



Farmland Birds Species Action Plan

1. Introduction

This Action Plan is concerned with twelve species of bird that breed within the farmland habitat, that use farmland as a primary source of food or where farmland provides roosting habitat during the winter.

Table 1. List of species included within this Species Action Plan.

Species	Conservation Status ¹
Skylark <i>Alauda arvensis</i>	Red List
Tree sparrow <i>Passer montanus</i>	Red List
Corn bunting <i>Emberiza calandra</i>	Red List
Lapwing <i>Vanellus vanellus</i>	Red List
Grey partridge <i>Perdix perdix</i>	Red List
Yellowhammer <i>Emberiza citronella</i>	Red List
Barn owl <i>Tyto alba</i>	Green List
Linnet <i>Carduelis cannabina</i>	Red List
Reed bunting <i>Emberiza schoeniclus</i>	Amber List
Curlew <i>Numenius Arquata</i>	Red List
Yellow wagtail <i>Motacilla flava</i>	Red List
Turtle dove <i>Streptopelia Turtur</i>	Red List

The latest assessment of the population status of 19² of the UK's farmland bird species was published by Defra in 2018. This report shows that in 2017 the UK farmland bird index was less than half (46%) of its 1976 baseline value (79% of species showed no change or a decrease in population). The rate of decline was most marked during the late 1970s and early 1980s. Between 2011 and 2016 the index decreased by 7% (79% of species again showed no change or a decrease in population). The farmland specialists showing the greatest population declines were corn bunting, grey partridge, turtle dove and tree sparrow.

All of the species in the table above, except barn owl, were listed as priority species within the UK Biodiversity Action Plan and subsequently included within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

¹ From Birds of Conservation Concern 4, published by RSPB and partners, 2015.

² The 19 species include 7 'generalists' (Greenfinch, Jackdaw, Kestrel, Reed bunting, Rook, Woodpigeon, Yellow wagtail) and 12 'specialists' (Corn bunting, Goldfinch, Grey partridge, Lapwing, Linnet, Skylark, Starling, Stock dove, Tree sparrow, Turtle dove, Whitethroat, Yellowhammer).

2. Current Status

2.1 Ecology and habitat requirements

Skylark

Skylarks nest on the ground, needing open fields with fairly short vegetation and an extensive supply of insects on which to feed the young chicks. Their decline is due mainly to the move from spring to winter cereals and the intensification of grassland management.

Tree sparrow

Tree sparrows nest communally in holes in veteran trees, farm buildings or occasionally thick hedges. The adults are seed-eaters but the chicks are fed on insects for the first few weeks of life.

Corn bunting

Corn buntings are a late ground nesting species, with the first brood of chicks not leaving the nest until June or July, and are therefore very vulnerable to harvesting and grass cutting. Chicks are fed on insects for the first few weeks whilst adults are heavily dependent on seeds and lost or spilt cereal grain.

Lapwing

Lapwings require bare ground or short vegetation for nesting and a large supply of ground invertebrates. Their decline is due largely to the move away from mixed farming and spring cropping and the intensification of grassland management: they are affected badly by spring and early summer cultivation.

Grey partridge

Grey partridge nest on the ground in a variety of farmland habitats including hedge bottoms, tussocky grass margins and cereal crops. The adults are mainly seed-eaters but chicks are dependent on supplies of insects.

Yellowhammer

Yellowhammers breed either on or close to the ground within thick hedges, usually where there is a wide uncut grass margin or ditch. They can breed late into the season so even cutting or flailing during August can have a detrimental impact on the success of the last brood. The adults feed almost exclusively on seeds but chicks are largely dependent on insects.

Barn owl

The typical barn owl prey of small mammals occurs at the highest densities in rough tussocky grassland. Their habit of hunting fairly low to the ground makes them very vulnerable to road traffic collisions, especially when territories are focused on road verges (which may be the main source of rough grassland in some territories). Barn owls traditionally nest in old barns or other farm buildings and hollow trees but they adapt well to using nestboxes. Barn owl population numbers are prone to dramatic fluctuation from year to year as food supply, and therefore breeding success, is dictated by climatic events such as heavy rainfall and flooding.

Linnet

Linnets are dependent on plentiful seed sources throughout the year, in particular arable weed seeds, which are eaten by both adults and chicks. They nest in thick, thorny hedgerows or areas of scrub and bramble within open farmland.

Reed bunting

Reed buntings will nest in a variety of farmland habitats including crops and set aside as well as ditches and reedbeds. The adults' diet consists of both seeds and insects but the chicks are fed almost exclusively on insects until fledging. Arable field margins, stubbles and bird cover crops provide a vital source of winter food.

