



Tree sparrow © Peter Roworth/Natural England

Birds

Over the last 40 years, many farmland bird populations have declined steeply, caused by the loss of nesting habitats and insect rich foraging habitats, and a decrease in supplies of seeds during the winter and early spring. The farmland bird package is a range of management measures which can help farmland birds when they are put in place across the landscape.

Key points

- Farmland birds are continuing to decline
- They need safe nesting habitat, summer food and winter food (provided by seed and insect-rich areas): these are often referred to as the 'big three' for farmland birds.
- A range of measures, supported by agri-environment scheme funding, can help provide these requirements

Birds



Starlings declined by 68% between 1970 and 2007 © Miles Wolstenholme



Curlew need sensitive grassland management © Hilary Chambers CC BY ND 2.0



Chiff-chaff nest in tussocky vegetation at the base of a hedge © Rob Wolton, Hedgelink

Farmland birds have three basic requirements: they need safe nesting habitat, food in summer and food in winter. The reduction in availability of these resources is believed to be responsible for the great declines in farmland birds.

Birds that have declined particularly steeply on farmland are seed-eating birds associated with arable farming that require abundant seed food throughout the winter and early spring. Many of these birds also require plentiful insect food during the spring and summer on which to feed their chicks. Lowland arable and mixed farms can support important

populations of these seed-eating birds, and the key habitats to create for them are those that will be rich in insects and seeds throughout the year. This will encourage species such as grey partridge, lapwing, turtle dove, skylark, yellow wagtail, tree sparrow, linnet and corn bunting.

Other birds, such as starlings, feed on soil invertebrates throughout the year, and lowland farms with grassland (particularly where it is grazed by cattle) often have good populations of these birds. Farms with wet grassland may have populations of breeding waders, such as lapwing, curlew, redshank and snipe, which require sensitive grassland management and the creation and/or maintenance of shallow wet features to provide nesting and feeding habitat. Other wetland features such as ponds and ditches are very valuable habitats for providing insect and seed food on all types of farm.

Farmland birds will use a variety of habitats for nesting, depending on the species. For example, yellowhammers nest on or close to the ground in ditch vegetation or at the base of short, thick hedgerows and scrub, while skylarks nest in arable or late-cut hay or silage vegetation that is 20-50cm high, open enough to allow easy access to the ground, and at least 10m away from field boundaries. Lapwings may also nest in spring crops or on fallow plots.



A range of habitats will provide most resources for farmland birds © Rosalind Shaw



Mature trees and hedgerows are very important for many farmland birds © Rob Wolton, Hedgelink



Cattle grazing helps soil invertebrate feeders, e.g. song thrush © Rob Wolton, Hedgelink

Habitat management

Over the farm as a whole, the more different habitats there are, including arable, grassland and non-cropped areas (such as ditches, hedgerows, woodland and field margins), the more the farm will be able to support an abundant and diverse bird community. However, management for certain species will exclude other species, so management options should be targeted carefully. For example, hedgerow management which encourages large, tall hedgerows should be targeted away from areas where breeding waders are located, since these birds require more open habitats.

Non-cropped habitats

Hedgerows, woodland and scrub, field margins and ditches are some of the non-cropped habitats that are of great importance for birds on farmland, providing seed and invertebrate food, shelter and nesting sites. Birds will benefit from conservation management of all these habitats.

On farmland, many birds depend on hedgerows, with at least 30 species making use of hedgerows for nesting. Different bird species have different requirements (Box 35), so hedgerows should be managed to provide a variety of heights and types around the farm. Allowing hedges to flower and fruit by trimming not more than once every three years will help them provide the most fruit, seed and insect food for birds. Hedges that are adjacent to tussocky grass margins or ditches are particularly beneficial. Patches of woodland and scrub provide nest sites, food and shelter for a range of farmland birds, including song thrush and linnet. Where these patches are linked by good quality hedgerows they will be especially valuable.

Field margin management that enhances seed production and invertebrate numbers will benefit birds. Tussocky grass margins encourage overwintering invertebrates and provide nesting habitat for game birds, and wide grass margins next to thick hedgerows provide ideal nesting sites for yellowhammers and whitethroats. Wildflower-rich margins will further increase seed supplies and encourage pollinators, which are also food for birds. All farmland birds will make use of wetland features such as ditches or ponds, as these provide water for drinking and bathing, as well as being rich sources of food.

