

# Arable Farmland

## *Flora and Invertebrates*

# Habitat Action Plan

## 1. Introduction

There has been a severe decline in the number and distribution of many native wildlife species associated with arable land since 1945, particularly in the latter half of this period. Many of the biodiversity-rich features associated with farmland have their own Action Plans within this BAP, for example hedgerows, veteran trees and ponds. There is also a separate Farmland Birds Species Action Plan. For this reason the primary focus of this Action Plan will be the invertebrates and the rare arable plants found within the arable farmland habitat.

Worcestershire is an important county for plants associated with arable land: records suggest that the county has suffered a little less than other parts of the country from the negative effects of intensification following the Second World War and the introduction of the Common Agricultural Policy.

Arable Field Margins were identified as a priority UK BAP Habitat and subsequently included within the Section 41 list of the Natural Environment and Rural Communities (NERC) Act 2006. A number of species associated with arable field margins are also included on the Section 41 list, examples being large garden bumblebee (*Bombus ruderatus*), brush-thighed seed-eater beetle (*Harpalus froelichii*), cornflower (*Centaurea cyanus*), corn buttercup (*Ranunculus arvensis*) and shepherd's-needle (*Scandix pecten-veneris*).

## 2. Current Status

### 2.1 Description of habitat

An arable field has the potential to contain a range of habitat features that will benefit wildlife, however with increased intensification and changes in the timing of cropping, many of these habitats become less hospitable to wildlife or are lost altogether. Different features within the arable landscape support different species and the restoration and management of a wide range of these associated habitats needs to be encouraged. These features may include:

#### **Nectar/pollen-rich margins and plots**

Areas deliberately sown with flower-rich species mixes and managed without the use of any agro-chemicals will provide pollen and nectar resources for insects

**Grass buffer strips**

Areas comprising wide grass strips or blocks will themselves support wildlife as well as buffering other habitat features, such as a watercourse, pond, woodland or hedgerow, from the impact of operations in the productive part of the field.

**Ditches and wet flushes**

Areas with standing water at or above the soil surface that cannot be cultivated will be valuable for wild plants and invertebrates.

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**Table 1. Invertebrate species associated with arable field margins (Buglife).**

<b>Group</b>	<b>Number of Species</b>
Spiders and allies	6
True bugs heteroptera	3
True bugs leafhoppers, planthoppers, froghoppers, treehoppers and cicadas	2
Ground beetles	7
Leaf beetles	12



## 2.4 Legislation affecting biodiversity within the arable habitat

### **Basic Payment Scheme (BPS) and 'Greening'**

The BPS is a European Union-funded rural grant support programme for farmers and land managers. Arable farmers who want to claim BPS and who meet certain land holding size and land use criteria must meet 'greening' rules. Part of this requires them to establish Ecological Focus Areas whereby a minimum of 5% of eligible land is set aside to benefit wildlife. Farmers/land managers must also meet relevant Cross Compliance regulations to receive support under the BPS.

### **Cross Compliance**

The Cross Compliance regulations involve demonstrating that land is being kept in Good Agricultural and Environmental Condition (GAEC), including soil management and protection measures and the maintenance of habitats and landscape features, and complying with a number of specific Statutory environment, public and plant health and welfare, and livestock identification and tracing.

### **Legal protection for specific species**

Twelve species of arable plants receive full protection under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). Cornflower, red hemp-nettle, corn buttercup, shepherd's needle, Cotswold pennycress and spreading hedge-parsley are all included within Section 41 of the NERC Act.

### **Legislation relating to the water environment**

The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 brought together a number of rules that farmers and land managers must comply with for the management of manure, fertiliser and soil in order to prevent runoff, erosion and leaching.

## 2.5 Summary of important sites for arable flora

There are two sites within the county where the conservation of arable flora is a particular priority for site management:

The **Kemerton Estate** is situated on the south-facing slopes of Bredon Hill. During the 1980s the Estate began to leave wide, unsprayed margins around a number of its arable fields and to monitor the arable flora that grew: this pioneering work contributed to the adoption of the arable field margin options within the first agri-environment schemes offered to farmers. The Estate, in partnership with the Kemerton Conservation Trust, has continued to focus on the conservation of rare arable flora and around 70 different species have now been recorded in the arable margins on the Estate. Almost 30 years of monitoring has gathered a wealth of data about the management of arable field margins and the propagation of arable wildflowers from seed.

**Lower Smite Farm**, the headquarters of Worcestershire Wildlife Trust, is a small mixed farm (65 ha) that seeks to maximise education and biodiversity value whilst at the same time retaining a viable farming unit. The farm is in Countryside Stewardship (CSS) and maintains an arable rotation of winter wheat, spring barley, winter beans and temporary grass. The farm is of national importance for arable flor

Important Arable Plant Areas (IAPA) Project (see section 4.3). Four 0.5 ha research plots have been managed to evaluate the effectiveness of different management strategies, including different cultivation dates, cultivated margins, fallow plots and conservation headlands, in conserving and encouraging rare arable flora. Key species present include corn buttercup, small flowered buttercup, mousetail and spreading hedge parsley. WWT also manages areas of fallow outside of the CSS scheme.

Analysis of the distribution of records of the ten arable flora species listed in Table 2 collected during the Worcestershire Flora Project surveys between 1987 and 2005 shows clusters of records within the following broad locations:

Southern Forest of Feckenham from Cowsden to Bishampton (including Naunton Court Fields)

Around Madresfield from north-east Malvern across to Callow End and Clevelode

The area around Coombegreen Common and across to Upton-upon-Severn

The very south-west of the county around Gadfield Elm

North of Pebworth

Around Defford and Birlingham

Western slopes of Bredon Hill across to Bredon's Norton (including the Kemerton Estate)

### 3. Current factors affecting biodiversity within the arable habitat

Lack of knowledge and awareness of rare arable flora and its conservation amongst agronomists and land agents/advisors.

Widespread adoption of broad-spectrum herbicides to remove weeds from within crops.

Lack of selective herbicide trials work and an overall lack of selective herbicides available.

Use of insecticides, applied either as seed dressings (e.g. Neonicotinoids) or sprayed directly onto the crop.

Use of molluscides (slug pellets).

Lack of adoption of Integrated Pest Management.

Predominance of winter cropping over spring cropping resulting in crops that allow increasingly less light through the canopy from early spring.

Planting of high nitrogen requirement crops.

Autumn ploughing of stubbles.

Deep cultivations/subsoiling affecting individual species requirements.

Expansion of the biofuel sector and the potential loss of arable land to crop production for biomass.

Drive away from leaving bare ground due to Flood Risk Management concerns.

The general poor and declining state of soil health.

#### 4. Current Action

##### **4.1 Local protection**

One arable flora site, the Cotswold pennC.ð (a)-5.r6.007 99 (C)3.996s tion

long-term datasets with new systematic survey activity. New survey activity will include engaging volunteers to carry out Flower-Insect Timed (FIT) Counts and 1km square survey transects.



Support compulsory training for agronomists, farm advisors and farmers on the ecology and conservation of arable flora and link this to CPD requirements where relevant

Be involved in the development, trialling and promotion of agri-technology that supports the Integrated Pest Management approach

**References and further information**

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