Curlew

Curlews breed on open moorland, rough and damp pastures, unimproved hay meadows and boggy ground. They will occasionally use arable crops and silage fields. Both adults and chicks feed on the insects found in damp grassland, wet flushes or shallow pools.

Yellow wagtail

Yellow wagtails are ground-nesting, preferring large, open arable fields, wet grassland or hay meadows. Vegetation must be open enough to provide easy access to the ground in order to forage for insects, particularly spiders.

Turtle dove

Turtle doves require tall, thick hedgerows or areas of scrub for nesting and a rich supply of weed and crop seed from late April until the end of August to feed chicks.

2.2 Population and distribution

National population trends

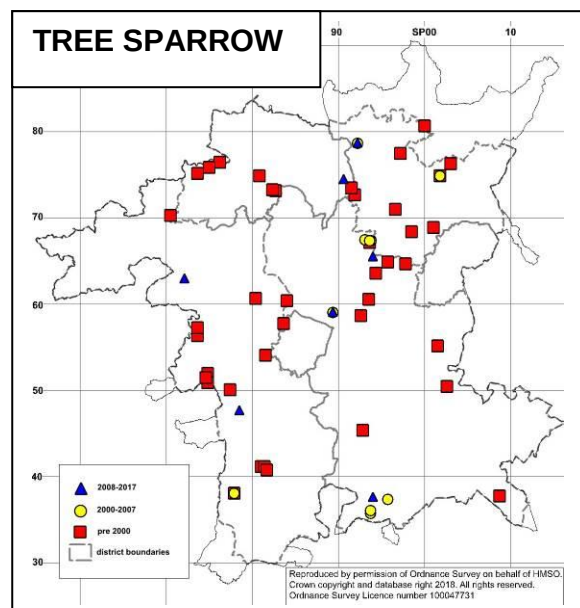
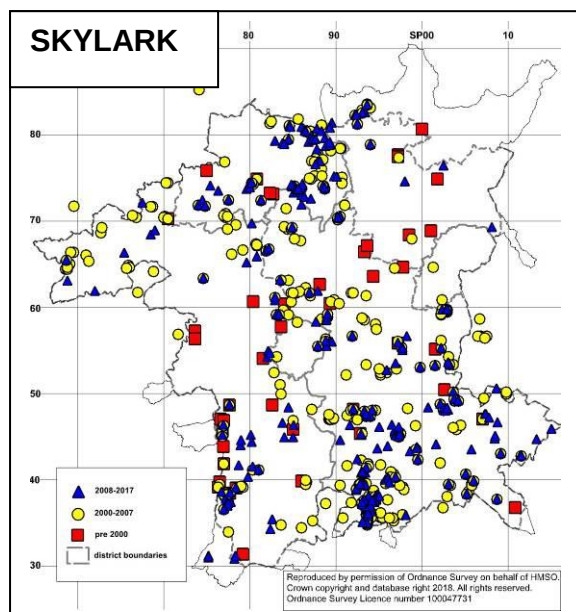
The figures used in this section (with the exception of barn owl) are for the UK and are taken from the **Wild Bird Populations in the UK 1970 to 2017** report published by Defra (2018). The data on which this report is based were compiled in conjunction with the British Trust for Ornithology (BTO), the Wildfowl and Wetlands Trust (WWT) and the Royal Society for the Protection of Birds (RSPB). Data for barn owl is from the **BTO Breeding Bird Survey**.

- Skylark: Long-term change -58% decline between 1970 and 2016 (trend: weak decline) Short-term change +1% increase between 2011 and 2016 (trend: no change).
- Tree sparrow: Long-term change -90% decline between 1970 and 2016 (trend: strong decline) Short-term change -2% decline between 2011 and 2016 (trend: no change).
- Corn bunting: Long-term change -89% decline between 1970 and 2016 (trend: strong decline) Short-term change +5% increase between 2011 and 2016 (trend: no change).
- Lapwing: Long-term change -63% decline between 1970 and 2016 (trend: weak decline) Short-term change -3% decline between 2011 and 2016 (trend: no change).
- Grey partridge: Long-term change -92% decline between 1970 and 2016 (trend: strong decline) Short-term change -16% decline between 2011 and 2016 (trend: strong decline).

