

HABITAT ACTION PLAN: Arable Fields

Associated Species Action Plans

Badgers

Bats

Brown hare

Grey partridge

Song thrush

Skylark

Tree sparrow

1. Current Status

1.1 Definition. Arable fields comprise those farmland areas cultivated for foodstuffs like cereals, roots, legumes, oil seeds, etc. whether for human or livestock consumption.

One third of all agricultural land is arable and 40% of that is cultivated for winter wheat. European Community food surpluses have resulted in the adoption of measures cut production. In particular, the area under arable crops has been reduced by putting land into set-aside. Countryside Stewardship is an agri-environmental scheme administered by the Ministry of Agriculture, Fisheries and Food (MAFF). Although not particularly relevant to arable fields, the scheme makes payments to farmers and landowners for the management of field margins and boundaries and for tree planting and management. Arable Stewardship is a pilot scheme in Cambridgeshire and the Staffordshire/ Shropshire border, to test whether certain arable farming methods can help to recreate and enhance wildlife habitats.

Associated Habitat Action Plans

Arable Field Margins and Beetle Banks

Hedgerows

Its objectives are to provide feeding and breeding sites for certain bird species that have declined; to improve plant diversity; and to contribute towards food sources, and provide habitats for, mammals, insects and spiders, many of which are predators of crop pests.

1.2 Biological status The structure of arable fields changes, at times quite rapidly, as crops are sown, grow and are harvested and the soil ploughed. Their suitability for various plants and animals therefore changes through the year.

Traditionally, fields were overwintered as stubbles and ploughed and sown in the spring. However, the development of hardier varieties, especially of cereals, has led to a shift towards autumn ploughing and sowing, and a resultant lack of winter stubbles and their associated food sources.

Increasing fertiliser and pesticide applications have meant negative impacts on the populations of non-crop plants and animals, some of which have long been associated with arable fields.

Many species of farmland wildlife have failed to adapt to the radical changes in farming practice, and food and breeding sites for animals have been lost. Indeed, long-term monitoring data has shown substantial declines of many groups of plants and animals.

Analysis of bird survey data has revealed that many of Britain's farmland birds have suffered long-term population declines. Furthermore, farmland species have

undergone larger declines in population sizes and ranges than have species associated with other habitats, e.g. Grey Partridge, Turtle Dove, Skylark, Linnet, Tree Sparrow and Corn Bunting.

Birds are good indicators of overall environmental quality, as they require a range of ecological resources e.g. habitat structure, food availability and breeding sites. Furthermore, they are readily visible, popular and easy to study successfully. Therefore, it may be concluded that other, less well studied, groups of species have also been in decline.

Many polyphagous invertebrates (feeders of a range of foods) breed in crops, overwintering on field margins, hedges and other features. Some 2,000 species of invertebrate (not even counting soil invertebrates, micro-organisms and transients) are commonly found in arable fields. Field margins support invertebrates of economic, ecological and aesthetic value, and certain predatory species potentially increase crop yields without the use of pesticides.

Some 300 species of plant may occur in arable fields. Many of these are of conservation concern because of enormous national declines in their distribution and abundance. Nationally threatened and important species that used to occur in Birmingham and the Black Country include Shepherd's Needle, Cornflower and Corn Cockle. As such species decline, invertebrates that depend upon them also decline.

Set-aside is not a habitat normally associated with farmland, rather it is the consequence of taking land out of production. Although it may not be a primary factor associated with species diversity, it does offer valuable habitat for a range of plants and animals.

Set-aside, especially rotational, may be used by a wide range of species in preference to other field types. The structure of set-aside land seems to influence the numbers of Skylarks, granivorous passerines (e.g. Tree Sparrow and Corn Bunting) and gamebirds (including Grey Partridge). Those with a mosaic of bare patches and green cover may be particularly preferred. Such conditions are often found on rotational set-aside and in the earlier years of non-rotational set-aside. However, Skylarks and granivorous passerines seem to be less abundant on farms where spraying takes place in May.

Links do exist between bird communities of farms and environmental variables. Species such as Skylark and Grey Partridge are associated with arable and species such as Carrion Crow and Mistle Thrush with grassland. In general, farms with smaller fields and a greater diversity of crops have more bird species than farms with larger fields and a less diverse cropping pattern, although set-aside itself will have contributed to the diversity of field types on a farm.

Rotational set-aside in winter closely resembles a traditional winter stubble, long recognised as a major feeding habitat for granivorous birds. Several species show a strong preference for set-aside in winter e.g. Linnet and Corn and Reed Buntings. Set-aside is an important habitat for birds and may actually be having the beneficial effect of slowing down the declines of at least some farmland bird species. However, in its

current format it can never be seen as providing a permanent replacement for lost habitats.

Most bird species have little agronomic impact and some may be considered useful by feeding on invertebrates and weed seeds, but crows and pigeons are perceived as agronomic pests. However, the latter tend to be found on set-aside land in preference to other crops, and it seems that any problems arising from bird pests are not presently being increased markedly by set-aside.

