



Managing field margins for wildlife

Grassland buffer strips can provide a vital link for wildlife between areas of grassland and woodland, and are particularly valuable in areas of predominantly arable farmland. Cultivated margins can also provide a unique opportunity to help rare and threatened arable plants. Depending on the landholding, some types of margin may be more appropriate than others, but combining more than one type of margin will result in greater habitat diversity and attract a wider range of species.

This advice sheet is designed to give landowners some general recommendations on the management of margins for wildlife. For more detailed information, please see Further reading.

Why manage field margins for wildlife?

Even in the most intensively farmed landscape, margins and field corners can provide wildlife friendly habitat and link up areas of grassland, woodland, hedgerows, ditches and ponds. From an economic point of view, there can also be benefits from making use of less productive parts of a field.

Key benefits for wildlife include:

- providing nesting habitat and shelter for birds, small mammals, bumblebees
- providing habitat for longer-lived insects, which overwinter in tussocks and may not be able to complete their lifecycle in

more intensively managed pasture or hay meadows

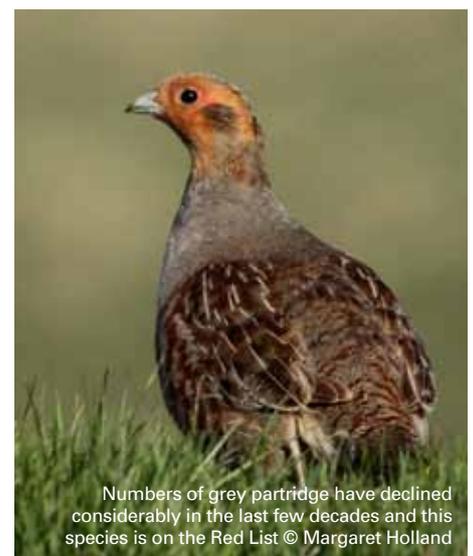
- preventing soil erosion or surface water run-off from entering watercourses and so contributing to reducing diffuse pollution
- providing a source of insect food for chicks and for bats, and small mammals for predators such as barn owls and kestrels
- nectar and flower-rich strips in particular can provide a source of pollen and nectar for pollinating insects such as bumblebees
- providing corridors for wildlife through the arable landscape and linking up species-rich patches of grassland
- softening arable landscapes which traditionally had more grassland
- buffering valuable habitats such as hedgerows, trees and historical features from agricultural operations

Key benefits in a farming system include:

- making use of an area of the field which is generally less productive due to the edge effect (shade, weed ingress, compaction)
- increasing numbers of pollinating insects to benefit crops such as soft fruit, field beans and oil seed rape
- providing habitat for species such as hoverflies, beetles, spiders and birds which will feed on crop pests
- keeping farm machinery away from tree roots, fencing and burrows
- stabilising banks along watercourses

This advice sheet contains information about the following topics:

- why manage field margins for wildlife?
- benefits for different species groups
- grassland margins
- wildflower margins
- cultivated arable margins
- general management recommendations for grassland and wildflower margins
- dealing with ragwort and other problem species
- legislation and other considerations
- protected species
- further reading and references
- further advice



Numbers of grey partridge have declined considerably in the last few decades and this species is on the Red List © Margaret Holland



Buff-tailed bumblebee on common knapweed © R.I.Moyse



Dense-flowered fumitory, a nationally scarce arable plant © Kent Wildlife Trust



Pygmy shrew © Peter Redfern/British Wildlife Centre



Water vole © G.Hitchcock

Wildlife which benefits from field margins

Farmland birds

Farmland birds rely on three main things to breed successfully and survive the winter months: many of them need a source of invertebrate protein to feed to their chicks; they need somewhere to nest; and they need a source of seed over the winter. Margins can provide a source of insect food for species such as yellowhammers, linnets, corn buntings and meadow pipits. Grey partridges like to nest in tussocky grassland; they use margins for cover from predators and their chicks use grass margins with shorter vegetation to dry out after heavy rainfall. Corn buntings favour grass margins where there is no hedgerow feature. Reed buntings will use tall grassland near ditches. Birds of prey such as barn owls and kestrels will benefit from margins which provide good habitat for small mammals.

