels low, and ensure plenty of bare ground for plants to regenerate from seed. Studies have shown this to be a major factor in maintaining verge biodiversity. Cuttings from wildflower-rich verges can be used as green hay to benefit other local verges, meadows or grasslands.

*Rare species:* Where a verge has a species of special interest (for example, exceptional vegetation or a rare flower or insect), specialist advice should be sought regarding the most appropriate management regime. Such verges may be singled out by the Highways Agency, the County or Parish Council, or the local Wildlife Trust as Road Verge Nature Reserves (RVNR) or as County Wildlife Sites (depending on county).