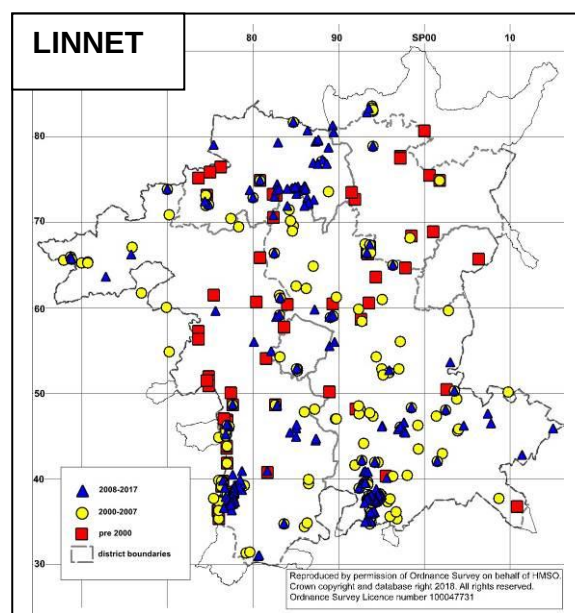
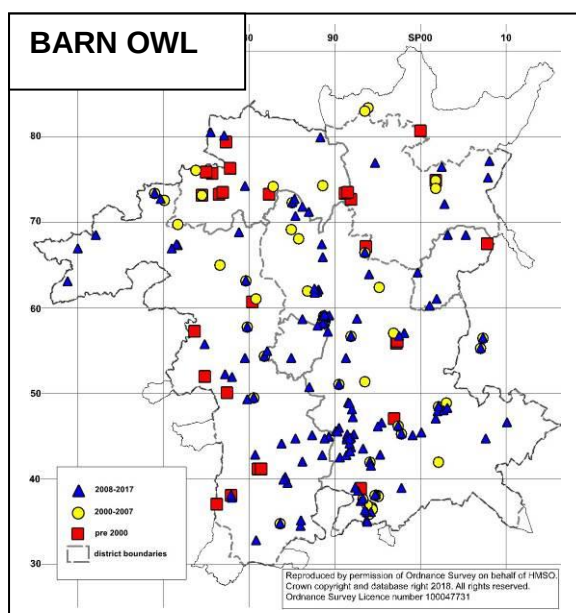
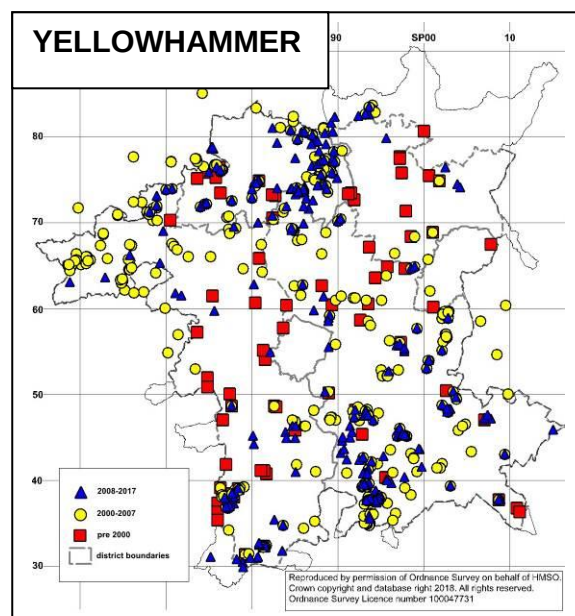
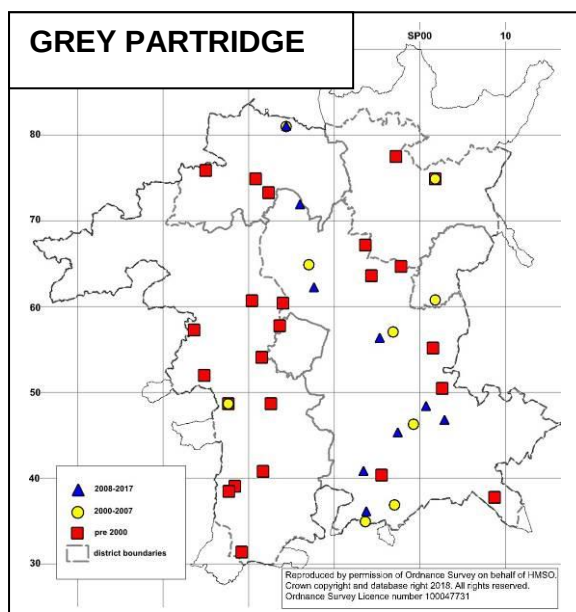
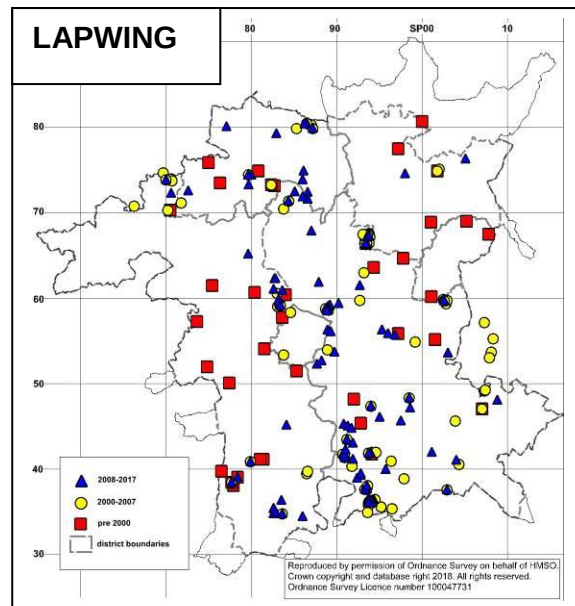
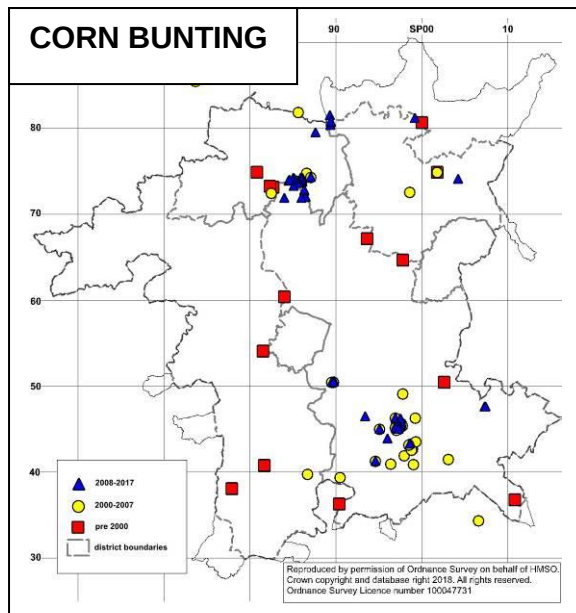
- Yellowhammer: Long-term change -57% decline between 1970 and 2016 (trend: weak decline) Short-term change -6% decline between 2011 and 2016 (trend: weak decline).
- Barn owl: Medium-term change -19% decline between 2006 and 2016. Short-term change -15% decline between 2011 and 2016. (Long-term trend: possible decline).
- Linnet: Long-term change -53% decline between 1970 and 2016 (trend: weak decline) Short-term change +6% increase between 2011 and 2016 (trend: no change).
- Reed bunting: Long-term change -26% decline between 1970 and 2016 (trend: no change) Short-term change +18% increase between 2011 and 2016 (trend: strong increase).
- Curlew: Long-term change -19% decline between 1975 and 2016 (trend: no change) Short-term change -2% decline between 2011 and 2016 (trend: no change)³.
- Yellow wagtail: Long-term change -68% decline between 1970 and 2016 (trend: weak decline) Short-term change +6% increase between 2011 and 2016 (trend: weak increase).
- Turtle dove: Long-term change -98% decline between 1970 and 2016 (trend: strong decline) Short-term change -59% decline between 2011 and 2016 (trend: strong decline).