Bumblebees and other invertebrates

There are now 24 species of bumblebee in the UK (two of our bumblebee species are now extinct and one has recently been reintroduced). They all rely exclusively on pollen and nectar to survive and to rear their larvae. As a result of many of our wildflower meadows being lost to agricultural intensification, bumblebees are much more reliant on margins, road verges, hedgerows and other features for food. Providing them with a source of wildflowers from March to late September is important to enable them to complete their lifecycle. They will use margins for hibernation sites and nest in old burrows left by small mammals or use moss to make nests among long grass. Many other invertebrates such as spiders, beetles,

solitary bees and wasps also benefit from the presence of margins and a number of insects overwinter in grass tussocks.

Wildflowers

It is estimated that 97% of our traditionally managed wildflower-rich grasslands have disappeared in the last few decades, mainly as a result of agricultural intensification. Those that are left are often located in small, isolated patches. Wildflower margins can provide an excellent habitat for many species such as common knapweed, scabious, yarrow, bird's-foot trefoil and oxeye daisy. Margins can also link up areas of species-rich grassland and thus facilitate seed dispersal.

Small mammals

Both thick, tussocky grassland and tall grassland provide nesting habitat for small mammals such as bank voles, shrews and field mice. Brown hares make shallow depressions (a 'form') in the ground among long grass, lie there during the day and then graze on grasses nearby at night; wildflower seeds also form a small part of their diet.

Bats

Kent supports thirteen of the eighteen species found in Britain, and many of them are in decline, partly as a result of increases in pesticide use in the last few decades. Bats are recognised as indicator species because they have so many requirements; in other words, we know that an area has good quality habitat if it supports plenty of bats. Far more energy is required for flight than any intense human activity and so bats try to keep to the most economical flight-paths (commuting links) along hedgerows and lines of trees when flying to their feeding grounds. Margins can provide a good source of insects such as moths, beetles and small flies (species such

as soprano pipistrelles will eat as many as 3000 midges and flies in one night).

Types of margin

Grassland strips will tend to become more species-rich the longer they are left in situ.

If they are managed as **tussocky grassland margins** rather than wildflower margins, then they will provide more valuable habitat for birds, small mammals and invertebrates. These strips can be used to increase wildlife habitat on arable land, hay meadows and pasture, where a strip can be fenced off from livestock for short periods of time. Seed mixes should include tussock forming grasses such as cock's-foot or timothy, and finer grasses such as fescues and bents.

Buffer strips alongside watercourses

and around scrapes and ponds can provide some protection against pollutants such as sediment and pesticides from entering waterbodies. Buffer strips in this case are



Wide margin fenced off to allow for intermittent grazing © Kent Wildlife Trust



Wildflower margin © Nikki Gammans



Brown hares boxing
© Elliott Neep / NeepImages.com



Tussocky grassland margin © C.Blackburn

known to become effective when they are at least 6m wide. Try to ensure that compaction does not occur, especially through machinery use on the margin, as this will affect soil absorbency. If reseeding, choose a seed mix containing grasses and wildflower species which can cope with being waterlogged and covered in silt. Strips such as these ensure better water quality, and thus protect aquatic life, and can provide riverine habitat for species such as water voles.

Wildflower strips can provide good habitat for both wildflowers and also pollinators such as bumblebees, which rely on a continuous source of nectar and pollen from March to September. One of the most important factors in establishing a floristically enhanced margin is a low nutrient load, so check the pH and nitrogen, phosphate and potassium levels before considering this option.

Cropped or uncropped cultivated margins can provide good habitat for rare arable plants. The best locations for these species will usually be where there is a low weed burden and the soils are naturally low in nutrient, such as shallow, chalky soils on steep slopes. However, it is worth obtaining some advice first since most farmers will have different requirements depending on cropping times, soil types, susceptibility of target arable plant species to pesticides, seed longevity and other factors. These margins can be rotational to fit in with your cropping scheme. For further details, see Natural England's

Environmental Stewardship handbook and our advice sheet *Arable plants in Kent: a unique botanical heritage*.

General management recommendations for grassland and wildflower margins

Deciding on your objectives

The choice of margin will depend on what species you are trying to attract. However, if your site is small, you will not be able to achieve the same diversity of margins (and therefore micro-habitats) as you would do on a larger site.

