



## REVISED PLAN MAY 2017

### ARABLE FIELD MARGINS

#### 1. INTRODUCTION

Arable field margins are herbaceous strips or blocks of rough grassland around arable fields that are managed specifically to provide benefits for wildlife.



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This action plan is primarily concerned with arable fields but some of the issues are also relevant to the margins of intensively managed grassland. The margins of fields provide very valuable habitat and some of Britain's rarest plants are found within the edges of arable fields. Once common species such as cornflower (*Centaurea cyanus*), spreading hedge-parsley (*Torilis arvensis*) and shepherd's needle (*Scandix pecten-veneris*) are now rarely found due to changes in methods of agricultural production (see the [Scarce Arable Plants](#) Action Plan).

As well as providing an important refuge for wildflowers, field margins also provide buffer strips between farming operations and sensitive habitats such as woodlands, hedgerows, watercourses and ditches. These buffer strips provide valuable wildlife corridors for a range of species including invertebrates, birds, small mammals, reptiles and amphibians, facilitating movement to neighbouring habitats, or between hibernation and breeding habitats.

Field margins provide nesting and feeding sites for game birds and songbirds. Invertebrate species including butterflies, grasshoppers, hover flies and solitary wasps and bees are attracted to field margins, particularly to tall umbellifers (Apiaceae) such as hogweed (*Heracleum spondylium*) (Wolton, 2015). Many beneficial predators such as spiders and ground beetles which feed on a variety of foods, especially traditional crop pests such as aphids, are dependant on the field margins for part of the year. The high number of invertebrates provides food for farmland birds and mammals such as bats and the abundance of small mammals in rough grassland may attract barn owls (*Tyto alba*).

Field margins can be deliberately managed – by sowing annual agricultural 'weeds' rather than perennials - to create conditions which benefit invertebrates, small mammals and birds. Leaving the edges of fields to a few species of grasses and other perennials is not providing the right environment for pollinating insects (Edwards, 2013). Sensitive management of field margin habitat throughout England could offer huge benefits to threatened farmland species, many of which have suffered severe declines over recent decades ([Smith, 2010](#)).

Research funded by the [Barn Owl Trust](#) (2006) estimated that in arable landscapes barn owls require about 35 km of rough grass field margin within 2 km of a suitable nest site, also that field voles (*Microtus agrestis*) require the margins to be greater than 4m wide, and ideally around 6m wide. Since the birds hunt more efficiently along wide margins it is estimated that in arable landscapes they require between 14-21ha of rough grassland

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within 2 km of a nest site. However, to support a viable breeding population over a wider area, land beyond 2 km radius also needs to be suitable. Thus in an arable landscape between 1.1 and 1.7% of the total land area needs to be rough grassland.

| 2.  | OBJECTIVES*   | TARGETS* |
|---|---|----------|
| Associated Action Plans are: 'Woodland', 'Rivers & Streams', 'Hedgerows', 'Hedgehog', 'Bats', 'Barn Owl', 'Farmland Birds', 'Bloody-nosed Beetle' and 'Scarce Arable Plants'  |   |          |
| <b>PLEASE CONSULT THE '<i>GENERIC HABITATS</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR OBJECTIVES COMMON TO ALL HABITAT PLANS</b>  |   |          |
| A.  | To record all known examples of flower-rich field margins.  | 2020     |
| B.  | To expand the extent of the habitat by 5000ha.<br><b>With over-achievement by 2016, target has been increased from 640ha.</b> | 2026     |
| *Derived from Regional Spatial Strategy Phase 3 Technical Report (2009) and based on a minimum mapping unit of 0.25ha. Numerical targets have been incorporated into section 6. See Generic Habitats Plan for rationale for derivation of targets and definitions of favourable and unfavourable condition ('Habitats overview' in 'State of the Natural Environment' (NE,2008, p49). |   |          |

### 3. NATIONAL BAP OBJECTIVES & TARGETS

Arable Field Margins are on the current UK Biodiversity Action Plan (BAP) list of Priority Habitats published in 2007([Joint Nature Conservation Committee](#)). The targets and objectives for the [Cereal Field Margins](#) BAP, updated in 2010-11, may be seen online.

### 4. CURRENT STATUS

The Habitat Biodiversity Audit for Warwickshire, Coventry and Solihull in 2017 recorded 93,118ha of arable land and 51,087ha of agriculturally improved grassland (49% and 26% respectively of all recorded habitats). 818ha of the total were recorded as set-aside including field margins. If managed sensitively for wildlife, the margins around this cultivated land have the potential to provide an enormous wildlife resource relative to the amount of land considered. By 2016, an expansion of the field margin habitat by over 1900ha had been achieved, through the uptake of Natural England agri-environment options and by local organisations and by landowners.

