ARABLE LAND

LOCAL HABITAT ACTION PLAN FOR CAMBRIDGESHIRE

Last Updated: August 2003

1 CURRENT STATUS

1.1 Context

Cambridgeshire is dominated by intensive arable agriculture with a powerful commercial imperative; it is an important economic force in the county. On such lands, wildlife tends to be confined mainly to hedgerows, ditches and field margins. The term 'arable' is broadly regarded as meaning 'fit for ploughing or tillage' but here arable land includes all land which is has been ploughed or tilled within the last year, primarily for the cultivation of commercial crops. It also includes land that has been cultivated within two years but is lying fallow and intended for re-cultivation. Land, such as set-aside land, which has gone uncultivated for more than two years develops its own flora and fauna and can no longer be considered 'arable'. Ley grassland is also excluded.

Much of this type of land in Cambridgeshire, principally in the fens, is highly productive and is accordingly very intensively farmed. However, areas on chalk, limestone and breckland sands are much less productive and, in some cases, farming may be less intense here. Arable land is not generally considered of value for its wildlife, but it has not always been so. Variation in the pattern of cultivation, rotations, the level of application of pesticides and other chemicals, location, soil type and incidence of agri-environment schemes all have an effect on the potential for wildlife and the highly intensive nature of modern farming methods has considerably reduced that potential over recent decades. By and large, arable land becomes valuable for wildlife when either the factors listed above favour the life cycles of rare arable weeds or when the extent and location of a particular crop lead to it being exploited by more mobile wildlife such as wildfowl. This usually occurs when the crops are geographically associated with other areas of importance for wildlife, such as the Ouse Washes; such use by wildfowl can be a source of conflict with farming interests.

This plan excludes field boundary features such as hedgerows and margins. However, there is inevitably a degree of overlap, particularly with regard to schemes to encourage more environmentally beneficial practices that are often directed at field margins.

1.2 Biological status

There is one Site of Special Scientific Interest (SSSI) in Cambridgeshire that may be considered as an arable site and one County Wildlife Site (CWS). In both cases, the stated interest is suites of rare plants associated with cultivation. The fact that there

are so few protected sites for arable weed species does not necessarily indicate that, as a guild of species, they are all very rare. Rather, it shows how poorly such plants are catered for in local and national planning systems and how difficult it is to adequately conserve such wildlife entirely within nature reserves.

Below, the term 'key species' is used in reference to species that are of particular importance. These are species which have a particular ecological association with the crops or the cultivation cycle in Cambridgeshire **or** which are listed as 'Priority' in the UK Biodiversity Action plan. These 'key' species are deemed as requiring particular individual attention in the plan. There are many other species which also use arable lands but which are regarded as being more common and catered for within a more general approach to the management of cropped lands.

Arable land in Cambridgeshire

total area 238,500 ha - c. 70% of land area
(Cambridgeshire Environment Report [CER]1990)

This compares with figures of between 32% (CER 1990) and 44% (Biodiversity - The UK Action Plan) for the country as a whole

(Figures for extent of organically farmed land in the county unavailable at this time).

1.3 Species

In general terms, conventional, intensively-farmed, arable land is a species poor habitat. However Key National Biodiversity Action Plan fauna in Cambridgeshire which use arable land in the various stages of its management cycles include brown hare, barn owl, and migratory and wintering wildfowl and wading birds. Many of these species use the areas concerned because they provide extensive, undisturbed foraging areas with plentiful food in the form of crops and seed. The pattern of cultivation and, in particular the timing of the various management activities is an important factor governing the ability of these animals to use arable land.

In addition to these species are many small birds and mammals and their predators, some beneficial invertebrates as well as a host of 'pest' species such as rabbit, pigeon and corvids. For many of these species, the use of arable is governed by the availability of other resources such as cover, different foraging habitats, nest-sites forming a network through a matrix of mixed cultivation. It is of note that farmland birds are used as key indicators of the quality of farmland habitats by government.