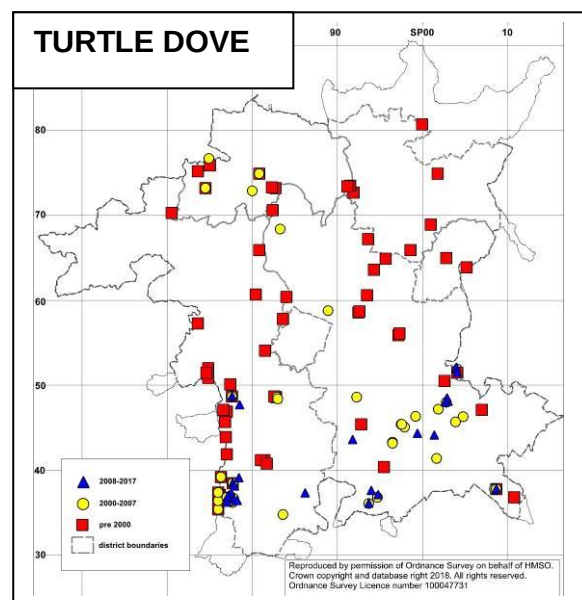
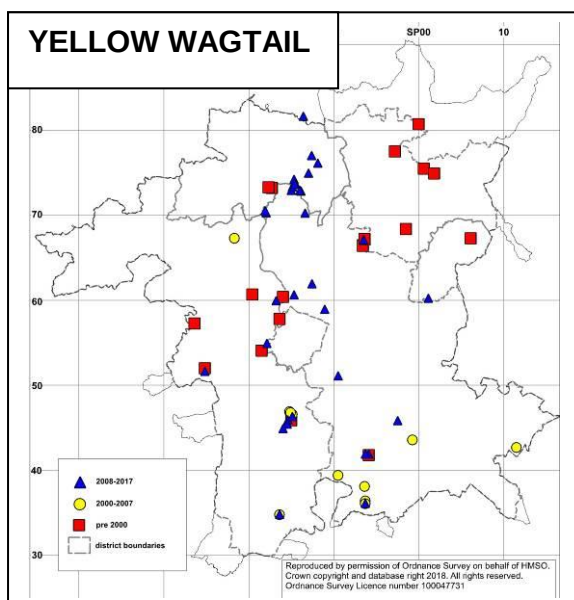
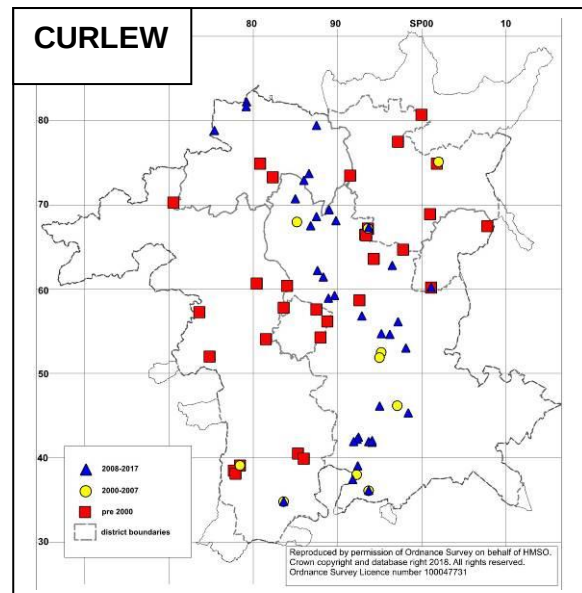
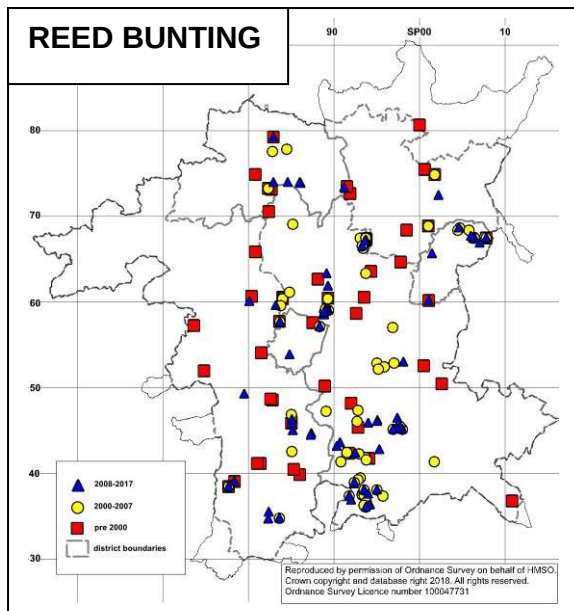
Worcestershire distribution

