

## Devon hedges and wildlife 2: flowers, field margins and ditches



*Knapweed and other flowers growing in the uncut margin of a grass field.*  
©Robert Wolton

The flowers and grasses that grow on the banks, ditches and field margins of Devon hedges are of great wildlife value and can be very attractive. Visitors to the county are often amazed by them! They can also have direct benefits to farm production, through helping to control insect pests, improving pollination and as a dietary supplement for livestock.

Management to create or maintain good conditions for these flowers and grasses can, however, be very challenging, particularly in pasture situations. Across many farms good flower-rich bank sides and field margins are now restricted to the sides of hedges facing lanes and tracks: within fields they are all too often overrun with aggressive nettles, cleavers (goosegrass) or bracken. They may also be shaded or grazed out or, if fenced off, swamped by tall grasses and brambles.

This guidance explains why the low-growing flowers and grasses of hedgebanks and associated ditches and field margins are so important, and advises how suitable conditions for their growth can be provided.

### The wildlife of bank sides and field margins

A survey of Farley Farm near Chudleigh, described by the authors as “a very ordinary small farm” (24 ha (70 acres)) found a staggering 293 species of plant associated with hedges, a figure which did not include mosses and liverworts. Together all these flowers are of great importance to a huge wealth of insects and other invertebrates, and in turn to the amphibians, reptiles, birds and mammals which feed on them.

One of the glories of a walk, cycle or drive through the Devon countryside in spring is the colourful displays of flowers growing on lane-side banks and verges. This starts with primroses and celandines in March, followed by beauties such as violets and early purple orchids. A little later, the patriotic red, white and blue of red campion, greater stitchwort and bluebell often predominates, perhaps with white-flowering ransoms (wild garlic) in damper places and often interspersed with the vivid yellow of buttercups and the lush greens of unfurling hart's-tongue and other fern leaves. Cow parsley forms a white ribbon on the verges, with the yellow-green flowers of alexanders by the coast, to be followed shortly by

plants like rough chervil, wild angelica, hemp agrimony and in places rosebay willowherb. Uncommon plants like bastard balm and bird's-nest orchid may be found too, on hedgebanks and their margins.

Water mint, greater bird's-foot-trefoil, meadowsweet and common valerian are frequent along unshaded ditch sides and hemlock water dropwort is often dominant, perhaps together with yellow flag and even reeds. Where water erosion has formed deep gullies, or goyles, alongside hedges, as often happens in east Devon, their sides can have rich growths of mosses, liverworts and ferns.

The wet mud and moist rotting vegetation in ditches can be thought of as a powerhouse of biomass production, generating vast numbers of small flies and other insects which are the staple food of many small birds and bats. Ditches provide good habitat too for grass snakes, frogs and toads and, being wetter, their sides often keep their flowers long after those in field margins have withered, providing essential food for bumblebees and other insects.

Field margins dominated by tussocky grasses may not be as colourful, but provide essential cover for invertebrates such as bumblebees, spiders and beetles, allowing them to survive the winter and build up numbers during the spring and summer. These invertebrates are also important food for many birds. Margins support strong populations of small mammals like voles



*The spring flowers that grow on Devon hedgebanks are one of the county's great delights. ©Robert Wolton*

and shrews which are in turn food for barn owls and kestrels, as well as for weasels and stoats. Hedgehogs can find food and shelter in hedges and margins.

Among the flowers most beneficial to wildlife which are associated with hedges and their margins are tall plants of the cow parsley family, often known as umbellifers, which include wild angelica, hogweed, water dropworts and wild carrot. Their spreading white flowerheads produce large amounts of nectar which is highly favoured by many insects, including hoverflies, long-horned beetles and parasitic wasps.