Key flora which may be found in arable fields includes a suite of cornfield 'weeds'. Examples include Shepherd's-needle, cudweed species, fumitories, poppies, cornsalads, silky-bent grasses, Venus' looking-glass, Grass-poly, Corn buttercup, Broad-leaved spurge, Wild candytuft and Spreading hedge-parsley. Three species subject to the Species Recovery programme, namely Ground pine, Red-tipped cudweed, and Broad-leaved cudweed, are also included. These species are mainly annuals and are reliant on a combination of particular soil types with favourable management regimes and are often traditionally found in certain areas although often irregularly. Although these species are described as 'cornfield weeds, many are now very rare in fields and survive in other disturbed sites such as around active gravel and sand workings and chalk pits. The precise status of many of these species is unsure due to their transient nature and consequent under-recording; there is little doubt however that they are becoming, as a group, increasingly rare.

2 CURRENT FACTORS AFFECTING ARABLE LAND IN CAMBRIDGESHIRE

The wildlife value of arable land has declined dramatically in recent times and, by and large, such land is not now considered of interest for wildlife. The periodic or very localised incidence of key, often mobile, species makes their protection difficult. Part of the reason for this is that the agricultural regime in force on an area of land may be very short-lived and is very unpredictable. The factors that are widely considered to affect the species interest in arable areas are:

- Development pressure
- Commercial pressures from large consumers such as supermarkets and also from producer groups affecting planting, growing and harvesting regimes
- Substantial application of nitrogen and widespread use of insecticides and herbicides.
- Change from spring to autumn, and even earlier, sown cereals which has caused loss of feeding opportunities on winter stubbles and loss of suitable conditions in the spring for ground nesting birds.
- Simplification of crop rotation cycles including use of pre-emergence weed killers
- Improvements to drainage in low-lying areas.
- Reduction in the variety of crops
- Declining water resources

In addition, the trialling and potential commercial use of genetically modified organisms (GMO's) may have effects on the species interest in arable areas.

Factors which particularly affect arable land in Cambridgeshire are:

- Risk of flood
- Declining soil quality through salt penetration and peat-blow
- Cambridgeshire arable land is some of the best in Europe and very intensively farmed

Action plans for other habitats may advocate the creation of new wildlife habitats and, as a general rule, these new habitats tend to be developed on arable lands. It is important however to ensure that such activities do not go on in areas that do support wildlife associated with the cycle of cultivation.

3 CURRENT ACTION

3.1 Legal protection

There is no broad-brush legal protection afforded to arable lands supporting notable wildlife. However, many species which use such land are protected by law, e.g. from disturbance during nesting.

3.2 Financial Assistance

- Set-aside is a production control mechanism which can be tailored to achieve specific environmental benefits by managing for field margins, grasslands, natural regeneration, wild bird cover or non-food crops and by resurrecting long rotational cropping schemes.
- The Arable Stewardship scheme is a pilot scheme being trialled in South Cambs and is aimed at encouraging modification to arable farming practices to favour wildlife. Elements of this scheme are likely to be added to the Countryside Stewardship Scheme to promote the maintenance of semi-natural field margins and other boundary features.

- Other schemes, such as the Farm Woodland Premium Scheme, offer financial incentives to take land out of cultivation and create other habitat types.

3.3 Advice

Bodies such as the Farming and Wildlife Advisory Group, FRCA, MAFF, ADAS, Game Conservancy and Wildlife Trust for Cambridgeshire provide specialist advice and guidance to landowners on related issues.

The LEAF programme and the Link programme on Technologies for Sustainable Farming Systems aims to develop techniques of crop management which are acceptable environmentally and economically.

4 OBJECTIVES AND LONG TERM TARGETS

4.1 Objectives

- Halt decline and loss of key species and suites of associated species that use arable land.
- Help to develop and understand ways in which modern agriculture can be achieved in a wildlife friendly manner.
- Increase populations of those species which use arable in association with other habitats
- Ensure GMOs do not have a negative effect on biodiversity within the county

4.2 5 Year Targets for 2005

- Understand status of 'key species' (i.e. gather and collate information to allow prioritisation and targeting of effort)
- 5% of arable land unsprayed and uncultivated after harvesting
- 5% of arable area under organic farming regime or undergoing organic conversion
- Understand effect of GMOs on biodiversity in the light of government recommendations

4.3 10 Year Targets for 2010

- Sites with key species in appropriate management
- 10% of arable land unsprayed and uncultivated after harvesting
- 10% of arable area under organic farming regime or undergoing organic conversion
- Understand effects of GMOs on biodiversity in the light of government recommendations

5 PROPOSED ACTION WITH TARGETS

Action for the next three years is detailed in the attached programme.