All maps shown below were prepared by Worcestershire Biological Records Centre (WBRC).



³ Population trends given here for curlew possibly mask a more serious decline in numbers, as reported by the [BTO](#).





2.3 Legislation

All species covered by this Action Plan are protected under the Wildlife and Countryside Act 1981 (as amended) and (with the exception of barn owl) listed in Section 41 of the NERC Act 2006. The barn owl is listed on Schedule 1 of the Wildlife and Countryside Act and therefore receives additional protection from disturbance at the nest.

2.4 Summary of important sites

The following is a summary of important features within the farmed landscape whose presence will encourage and support good populations of farmland birds, including species outside the specific scope of this Action Plan.

A hedgerow network with good structural and species diversity will provide nesting and feeding habitat for a variety of species. Grey partridge, linnet and yellowhammer prefer short hedgerows (of under 2 metres) with grass margins. Song thrush (*Turdus philomelos*) and turtle dove prefer wide hedgerows over 4

metres tall. Hole-nesting birds such as tree sparrow will nest communally in old hedgerow trees. Thick, dense cover at the base of a hedge plays an important part in protecting nesting birds from predation. Hedgerows also allow the safe movement of birds around the farmed landscape.

Scrub can be an important component of the woodland edge, part of a hedgerow or can exist as isolated stands. Scrub of varied age, species and structure supports the widest range of wildlife. Birds nest in a range of scrub types: yellowhammer, linnet, grasshopper warbler (*Locustella naevia*) and whitethroat (*Sylvia communis*) favour young, scattered scrub; dunnoek (*Prunella modularis*) and willow warbler (*Phylloscopus trochilus*) use low-growing, closed canopy scrub; turtledove, song thrush and bullfinch (*Pyrrhula pyrrhula*) use older, mature stands of scrub; nightingale (*Luscinia megarhynchos*) require very dense stands of scrub with bare ground underneath. The scrub edge is often rich in flowering plants, which provide nectar for insects, seeds and nest sites for birds and shelter for small mammals.

Veteran trees support a wide variety of insects within the rotting timber and the hollows and cavities provide roosting and nesting sites for bats and birds. These trees are particularly important for raptor and corvid species and those farmland birds that nest communally such as tree sparrow.

Mixed farming and arable reversion creates a varied farmed landscape combining arable cropping and low input grassland that provides habitat for a range of farmland birds. Arable reversion does not have to be botanically rich: its structure can be as important as species composition. Soil invertebrates, such as earthworms and insect larvae, benefit from the lack of cultivation and provide food for birds such as lapwing throughout the year. Grassland that contains broad-leaved plants such as dandelion (*Taraxacum* sp.) and sorrel (*Rumex* sp.) are particularly good for seed eating birds such as linnet.

Extensively grazed grassland creates a diverse sward structure resulting in a habitat rich in plants and insects. Such pastures can have an abundance of food when managed appropriately and where the use of avermectin-based drugs on livestock is limited, which is particularly beneficial during winter. Starling (*Sturnus vulgaris*) and visiting thrushes such as fieldfare (*Turdus pilaris*) and redwing (*Turdus iliacus*) will also exploit the insects found in extensively grazed grassland in winter. The diverse sward structure helps ground nesting birds by providing cover and a reduction of stock on grassland can reduce the loss of nests to trampling.

Hay meadows, even those with few plant species, can provide food for seed-eating birds and nesting habitat for ground-nesting birds. The associated insect population will also provide an important food source. Hay meadows can provide valuable nesting habitat for lapwing, curlew, yellow wagtail and skylark. Meadows with damp flushes may have snipe (*Gallinago gallinago*) and redshank (*Tringa tetanus*). Those that contain dandelion and sorrel are particularly good for seed-eating birds in the summer.

Spring cropping provides an important habitat as many declining farmland bird species are small, seed-eating birds and the stubble that follows spring cereals provides food throughout the winter due to the availability of spilt grain. In

addition, traditionally managed crops of fodder brassicas (such as turnips, rape and kale), where weeds are allowed to persist in the crop and set seed, provide food for many small, seed-eating bird species that depend on weed seeds for winter survival. Important weeds include fat hen (*Chenopodium album*), charlock (*Sinapis arvensis*) and chickweed (*Stellaria media*).

Arable crops can provide suitable breeding habitat for many farmland birds and the importance of vegetation structure in determining the ability of ground-nesting birds to breed increases the importance of spring cropping: winter sown cereals have generally become too tall and dense by the onset of the breeding season and so hinder or prevent use of the field by species such as skylark.

Over-wintered stubble provides an important winter food source for seed-eating birds, whether this is on rotational set-aside, ground left undisturbed preceding a spring crop or specifically managed under an agri-environment scheme. Spilt grain and the seeds of broad-leaved weeds are vital for the winter survival of many seed-eating birds. Over-wintered stubble followed by a spring crop is also an important habitat for brown hare (*Lepus europaeus*).

Wild bird seed mixes or cover crops will provide a year-round supply of food, particularly important during the winter. A two-year crop will also provide seed throughout the spring of the second year and this may help birds to attain breeding condition. Flowering crops such as legumes or phacelia will also encourage nectar and pollen-feeding insects. A seed mix with a high proportion of cereals established in the spring or autumn will create an open, insect-rich crop that is an ideal foraging environment for grey partridge chicks.

Set-aside that is non-rotational can provide food and nesting habitat for ground-nesting birds throughout the year. However, rotational set-aside provides weedy stubble that offers an abundance of annual plant seeds and so is more useful for seed-eating birds throughout the winter. Mixing rotational and non-rotational set-aside can provide the maximum benefit for wildlife. Set-aside can be left as whole-field blocks, field margin strips or strips through the middle of fields. Small mammal populations will also benefit, increasing the food supply available for birds of prey.