In 2016 the amount of land in Warwickshire under field margins and nectar flower options for [agri-environment schemes](#) administered by Natural England (NE) was as shown in the table below (OH refers to organic farms). This includes 19 options in the new [Wild Pollinator and Farm Wildlife Package](#), designed to increase the extent of the habitat for wildlife.

| Option             |  | Hectares      |
|--------------------|--|---------------|
| EF4                | Nectar Flower mixture (Fixed and rotational)       | 72.85         |
| HF4                | Nectar Flower Mixture (Fixed and rotational)       | 380.97        |
| OHF4               | Nectar Flower mixture (Fixed and rotational)       | 74.99         |
| HF14               | Unharvested, fertiliser free conservation headland | 60.29         |
| <b>Sub-total =</b> |  | <b>589.00</b> |
| EE1                | 2m buffer strips on arable                         | 25.9          |

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|                     |   |                |
|---------------------|---|----------------|
| EE2                 | 4m buffer strips on arable              | 99.00          |
| EE3                 | 6m buffer strips on arable              | 269.25         |
| EE4                 | 2m buffer strips on intensive grass     | 2.3            |
| EE5                 | 4m buffer strips on intensive grass     | 11.16          |
| EE6                 | 6m buffer strips on intensive grass     | 22.04          |
| EF1                 | Field corners                           | 311.19         |
| HE1                 | HLS 2m buffer strips on arable          | 8.12           |
| HE2                 | HLS 4m buffer strips on arable          | 59.36          |
| HE3                 | HLS 6m buffer strips on arable          | 310.09         |
| HE5                 | HLS 4m buffer strips on intensive grass | 5.68           |
| HE6                 | HLS 6m buffer strips on intensive grass | 17.7           |
| HF1                 | Field corners                           | 124.89         |
| OE2                 | Organic ELS 4m buffer strips on arable  | 3.75           |
| OE3                 | Organic ELS 6m buffer strips on arable  | 7.23           |
| OF1                 | Organic field corners                   | 2.45           |
| OHE2                | Organic HLS 4m buffer strips on arable  | 1.19           |
| OHE3                | Organic HLS 6m buffer strips on arable  | 29.23          |
| OHE6                | 6m buffer strips on organic grassland   | 12.96          |
| OHF1                | Organic HLS field corners               | 2.55           |
| <b>Sub- total =</b> |   | <b>1317.04</b> |
| <b>Total =</b>      |   | <b>1906.04</b> |

Source: Natural England 2016

### Field Margin Types included in the UK BAP

- Cultivated, low-input margins.** These are areas within arable fields that are cultivated periodically, usually annually or biennially, but are not sprayed with spring/summer insecticides and not normally sprayed with herbicides (except for the control of injurious weeds or problem grasses such as creeping thistle (*Cirsium arvense*), black grass (*Alopecurus myosuroides*), sterile brome (*Bromus sterilis*) or wild oat (*Avena fatua*). Cultivated, low-input margins include conservation headlands and land managed specifically to create habitat for annual arable plants.
- Margins sown to provide seed for wild birds.** These are margins or blocks sown with plants that are allowed to set seed and which remain in place over the winter. They may be sown with cereals and/or small-seeded broad-leaved plants or grasses but areas sown with maize are excluded as they are of lower value for wild birds.
- Margins sown with wild flowers or agricultural legumes** and managed to allow flowering to provide pollen and nectar resources for invertebrates.
- Margins providing permanent, grass strips** with mixtures of tussocky and fine-leaved grasses or **beetle banks**. Areas of grass established as cross compliance requirements (see below) are excluded from this definition, but all other strips of grassland created by sowing or natural regeneration, are included.

### The following margin types are excluded from the UKBAP:

- Although set-aside, biomass and organic crops can have incidental benefits for wildlife in arable fields, these areas are not managed specifically for wildlife and are therefore excluded from the definition.
- Margins established as cross compliance requirements under the Single Payment Scheme (in England and Scotland) are excluded. These margins, where present, would be included as part of the priority hedgerow habitat, where put in place to protect the hedgerow.

- Whole-field options such as over-wintered stubbles (with or without a fallow) and in-field options such as skylark plots are currently excluded from the definition of field margin priority habitat.

#### 4.1 Legal and Policy Status

A wide range of species and habitats are protected under international and domestic laws, including the [Wild Birds Directive](#) (1979), the [Wildlife and Countryside Act](#) (1981), the [Conservation Regulations](#) (1994) and [EC Habitats Directive](#) (1992). Protection of sites is afforded nationally through [Sites of Special Scientific Interest](#) (SSSI), [Special Areas of Conservation](#) (SAC) and [Local Nature Reserve](#) (LNR) statutory status. Other sites are afforded recognition of their value through Local Wildlife Site status (LWS), Local Character Areas and identified Landscape Scale Areas. The [National Planning Policy Framework](#) (2012) chapter/section 11 states conditions with regard to any development negatively affecting biodiversity, including protected sites, ancient woodland and other irreplaceable habitats (paragraph 118). The Wildlife & Countryside Act and schedule 2 of the [Conservation of Habitats & Species Regulations 2010](#) make it an offence to intentionally kill, injure, take, possess, sell, buy or transport a range of species.