5.1 Policy and legislation

- Identify target areas for promoting sensitive arable schemes
- Identify location and number of sites important for key species to receive appropriate management
- Encourage MAFF to modify Countryside Stewardship to secure sensitive arable regimes in target areas
- Achieve mechanism for generating unsprayed stubbles
- Extend appropriate protection to include lands important for feeding birds

5.2 Site safeguard and management

- Encourage the assessment of the conservation status of arable lands for arable weeds and feeding birds before development
- Notify sites supporting appropriate short list species as SSSI's
- Secure the favourable management of land supporting important suites of species
- Encourage favourable management of arable areas on and adjacent to SSSI's, LNR's, other nature reserves and on County Farms

5.3 Advisory

- Provide training to farmers to develop their understanding of sensitive arable cropping regimes
- Promote the Organic Farming Scheme amongst farmers

5.4 Future research and monitoring

- Collate data on the distribution and location of named species dependent on the arable cultivation cycle
- Undertake a survey of arable weeds in the county to address the shortfall in distribution and ecological data.
- Review and report on the status of sites known to be important for species dependent on the arable cultivation cycle, with observations on management thereto.

5.5 Communication and publicity

- Promote sensitive arable cropping regimes to farmers
- Identify 3 demonstration areas to show good practice
- Promote organic goods to the general public
- Keep informed on developments in GMOs and their effects upon biodiversity.

6 LINKS TO OTHER PLANS

Many of the species which use arable land do so in combination with other habitats adjacent or near to it within the farmed landscape. The superabundance of arable land as a habitat means that there is, accordingly, some overlap with all other action plans. However, there are particular areas of co-incidence with the following plans:

Action plan	Area of overlap
Ponds	Context and location of many ponds in farmland
Cereal Field Margins	Overlap of key plant species and use of arable by animals and birds also using field margins for other reasons
Hedgerows	Context and location of hedges. Use of arable by animals and birds also using hedgerows for other reasons
Scrub	Context and location of scrub areas. Use of arable by animals and birds also using scrub for other reasons
Drainage ditches	Context and location of ditches in farmland. Use of arable by some species attracted to ditches.
Rivers and streams	Context and location of rivers and streams running through farmland. Use of arable by some species attracted to rivers and streams.

The Arable Lands Action Plan also affects the following species also the subject of action plans:

Brown Hare Grey partridge Skylark
Stone curlew

In addition**,** 3 Recovery Species (very rare species attracting particular conservation action under English Nature's Recovery programme) occur in arable fields namely the red-tipped cudweed, ground pine and broad-leaved cudweed.

7 REVIEW OF ACTION PLAN

Arrange monitoring and review of these actions annually and reset targets and responsibilities for the following 3 years.

8 REFERENCES

Cambridgeshire Environment Report 1990. CCC.
Biodiversity - The UK Action Plan 1994. HMSO
Species Conservation Handbook 1994. English Nature

9 LIST OF INDIVIDUALS AND ORGANISATIONS CONSULTED

ADAS
Anglian Water Services Ltd
Biodiversity Partnership Co-ordinator
BSBI Recorders
Bugle Ecological Services
Cambridge City Council
Cambridge Green Belt Project
Cambridgeshire County Council
Country Landowners Association
East Cambridgeshire District Council

English Nature
Environment Agency
Farming and Wildlife Advisory Group
Farmers
Fenland District Council
Forest Enterprise
FRCA
Huntingdonshire District Council
Landscape 2000
National Farmers Union
Peterborough City Council
RSPB – East Anglia
South Cambridgeshire District Council
The Wildlife Trust