Grass field margins against a short, thick hedge provide an ideal habitat for ground nesting birds such as grey partridge, whitethroat and yellowhammer. Corn bunting may use the same kind of strip alongside hedge-less field boundaries. Tussocky field margins provide essential over-wintering habitat for many insects, which will feed on crop pests in the spring as well as providing a food source for chicks. Small mammals thrive in wide grass margins, providing hunting habitat for barn owl. Careful management of margins can allow weed species to flourish without creating a significant weed burden at the edge of the crop and provide a further food source for seed-eating birds. The same type of habitat can be created and maintained across the centre of a field in a beetle bank.

Cultivated field margins can be managed in several different ways, the most beneficial to farmland birds being uncropped cultivated margins whereby the plot is cultivated with the rest of the field but not sown with a crop, has no fertiliser and minimal herbicide applied with only spot treatment permitted. Designed primarily

to benefit arable flora, this management also benefits insect and bird life and provides an over-winter seed supply.

Conservation headlands can either be sown with a cereal crop along with the rest of the field, usually with a full fertiliser programme but with reduced inputs of herbicide, insecticide and fungicide, or managed as a minimal input conservation headland, sown with a crop but with no fertiliser or manure applied. The selective spraying allows a build-up of broad-leaved weeds and their associated insects.

Ditches and drainage channels provide important corridors for the movement of species. In combination with associated wet grassland they are an important source of damp soil for birds that feed by probing in mud, can hold standing water for freshwater invertebrates (another source of food) and can provide nesting habitat for birds such as snipe and redshank.

Skylark and lapwing plots are unsown areas within a winter crop that allow for patches of short, weedy vegetation within the arable field during spring. Research by the RSPB demonstrated that skylarks in fields with these plots have a longer breeding season and fledge more chicks than in typical winter cereal fields as they get better access to the ground for insect foraging. Skylark plots are recommended to be established at least 16m² in size and at a density of 2/ha. Plots for lapwing need to be larger and should be cultivated to provide bare, open, rough ground.

3. Current factors affecting the species

- The widespread move from spring-sown to winter-sown cereals results in vegetation that is too tall and thick to support breeding skylark, especially during the critical second brood phase.
- The use of pesticides and herbicides removes important food sources of insects and arable weed seeds.
- Trampling of nests belonging to ground nesting birds through pasture being grazed too intensively during the breeding season.
- The conversion of land to silage and the too frequent cutting of silage fields during the breeding season.
- Destruction or blocking up of suitable nesting sites in trees, bushes, hedgerows or buildings.
- Fragmented availability of suitable habitat.
- Land use change e.g. housing or solar farm development which is incompatible with the requirements of birds of open farmland.
- Variable geographical uptake of agri-environment options which benefit farmland birds.
- Loss of wet/damp habitats (wet grassland, marsh, ponds) from farmland due to drainage and high rates of surface run-off resulting from soil compaction.

4. Current Action

4.1 Local protection

There are no sites within the county with legal protection specifically for their farmland bird populations.

4.2 Site management and programmes of action

- A number of **nature reserves** which are good for farmland birds are managed by conservation groups including Worcestershire Wildlife Trust, who own several areas of farmland within the county on which specific management for the conservation of farmland birds is undertaken. This includes planting bird food crops and ensuring the cropping regime and rotation provides suitable habitat throughout the year.
- **Agri-environment schemes** were first introduced in the 1980's with the current scheme launched in 2015 and administered by Natural England. Between 2013 and 2017 UK farmers claimed £2.35bn in agri-environment payments. The current scheme, Countryside Stewardship, covers around 4000 ha of land within Worcestershire (Defra, 2018), whilst a number of other agreements set up within the previous scheme (Environmental Stewardship) are still live with varying amounts of time to run. Agri-environment scheme options that will benefit farmland birds include hedgerow management, bird seed and bird cover cropping, over winter stubble management, skylark plots and various options for the management of field margins and headlands that will benefit insect populations and therefore farmland birds. Previous schemes have had additional options for scrub and veteran tree management and a further range of arable cropping and margin options.
- The **Bird Conservation Targeting Project**, led by the RSPB, used data collected between 2000-2010 to map important areas for birds within the UK to enable better targeting of resources for land management that would benefit scarce and declining farmland and woodland birds. Data were collected from a wide range of sources, including individual birdwatchers, county bird clubs and national surveys. The maps produced by the project were used to influence the targeting of government grant funding including agri-environment schemes and the English Woodland Grant Scheme. For example, the **South West Farmland Bird Initiative** was set up as a partnership between Natural England, RSPB, the Farming and Wildlife Advisory Group and the Cranbourne Chase & West Wiltshire Downs Area of Outstanding Natural Beauty to offer and support farmers to implement a bespoke package of agri-environment (Environmental Stewardship) options that would benefit species of arable farmland, in particular the 'Arable Six' birds: grey partridge, lapwing, turtle dove, yellow wagtail, tree sparrow and corn bunting.
- **RSPB fact sheets** give advice for land managers on providing suitable habitat and food sources for birds on farmland. Available from www.rspb.org.uk.