Birds



Wet grasslands are important for lapwing
© Mark Kilner CC BY NC SA 2.0



Winter stubbles provide food resources for wildlife in the form of seeds and invertebrates
© Simon Mortimer CC BY SA 2.0



Linnets are one of the species helped by overwinter stubbles © Mark Kilner CC BY NC SA 2.0

Grassland

Grassland management that increases the abundance of invertebrates and seed will be particularly beneficial to birds. Birds differ greatly in their requirements: grazed pasture is favoured by birds that require short swards for nesting or feeding, while others prefer tall cover and will use meadows. The timing of mowing is particularly critical, since cutting for hay or silage too early threatens nests and chicks of ground-nesting birds, and may also reduce food supplies by preventing plants from flowering and setting seed. Species-rich hay meadows are rich in wildlife and their long-established management should be maintained.

Well-managed wet grasslands provide wintering and/or breeding habitat for wading birds and wildfowl. Waders such as snipe, redshank and lapwing need damp soil conditions, with some areas of shallow standing water in spring and early summer, to provide insect food for their chicks. These can be provided through the creation of scrapes (shallow depressions with gently sloping edges), which seasonally hold water. Grassland management is also important: lapwing prefer a short but varied sward while redshank prefer more tussocks within a varied short sward - best achieved by cattle grazing. Hedgerow management, including pollarding, is also important since waders prefer open habitats which lack predator perches. As with hay meadows, species-rich floodplain meadow management should be continued in the traditional way.

Cropped areas

A number of options are available for more specific habitat management for birds on the cropped areas of the farm. These include over-wintered stubbles, wild bird seed mixtures, conservation headlands and skylark plots.

Overwinter stubbles

Leaving stubbles over winter provides spilt grain and broad-leaved weed seeds, supplying important winter food. Birds that will benefit include grey partridge (Box 36), skylark, tree sparrow, linnet and yellowhammer. Arable plants most beneficial to birds in this situation tend not to be competitive weeds, but species such as chickweed, fat-hen and knotgrass. Spring barley stubble is especially good for farmland birds, but wheat stubble, and stubble of rape and linseed, may also provide abundant seeds, especially if they are weedy. If possible, aim for a variety of stubble heights around the farm. Tall stubble provides cover from predators for game birds and skylarks, while sparrows, finches and buntings prefer to feed in shorter stubble for better visibility.



© David Iliff CC BY SA 3.0
Skylarks find foraging easier in sparse vegetation (above) which in turn can help increase the number of chicks they can rear (below).



© Michael Hammett/Natural England

Wild bird mixtures

Wild bird seed mixtures are an unharvested mix of seed-bearing crops that can provide vital food for seed-eating birds throughout the winter. They are particularly important in areas where traditional food sources, such as weedy stubbles, are no longer available. An annual cereal-based mix will provide the most reliable food source for yellowhammers and corn buntings, while gamebirds will make more use of kale-based biennial mixtures. A mix including a cereal and an oil-rich crop (e.g. kale, linseed or quinoa) will benefit the widest range of species.

Conservation headlands

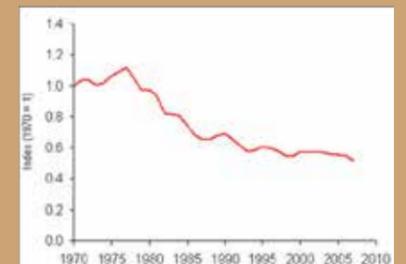
Conservation headlands are headlands of cereal crops that are not fertilised, and only sprayed with selective herbicides for grass weeds. The small populations of broad-leaved plants, together with their insect communities, provide increased food for birds that feed in the crop edge, such as grey partridge. Conservation headlands are best suited to light soils which are not infested with competitive weeds, and are best situated next to tussocky margins or grass and wildflower margins.

Skylark plots

Skylark plots are undrilled or sprayed-out patches in winter cereal fields that are used as feeding areas. Finding food can be a challenge for skylarks as winter cereals become taller and thicker, so the aim of skylark plots is to create sparse patches within the crop that make it easier for the birds to forage. This in turn can increase the number of chicks that skylarks can rear. Skylark plots are especially important where there is no spring cropping.

What is the Farmland Bird Indicator?

Farmland birds are used as an indicator of the general quality of the farmed environment, because birds sit near the top of the food chain, and their population trends have been well monitored by the British Trust for Ornithology since 1967. The Farmland Bird Indicator is made up of 19 species that are dependent on farmland. The graph shows an index based on the combined population trends of these 19 species. Between the mid-1970s and the mid-1980s the steepest declines in farmland birds occurred, with a shallower decline since then. The turtle dove, grey partridge, corn bunting and tree sparrow have declined by over 80 per cent. The overall average change for the 19 species is a 48% decline since 1970.



The Farmland Bird Index shows how farmland birds have declined since the 1970s.



Hedgerows are important for the declining yellowhammer © Mark Kilner CC BY NC SA 2.0

Hedgerow features important for farmland birds

Hedgerows are an essential habitat for many birds on farmland, providing food, shelter and nest sites.