2. Current factors affecting habitat

The main factors which have reduced the wildlife value of farmland are:

- intensification of agricultural production, including the increased use of fertilisers and pesticides, which result in diminished species diversity.
- the switch from spring to autumn sown cereals, with the associated loss of winter stubbles.
- the reduction in rotation of crops and other land covers, reducing grassleys and fallow land.
- ploughing up to field edges, the spraying out of hedge bases and the loss of other marginal habitat.
- loss of hedges to make larger areas of one crop type.
- less mixed farming, with farms specialising in either arable crops or livestock, reducing crop pattern diversity.
- improved land drainage, reducing wetlands - ponds, marshes, wet grassland, etc.

3. Current action

3.1 Legal status

Under the Food and Environmental 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 6 metre wide strips of crops. These restrictions are designed to prevent overspraying of water courses and to protect non-cropped habitats.

3.2 Management, research and guidance

Countryside around towns is targeted under Countryside Stewardship, the only agri-environmental scheme available in our region. Through a (normally) ten year

agreement, funding is available for various annual management items or one-off capital items.

Through the Arable Area Payments Scheme, farmers may receive per hectare payments for reduction in support prices for certain crops and for land set-aside. Land set-aside is at least 10% of the area of the land cropped for which payment is received.

4. Action Plan Objectives and Targets
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Objective	Target
1. To protect areas of farmland with current high biodiversity and to enhance biodiversity elsewhere.	Ongoing
2. Extension of Arable Countryside Stewardship into our area.	2006
3. Maintenance of the area of land set-aside, increase of the area through voluntary agreement; more positive management for wildlife.	Ongoing
4. An increase in the amount of winter stubble by a switch from autumn to spring sowing.	2006
5. An increase in the amount of appropriate grant aid acquired within the region and the availability of advisers to cater for the above.	2006
6. To maintain and increase information held on farmland ecology and on the distribution and abundance of wildlife species on farmland within the region.	Ongoing

5. Proposed action with partners to meet objectives

ACTION	POTENTIAL DELIVERERS		YEAR							Meets objective number
	Lead	Partner	2001	2002	2003	2004	2005	2006	2011	
5.1 Policy and legislation										
Lobby for an expanded Countryside Stewardship, or equivalent agri-environmental scheme, to rebuild lost habitats and species.	EN	WT, RSPB	•	•	•	•	•	•	•	2,5
Lobby for an expanded set-aside scheme and increased obligatory and permanent set-aside.	EN	FWAG, WT, RSPB, LA	•	•	•	•	•	•	•	3,5
Concentrate on areas of high biodiversity to maintain their current value and to provide source populations for future expansion.	EN	FWAG, WT, RSPB, LA	•	•	•	•	•	•		1
5.2 Habitat safeguard and management										
Continue to promote the use of the Countryside Stewardship and set-aside schemes.	MAFF FRCA,	LA LO	•	•	•	•	•	•	•	1,2,3,5

ACTION	POTENTIAL DELIVERERS		YEAR							Meets objective number
	Lead	Partner	2001	2002	2003	2004	2005	2006	2011	
Use demonstration farms to highlight the importance of Countryside Stewardship and set-aside and how they can be part of a commercially run farm.	MAFF FRCA,	LA, LO	•	•	•	•	•	•	•	1,3,5
Review environmental management guidelines for farmland in the light of research.	EN	WT, RSPB, MAFF / FRCA, LA, LO, FWAG	•	•	•	•	•	•	•	1
5.3 Advice										
Promote issues and advise landowners and farmers on environmental management.	MAFF/ FRCA,	LA, LO	•	•	•	•	•	•	•	1,5
Retain and increase adviser staffing levels in the region.	MAFF/ FRCA,	LA	•	•	•	•	•	•	•	5
5.4 Future research and monitoring										
Support research into farmland and environmental management	EN	ALL	•	•	•	•	•	•	•	1,6

ACTION	POTENTIAL DELIVERERS		YEAR							Meets objective number
	Lead	Partner	2001	2002	2003	2004	2005	2006	2011	
Continue to survey farmland to determine environmental quality and biodiversity.	EN	WT, RSPB, LA, LO	•	•	•	•	•	•		1,6
The initiation of at least one farmland Common Bird Census. at least one small mammal survey and at least one invertebrate survey for a whole farm.								•		6
Set up group to co-ordinate plan implementation, monitor and report to Steering Group	ALL		•							
5.5 Publicity										
Raise awareness of farmland as a habitat	EN	ALL	•	•	•	•	•	•	•	1
5.6 Links to other Action Plans										
Hedgerows, Arable Field Margins and Beetle Banks, Badgers, Bats, Brown Hare, Skylark, Song Thrush, Tree Sparrow										

6. Co-ordination and Review

This Biodiversity Action Plan will be implemented over 10 years with a first review after 5 years. A group will be set up to co-ordinate implementation and to report to the Biodiversity Steering Group. This group will meet at a minimum on a yearly basis.

Review will be carried out in conjunction with related Habitat and Species Action Plans as appropriate.

Review will consist of measuring achievement of targets. The group will, with the support of the Steering Group, develop and implement appropriate monitoring methods which will inform the review process.

The Action Plan will be revised and updated in the light of review results and any relevant changes in circumstances and/or additional information which becomes available during the review period.

In line with national guidance, the Steering Group will report to the UK Steering Group.