Choosing a location

Where possible, keep strips in the same place for many years as this allows a good diversity of species to build up. If you are choosing a new area to set up a strip, then locate it where the weed burden is low. Permanent buffer strips should not be situated where there is rare arable plant interest and must not overlap with cross-compliance requirements.

Sowing or natural regeneration?

The margins can be established through sowing a grass or wildflower mix or through natural regeneration. We would recommend allowing natural regeneration to take place, where possible, since this ensures only local seed will establish. However, sowing works better when trying to establish a margin quickly and prevent weeds from taking hold. If you are using a seed mix, then ensure that it is of local provenance: commercial mixes tend to have foreign cultivars (see Further Reading).

Preparation of the seed bed and sowing

If the soil is very compacted, then this can cause problems for seed establishment, so do ensure that you have dealt with this by sub-soiling before sowing. A lack of organic matter and root activity can make it difficult for plants to establish. The best time to sow is generally from late summer to early autumn as this will allow the seed to germinate and establish before the first frosts.

Cutting regimes

Where feasible, aim to remove cuttings annually, or at least every two or three years since this will decrease nutrient levels and increase plant diversity over time. This is particularly important if no grazing is taking place, since any dead vegetation will smother any seeds trying to germinate and allow nutrient to build up on site. Cutting regimes will vary according to what type of grassland strip you are trying to achieve. Wildflower margins should be cut annually in September, so as to allow the flowers to set seed as well as to avoid disturbance to ground-nesting birds. However, perennial, tussocky grass margins and field corners should be cut less often (and only between November and February), to control woody growth. Ensure that you rotate the areas that are cut, so that there is always some habitat left.

Avoid applying fertiliser or manures since increased nutrient levels will reduce wildflower interest.





Uncropped cultivated arable margin, Ranscombe Farm © Bob Gibbons /Plantlife

Dealing with species such as ragwort and thistles

Cutting at least twice in the first year that a margin is established should help to control weed problems. Remember that some sites that have been managed differently in the past may contain a weed species seed bank (ragwort seed can remain dormant for up to 20 years) and so it may take some years to get these species under control. Limit the use of herbicides to spot-treating or weed-wiping. For further information, please read our advice sheet *Control of ragwort and other problem plants*.

Legislation and other considerations

- if the site is designated (e.g. a Site of Special Scientific Interest) or included in a government scheme such as the Environmental Stewardship Scheme, you will need to follow guidelines set out in any agreements
- all contractors working on the site must wear adequate personal protective equipment and adhere to all health and safety requirements set out in law or regulation, in particular The Health and Safety at Work Act 1974 and The Management of Health and Safety at Work Regulations 1992.

- check that your contractor is aware of regulations concerning protected species and designated sites
- grass margins can sometimes be viewed as footpaths by the public, so you may wish to consider where you locate your margins

Protected species

A number of species, such as breeding birds and great crested newts, are protected by law and you need to make sure that you are complying with all relevant regulations before doing any habitat management work. A good place to start for more information is to look at the Natural England Protected Species List and Frequently Asked Questions webpages, available for download from here: <http://www.naturalengland.org.uk>. Alternatively, contact your local Natural England office and explain what surveys or management work you are planning to do.



Barn owl © Margaret Holland

Further reading and references

Bumblebee Conservation Trust

Land management advice factsheets can be downloaded from <http://bumblebeeconservation.org/get-involved/managing-your-land/>

Further information about suppliers of British wildflower seed

- Flora Locale
<http://www.floralocale.org/>
- The Conservation Volunteers
<http://shop.tcv.org.uk/shop/>

Kent Wildlife Trust Land Management Advice series

Control of ragwort and other problem plants; Arable plants in Kent: a unique botanical heritage.

Natural England (2010)

Entry Level Stewardship Handbook (3rd ed.) and Higher Level Stewardship - Environmental Stewardship Handbook (3rd ed.).

Natural England

Technical Information Notes (available to download free from www.naturalengland.org.uk)

- TIN100 *Protecting water from agricultural run-off: buffer strips*
- TIN094 *How to grow nectar flower mixtures*

Royal Society for the Protection of Birds

Advisory sheets available to download from <http://www.rspb.org.uk/ourwork/farming/advice/species.aspx>

Obtaining further advice

For further information, please contact the Trust's Land Management Advice Service by calling 01622 662012 or by emailing info@kentwildlife.org.uk



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