Under the [Food and Environment Protection Act 1985](#) it is illegal to spray pesticides into hedge bases, unless there is a specific label recommendation or a specific off-label approval.

Under the current procedures for pesticide registration and review, some compounds have statutory label exemptions preventing their use on the outermost 6m wide strips of crops. These restrictions are designed to prevent over-spraying of water-courses and protect non-cropped habitats.

#### 4.2 Current Factors Affecting the Habitat

The main factors which are influencing the wildlife value of cereal field margins are:

- **The availability of agri-environment schemes** to promote the creation of new cereal field margins is leading to an expansion of this habitat.
- **Non-specific and non-local provenance seed mixtures for the provision of pollen, nectar and bird seed** – there is concern that the use of these do not allow the native flora to spring up again from the seed bank (Walker, 2016, Dines, 2016).
- **Intensive management associated with cereal production**, including the use of herbicides to ensure a weed free crops, summer use of insecticides, increased fertiliser use, and ploughing/cultivation up to the base of field boundary. Inputs have declined since the 1980's, but with the more judicious use of pesticides and improved application technology, there are still further opportunities for biodiversity gains.
- **The negative effect of pesticides**, in particular the systemic [neonicotinoids](#), on pollinating insects.
- **The pressure on farm incomes** leading to a desire to maximise the productive area.

## 5. LOCAL ACTION

- [Butterfly Conservation \(Warwickshire\) Field Margin Assessment](#) - butterfly surveys are used for monitoring the wildlife quality of field margins which are particularly important as breeding habitats for moths and butterflies and as wildlife corridors between suitable habitat areas. In 2016, 50 completed survey forms were received from good pollen and nectar margins to the south of Coventry, showing how quality margins can be important habitats, reducing fragmentation in landscapes. Many had over 20 species recorded over the year with most species breeding.
- Demonstration of work done by farmers within the HLS – a survey of six farms for selected species of breeding and wintering birds for ten years began in 2009. Organised by the [Campaign for the Farmed Environment \(CFE\), Warwickshire](#) and [Natural England](#) (NE): [Farmland Birds in Warwickshire – some successes](#).
- A survey of [Warwickshire's Bumblebees](#) in 2011 by Steven Falk showed that the stewardship schemes over past 20 years for establishing flower rich field margins have contributed to the reappearance of the large garden bumblebee (*Bombus ruderatus*); this species was considered extinct in Warwickshire but is becoming widespread across the county.
- CFE events 2014-2016 included:
  - 2014 - wild flower margins monitoring.
  - 2014- farm walk and talk - visits to farms managing for wildlife including 'Pollinators – help them to help you'.
  - 2016- evening farm walk at Woodlands Farm, Long Compton, with Lois Browne and Fran Flanagan (NE) looking at all sorts of different bat habitats including flower rich field margins (establishment and management).
  - 2016 - nutrient management event at Dairy Farm, Packington, which will cover use of field margins for buffering watercourses.
- [Warwickshire Flora Group](#): ongoing fieldwork includes surveys of local field margins.
- [Sun Rising Natural Burial Ground](#): 2016 - a tussock margin, sown in 2015 has a good mix of plants, including arable weeds: common hemp-nettle, wild carrot, bush vetch, tansy, fool's parsley, corn marigold, ox-eye daisy, redshank, and goosefoots.

## 6. PROPOSED LOCAL ACTIONS

| ACTION  | Lead | Partners | By        |
|---|------|----------|-----------|
| <b>PLEASE CONSULT THE '<i>GENERIC HABITATS</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL HABITAT PLANS</b> |      |          |           |
| <b>Site / Species Safeguard &amp; Management</b>  |      |          |           |
| <i>With over-achievement by 2016, the target has been increased.</i>  |      |          |           |
| <b>SM1.</b> Expand the extent of the habitat by a further 3000ha by 2026.   | CSG  | NE HBA   | 2017-2026 |