4.3 Survey, research and monitoring

- The British Trust for Ornithology coordinates and collates survey and monitoring data from a huge range of projects. www.bto.org.

- The **Game and Wildlife Conservation Trust** runs a study designed to measure the impacts of changes in farming practice on the fauna and flora of arable land. Begun in 1968 with the aim of investigating the causes of the decline in numbers of the grey partridge, it is the longest-running study of its kind in the world. <https://www.gwct.org.uk/research/long-term-monitoring/sussex-study/>.
- Researchers at the **Wildlife Conservation Research Unit** carried out a series of experiments which showed how the ways in which arable field margins are established and managed had profound effects on the invertebrate assemblages able to survive within them (Feber *et al*, 2015).

5. Associated Plans

Arable Farmland, Hedgerows, Ancient and Veteran Trees, Grassland, Wet Grassland.

6. Conservation Aim

Farmland bird conservation measures are delivered and targeted using a landscape-scale approach with co-operation between neighbouring landowners.

7. Conservation Objectives

- Promote the uptake of farmland bird-friendly options under future farm support/agri-environment payment structures
- Ensure farmland birds are given consideration within site management or development proposals
- Ensure that landscape-scale Green Infrastructure planning seeks to deliver benefits for farmland birds
- Continue management of sites in conservation ownership for farmland birds
- Work with landowners who do value and manage their land for farmland birds in order to educate and inspire others
- Continue farmland bird surveying and monitoring work on key sites, the submission of data to recording schemes and the best use of available data

References and further information

Aebischer, N. J., Bailey, C. M., Gibbons, D. W., Morris A. J., Peach, W. J and Stoate, C (2016). *Twenty years of local farmland bird conservation: the effects of management on avian abundance at two UK demonstration sites*. Bird Study, Vol. 63:1 pp10-30.

Bradbury, R. B and Kirby, W. B (2005). *Farmland birds and resource protection in the UK: Cross-cutting solutions for multi-functional farming?* Biological Conservation, **129**: 530-542.

Butler, S. J., Bradbury, R. B and Whittingham, M. J (2005). *Stubble Height Affects The Use Of Stubble Fields By Farmland Birds*. Journal Of Applied Ecology, **42**: 469-476.

Defra (2018). *Wild Bird Populations in the UK, 1970 to 2017*. Department for Environment, Food and Rural Affairs.

Eaton, M. A., Aebischer, N. J., Brown, A. F., Hearn, R. D., Lock, L., Musgrove, A. J., Noble, D. G., Stroud, D. A and Gregory, R. D (2015). *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*. British Birds 108, 708–746.

Feber, R. E and Macdonald, D. W (2013). *Wildlife & Farming: Conservation on Lowland Farms*. Wildlife Conservation Research Unit, University of Oxford.

Harrison, G and Harrison, J (2007). *The New Birds of the West Midlands*. West Midland Bird Club.

Hayhow, D. B., Ausden, M. A., Bradbury, R. B., Burnell, D., Copeland, A. I., Crick, H. Q. P., Eaton, M. A., Frost, T., Grice, P. V., Hall, C., Harris, S. J., Morecroft, M. D., Noble, D. G., Pearce-Higgins, J. W., Watts, O., Williams, J. M (2017). *The state of the UK's birds 2017*. The RSPB, BTO, WWT, DAERA, JNCC, NE and NRW, Sandy, Bedfordshire.

Massimino, D., Woodward, I. D., Hammond, M. J., Harris, S. J., Leech, D. I., Noble, D. G., Walker, R. H., Barimore, C., Dadam, D., Eglington, S. M., Marchant, J. H., Sullivan, M. J. P., Baillie, S. R and Robinson, R. A (2017). *BirdTrends 2017: trends in numbers, breeding success and survival for UK breeding birds*. Research Report 704. BTO, Thetford. www.bto.org/birdtrends

Sheldon, R. D., Chaney, K and Tyler, G. A (2007). *Factors affecting nest survival of Northern Lapwings Vanellus vanellus in arable farmland: an agri-environment scheme prescription can enhance nest survival*. Bird Study **54**, p168-175.

Vickery, J., Carter, N and Fuller, R. J (2002). *The potential value of managed cereal field margins as foraging habitats for farmland birds in the UK*. Agriculture, Ecosystems & Environment, **89**: 41-52.