We surveyed 266 hedgerows in Buckinghamshire, recording their height, width, gappiness and whether or not they had mature trees. We surveyed the same hedgerows for birds and analysed the data to see which types were best for them.

The single most important feature of the hedgerow for birds was its height. Bird numbers, species diversity and nest density all increased with higher hedgerows, up to a height of 3m. Bird diversity dropped sharply when hedges fell below 2m. This suggests that 2-3m is a critical height for hedgerows, below which their value to birds may be diminished, but above which there is little further benefit to birds. Hedge trimming may not necessarily be detrimental, as long as it does not lower the hedge below this threshold.

Mature trees within hedgerows were beneficial, providing shelter, nest sites, singing posts and food. Gappy hedgerows were a poor habitat for birds, emphasising the need for regular hedgerow maintenance.



Chaffinches nest in hedges ©Rob Wolton, Hedgelink

Key results

- Hedgerow height is important for birds: hedgerows should be 2-3metres tall
- Hedgerows with mature trees have more birds
- Maintaining hedgerows to reduce gaps helps bird populations



Grey partridge © Marek Szczepanek CC BY SA 3.0

Improving the survival of grey partridge

Once common in the English countryside, the grey partridge has undergone a dramatic decline in numbers, with a staggering 88% population decrease between 1967 and 2006.

One way in which populations of this traditional gamebird could be increased is through releases of birds that have been bred in captivity. We studied grey partridge behaviour to find out whether survival rates of released partridges could be improved. We found that partridges released as coveys (family groups) in autumn had lower mortality rates than those released as pairs in spring. The autumn releases used game covers more than in spring, suggesting these habitats could be used to induce settlement onto the release areas. Supplementary feeding could also be concentrated in these areas.

Covey stability was an important factor affecting survival. Stable coveys were more vigilant, more likely to fly to roost and had lower mortality. Rearing practices should therefore promote strong social bonds in grey partridge coveys and avoid early pairing if possible. In addition, autumn releases of coveys should not take place too late in the year and hence too close to the eventual pairing, so that the released birds would have the protection of their covey at least through the first few weeks when mortality rates are highest.



Radio-tagged grey partridge © Elina Rantanen

Key results

- Release grey partridges as coveys in autumn rather than as pairs in spring
- Rearing practices should promote strong social bonds in grey partridge coveys
- Avoid early pairing if possible

Birds

Management summary		
	Key habitats	Potential benefits
Non-cropped habitats and grassland	• Field margins	Tussocky and wildflower-rich margins enhance invertebrate numbers and seed supplies
	• Hedgerows	Provide fruit, seed and invertebrate food, shelter and nest sites
	• Woodland and scrub	Coppiced woodland and woodland edge habitats are important for farmland birds
	• Grassland	Where possible, manage to increase seed and invertebrate food
Cropped areas	• Wetland features	Rich sources of plant and invertebrate food
	• Wild bird mixes	Provides food for seed and invertebrate feeding birds
	• Overwinter stubbles	Helps supply seed for birds over winter
	• Conservation headlands	Increases seed and invertebrate food
	• Skylark plots	Creates accessible foraging areas for skylarks in winter cereals

Options especially relevant for birds		
Code	Countryside stewardship option	Tier
AB2	Basic overwinter stubble	Mid
AB4	Skylark plots	Mid
AB5	Nesting plots for lapwing and stone curlew	Mid
AB6	Enhanced overwinter stubble	Mid
AB7	Whole crop cereals	Mid
AB8	Flower-rich margins and plots	Mid
AB9	Winter bird food	Mid
AB10	Unharvested cereal headland	Mid
AB12	Supplementary winter feeding for farmland birds	Mid
AB13	Brassica fodder crop	Mid
AB14	Harvested low input cereal	Mid
AB16	Autumn sown bumblebird mix	Mid
BE3	Management of hedgerows	Mid
GS2	Permanent grassland with very low inputs (outside SDAs)	Mid
GS3	Ryegrass seed-set as winter food for birds	Mid
GS9	Management of wet grassland for breeding waders	Higher
GS10	Management of wet grassland for wintering waders and wildfowl	Higher
GS11	Creation of wet grassland for breeding waders	Higher
GS12	Creation of wet grassland for wintering waders and wildfowl	Higher
OP1	Overwintered stubble	Mid
OP2	Wild bird seed mixture	Mid
OP3	Supplementary feeding for farmland birds	Mid
WD1	Woodland creation - maintenance payments	Higher
WD2	Woodland improvement	Higher
WD3	Woodland edges on arable land	Mid
WD7	Management of successional areas and scrub	Mid
WD8	Creation of successional areas and scrub	Higher

Find out more at:
www.rspb.org.uk www.bto.org www.wwt.org.uk www.naturalengland.org.uk www.gwct.org.uk