*The flowers of hogweed and other members of the cow parsley family, like wild angelica, are excellent for insects, including many pollinators. ©Robert Wolton*

## Agricultural benefits

A great deal of research has shown that the beneficial insects like ground beetles, rove beetles and spiders that overwinter and breed in margins of perennial tussock-forming grasses move into the crops in the spring and summer to consume cereal aphids and other crop pests. This reduces the need for insecticide use and is especially important on organic farms. Grass margins are also a favourite nesting site for game birds and they can suppress invasive weeds too, which might otherwise move out from the hedge base into the field.

The flowers of hedges have been shown to increase both the numbers of pollinators present in farmed landscapes and also lead to more pollinators like bees and hoverflies moving out into fields to fertilise crops. While the flowers of banks and shrubs are especially important in the spring, those of field margins and ditch sides are often essential to keep pollinators going when crops are not in flower. Bumblebees, an important pollinator of crops, are active in colder temperatures than other pollinators, and hedgebanks and field margins provide a range of flowering plants and safe nesting sites for them.



*Devon hedges with flower-rich bank sides, and tussocky grass and flower-rich field margins are important to maintain healthy populations of pollinators and the natural enemies of crop pests. Drawing by Heather Harley after original in first edition*

Well-vegetated banks and field margins also have an important role to play in preventing pollutants from reaching watercourses, and in the right place may reduce the risk of flooding further down the catchment. See section 3 on *Devon hedges and their many uses (ecosystem services)* for more information on this.

Livestock will forage on the various herbs and shrubs found in and alongside hedges, supplementing their diet with nutrients often missing from intensively-managed pastures. Stock will also use hedges to self-medicate: for example, the rough foliage of hogweed scours parasitic worms from the intestinal tract.

On wet ground especially, a strip of permanent grassy vegetation alongside hedges makes hedge trimming and other management, such as cropping hedges for firewood, easier during winter months.

An additional point to consider when thinking about how close to cultivate to a hedge is that field margins, even without a hedge, tend to be less productive than the centres of fields because of soil compaction and the physical damage to plants caused by machinery turning. Increased pest damage, as from rabbits, may be an additional cause of reduced productivity, along with poor nutrient status and competition from weeds.

Furthermore, grassy or flower-rich margins make it easier to avoid fertilizer and herbicide drift into hedge bottoms, and so to comply with government's Good Agricultural and Environmental Conditions (GAEC) *Code of Good Practice*. Such margins may also attract payments under agri-environment schemes.

## Management of bank sides

- To stay flower-rich, bank sides need to be kept short either by grazing or by periodic cutting. However, heavy grazing can be counterproductive, necessitating either a reduction in stocking levels or careful fencing - see section 4 on *Devon hedges and modern farming* for guidance on this.
- While a small amount of scuffing and rubbing, creating some bare earth from time to time, is probably beneficial for flowers, heavy erosion is not. Again, if this is becoming a problem, stocking levels should be reduced or the banks fenced.
- Alongside lanes, scraping by large vehicles or farm machinery is an increasing issue but one that is difficult to address. It may be possible to encourage drivers to use alternative routes.
- Steeping (laying) or coppicing shrubs and trees allows sunlight to reach the bank sides for several years during each management cycle (as described in section 4 on *Devon hedges and modern farming*). Most of the colourful plants of spring-time banks are woodland species that require high light levels from time to time to flower and set seed, just like those in coppiced woodlands. Try to avoid hedges with a rich ground flora developing into lines of trees which cast dense shade for many years.
- When spreading fertilizers take care not to let them reach the banks, and indeed avoid applying any fertilizer within a few metres of hedges. Any such artificial increase in nutrients will favour dense growths of cleavers and nettles which smother more desirable herbs. It is also a waste of expensive fertiliser. If cleavers and nettles are already dominant, reducing their cover is very difficult and is likely to take many years - no easy



When spreading fertilizers or applying pesticides, avoid hedges and field margins. ©Robert Wolton

methods are known to get rid of them. Herbicides may be used but, unless nutrient levels are reduced, are not likely to result in any lasting improvement. Cutting back nettles in the early summer may help. However, young nettles in sunny locations are valuable foodplants for caterpillars of peacock, red admiral, small tortoiseshell and comma butterflies, so try to leave some nettlebanks.