| ACTION  | Lead | Partners           | By      |
|---|------|--------------------|---------|
| <b>PLEASE CONSULT THE '<i>GENERIC HABITATS</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL HABITAT PLANS</b>   |      |                    |         |
| <b>SM2.</b> Secure further uptake of agri-environment schemes, targeting sites where field margins can benefit wildlife most, in particular areas where priority species are likely to benefit and sites alongside other priority habitats. | NE   | WWT<br>LOs         | ongoing |
| <b>Advisory</b>   |      |                    |         |
| <b>A1.</b> Target proactive advice towards key sites and areas, and signpost Best Practice Guidelines to appropriate landowners via agri-environment schemes.   | NE   | WWT NFU<br>LOs CFE | ongoing |
| <b>A2.</b> Encourage the creation and management of flower rich margins, using the 22 <a href="#">voluntary measures</a> , particularly wildflower and pollen and nectar mixes.   | NE   | CFE<br>LEAF        | ongoing |
| <b>Research &amp; Monitoring</b>  |      |                    |         |
| <b>RM1.</b> Maintain a digitised inventory of known key sites and define areas where field margins are of high current, or greatest potential, biodiversity value.  | HBA  | NE WWT<br>WFG      | ongoing |
| <b>RM2.</b> Monitor butterfly populations using Butterfly Conservation's ' <a href="#">Field Margin Assessment</a> ' form'.   | BCW  | LOs                | ongoing |
| <b>Communication, Education &amp; Publicity</b>   |      |                    |         |
| <b>CP1.</b> Inform and advise on the management of field margins to land owners in order to illustrate best practice, at relevant events and by placing material on websites.   | NE   | WWT<br>CFE LOs     | ongoing |

**Abbreviations:** BCW – Butterfly Conservation, Warwickshire, CFE – Campaign for the Farmed Environment, CSG – LBAP Core Steering Group, HBA – Habitat Biodiversity Audit partnership, LEAF – Linking Environment and Farming, LOs – Landowners, NE – Natural England, NFU – National Farmers Union, WFG – Warwickshire Flora Group, WWT – Warwickshire Wildlife Trust

## 7. PROGRESS WITH ACTIONS

From 2015–2020 there will be a rolling programme of reporting on progress, of 10 action plans per year with an annual summary of results. Progress with this plan up to 2016 can be seen at [www.warwickshirewildlifetrust.org.uk/LBAP](http://www.warwickshirewildlifetrust.org.uk/LBAP)

## 8. BIBLIOGRAPHY

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- Campaign for the Farmed Environment (2014) [Farmland Birds in Warwickshire – some Successes](#); Pollinators in Warwickshire – Some Successes; Pollinator management for your farm
- [Task Force on Systemic Pesticides](#) (2014) – the response of the scientific community to concern about the impact of systemic pesticides on biodiversity and ecosystems.
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Natural England (2016) [Wild Pollinator and Farm Wildlife Package](#)

Natural England (2016) [Conservation Strategy for the 21<sup>st</sup> Century](#). Sets out how NE will help deliver DEFRA's ambitions for the environment to reverse biodiversity loss, sustain distinctive landscapes and enhance engagement with nature.

Walker, K. (2016) Keeping the wild in wild flowers? BSBI News 133:4-5.

Dines, T. (2016) Keeping the wild in wildflower. British Wildlife, Vol.28, no.2: 112-117.

## 8. FURTHER INFORMATION

Habitat Biodiversity Audit (HBA) for Warwickshire, Coventry & Solihull – mapping data set and associated information. Phase 1 ([JNCC](#)) 1996-2002 and Phase 2 (Local Wildlife Sites) ongoing.

[Biodiversity Planning Toolkit](#) - a new online resource to help incorporate biodiversity and geodiversity into the planning system and new development.

[Buglife](#) - the Invertebrate Conservation Trust (2004). Information on the habitat-management requirements of key invertebrates.

[Botanical Society of the British Isles](#) (BSBI)

[Campaign for the Farmed Environment](#) is encouraging farmers and land managers across England to protect and enhance the environmental value of farmland, through measures that sit alongside productive agriculture..

[Environmental Stewardship guidance note 010](#), an advisory sheet on rare arable plants by Natural England which is freely available to download from their website.

The [RSPB](#) has a freely available advisory sheet promoting and explaining the use of cultivated arable margins for rare arable plants.

RSPB, [Game & Wildlife Conservancy Trust](#) (GWCT) and [National Farmers' Union](#) (NFU) have information available on the management of land to benefit farmland birds.



The [Codes of Good Agricultural Practice \(COGAP\) for the Protection of Air, Soil and Water](#) and the [the Code of Practice for using Plant Protection Products](#) are available free of charge from Natural England. Although not legally binding, COGAP indicates what is acceptable as good farming practice and may have an indirect effect on the diversity of arable plants.

Conservation headlands and field margins are promoted by the GWCT and [Linking Environment and Farming](#) (LEAF). They both hold demonstration days to provide advice and examples of good environmental practice and LEAF are particular proponents of Integrated Crop Management, a system of farming which seeks to minimise inputs of pesticides.

[Flora Locale](#) - promotes the restoration of wild plants and habitats for the benefit of biodiversity, landscapes and people in town and countryside.

[Plantlife](#) - a charity which carries out plant species and habitat conservation, owns and manages nature reserves, campaigns, and raises awareness through education.

## 10. CONTACT

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