CAMBRIDGESHIRE LHAP: ARABLE LAND
LAST UPDATED: AUGUST 2003

Target	Action	Responsible	3-5 Years	6-10 Years
1) To secure 15 new Countryside Stewardships with an appropriate over-winter stubble option and appropirate field margin options each year. (This target will only be met if applications are of a sufficient standard. It will have to be reviewed in light of future changes to the Countryside Stewardship Scheme, including availble budgets)				
2) Create at least 50 ha of sensitively and appropriately managed arable field margins annually until 2006, and at least 150 ha annually from 2006-2019, ideally targeted adjacent to watercourses, woodland, hedgerows and important wildlife sites.				
3) Establish the area of a land under organic production and then set an appropriate target.				
4) Collate and disseminate information on the status and requirements of key farmland species.				
	A) Continue to lobby for reform of the Common Argicultural Policy and introduction of national measures (Entry Level Scheme) to ensure enviromental objectives are at the heart of a sustainable argricultureal policy	All appropriate partners	Ongoing	
	B) Ensure that	BRC	Ongoing	

	information gathered on areas of land importancefor arable species is fed into the Countryside Stewardship targeting processes			
	C) Ensure that all County Farms at least meet minimim enviromental standards and ideally include added value measures such as are available through the Countryside Stewardsip Scheme	CCC (County Farms)	Ongoing	
	D) Secure the favourable management of land identified as supporting important suites of farmland species	FWAG, RSPB NFU GBP, WiT	Ongoing	
	E) Promote the favourable management of arable land and field margins managed by local BAP partners	NFU / CLA CCC (County Farms)	Ongoing	
	F) Provide training and information to farmers, Landowners, pesticide contractors, agronomists and crop advisors, to develop their understanding of sensitive arable cropping regimes and management of field margins	FWAG, NFU / CLA, DEFRA	Ongoing	
	G) Encourage the uptake of Stewardship arable options and provide assistance to farmers and owners wishing to enter the Countryside Stewardship Scheme to help improve the quality of applications and therefore increasing their chances of success e.g Farmland Biodiversity Project	FWAG, DEFRA, NFU/CLA	Ongoing	
	H) Establish at least two demonstration sites showing the range of arable Stewardship	RSPB, FWAG	2005	

	options and fields margin types			
	I) Promote the buffering of watercourses through the use of field margins	EA Water Companies	Ongoing	
	J) Collate annual figures from Countryside Stewardship agreements for both the area of the variouse field margins and arable options implemented	DEFRA	Ongoing	
	K)Identify the locations for key species or suites of key farmland species (farmland birds & arable weeds). This will be achieved through the collation of existing information and organisation of new surveys. Disseminate this information to landowners, advisors and revelant farming, conservation and statutory organisations	RSPB, Bird Club, Wit, EN	Ongoing	
	L) Collate information on the area of organicaly farmed land in the county. Use this data to establish a suitable target	DEFRA	2005	
	M) Investigate the scope for a "Farmers and Landowners" checklist along similar lines to the Planning checklist. If felt to be valuable seek funding for the design and publication of such a guide. (such a guide could be wider than the farmland BAPs and link to the other habitat and species action plans perhaps through using the Partnerships Habitat Creation Map)	BSG	2005	
	N) Promote the establishment of field margins and adoption of Stewardship arable	NFU, CLA, DEFRA, FWAG	2005	

	options (emphasise the added benefit of locating new field margin habbitat adjacent to important wildlife sites, water-bodies and woodlands)			
	O) Prepare a series of themed articles for the NFU regional newsletter and weekly e-mail newsletter based on themes from Biodiversity Action Plans directly related to farming	BSG, NFU	2005	

Abbreviations:

EA	Environment Agency
CLA	Country Landowners Association
ECDC	East Cambridgeshire District Council
EN	English Nature
FRCA	Farming and Rural Conservation Agency
FWAG	Farming and Wildlife Advisory Group
GMO	Genetically Modified Organism
LA's	Local Authorities
MAFF	Ministry of Agriculture Fisheries and Food
NFU	National Farmers Union
PCC	Peterborough City Council
RSPB	Royal Society for the Protection of Birds
SCDC	South Cambridgeshire District Council
WiT	Wildlife Trust for Cambridgeshire