## Management of ditches

- Ditches with shallow slopes are best for wildlife. They need not carry water all year, but should be deep enough to have a seasonal, if intermittent, flow of water.
- Lightly cleaning ditches infrequently on rotation will help to keep them at least moist, while retaining some aquatic plants and decomposing debris. As with hedges and margins, do not manage all ditches on the farm at the same time and aim to manage sections of individual ditches (or alternate sides) in different years. Establish how frequently your ditches need cleaning to avoid becoming overgrown and impeding water flow and plan rotational management accordingly. Time management for the autumn and winter months from September onwards.



*Ditches alongside hedges are an important habitat for frogs, toads and newts, and generate huge numbers of small flies which provide vital food for birds and bats.*  
©Robert Wolton

- Cutting back overhanging branches every 3 to 5 years will reduce shading and encourage the development of the well vegetated sides favoured by most wildlife.
- There are several invasive non-native species associated with ditch sides, including Himalayan balsam and winter heliotrope. Take care not to encourage the further spread of these and control them if possible. Similarly, there are many invasive non-native plants that grow in/on watercourses, including parrot's feather and floating pennywort. If you have any invasive non-natives in your ditches, please seek advice.

*Tussocky grass margins provide vital overwintering and breeding sites for ground beetles, spiders and other predators of crop pests.* ©Robert Wolton

## Management of tussocky grass margins

- Avoid spreading any fertilizers, including muck or slurry, onto margins, in line with widely accepted good environmental practice. The same applies to herbicides.
- Only cut margins about once every 5 years, to control outgrowths of bramble, bracken or scrub (such as blackthorn suckers). Otherwise, allow tussocky grasses to develop. Even a margin as narrow as 1 metre will be beneficial, but the wider the better. Ideally, remove cuttings to prevent the margin becoming increasingly fertile.
- Manage from September onwards and, as with shrub management, don't cut all margins on the farm in the same year. Staggering the management will provide a continuity of habitats for wildlife.
- On pasture fields, try and keep grazing pressures low enough between June and August for some flowers to show. However, don't fence off margins since they do require some grazing as well as occasional cutting to remain healthy.
- The establishment of perennial wildflowers like knapweed, meadow vetchling and hemp agrimony is desirable but difficult and may require some cultivation, reseeding and specialist advice.





Cultivated field margins allowed to regenerate naturally or sown with seed mixes to attract pollinators or farmland birds add greatly to the wildlife value of hedges. ©Tom Hynes

## Creating flower-rich arable margins

- On arable land, the opportunity exists to create flower-rich margins beyond the tussocky grass growth close to the hedge. This can lead to great benefits for wildlife, especially as nectar sources for pollinators and as food sources for birds. Here partridges, finches and buntings find spiders, grasshoppers and the like, essential food for adults and chicks, as well as seeds essential for winter survival. Arable flowers including cornflower, corn marigold and some poppies are among the most threatened plants in Britain, and cultivated field margins left to naturally regenerate can provide ideal conditions for them to survive.
- The creation of flower-rich margins is likely to be as demanding as the management of the main crop in a field, if not more so. Seed mixes have to be chosen carefully depending on which wildlife you hope to attract. Use a native mix to create a grassy wildflower-rich margin while non-native species such as Phacelia are fine in mixes where the objective is just to provide a nectar and pollen source. Do not use any mix if the aim is to manage cultivated margins for endangered arable plants (see above).
- The margins will require cultivation, cutting and probably the use of selective herbicides to control noxious or aggressive weeds: different species mixes and objectives require different

management regimes. Specialist advice is recommended.

- Regardless of species mix and objectives, arable margins should normally be kept free of fertilizers and herbicides and can be rotated around the farm to prevent the build up of pernicious weeds.

## Further information

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