

## ARABLE FIELD MARGINS

### LOCAL HABITAT ACTION PLAN FOR CAMBRIDGESHIRE

Final draft/date last reviewed: January 1999

## 1 CURRENT STATUS

### Definition

Although the National Habitat Action Plan refers to margins solely of cereal crops, the benefits margins can offer also apply to other arable crops. Therefore the margins of all arable crops will be considered.

As defined nationally, the term 'field margin' refers to strips of land lying between crops and the field boundary and extending for a limited distance into the crop, which are deliberately managed to create conditions which benefit farmland species.

- Uncropped strip - cultivated once a year but not cropped. Managed if possible without pesticide and fertiliser inputs to favour arable wildflowers.
- Cereal margins ("conservation headland") - cropped with cereals but managed with reduced inputs of pesticides to favour arable wildflowers (especially broad leaved) and invertebrates. Widths are between 9m and 12m.
- Grass margins - uncultivated, permanent strips either allowed to naturally regenerate or sown with a grass mix. The establishment of perennial grasses and wildflowers provides habitats for birds, small mammals and invertebrates.
- Beetle banks - uncultivated, permanent raised banks sown with tussocky grasses. These are often used as a superficial division for large fields, but can also be placed along hedgeless field margins.

### Biological status

The margins of arable fields could be managed in ways which would benefit wildlife without having serious detrimental effects on the remaining cropped area. Using the national average field size of 12ha and an arable hectareage of 218,220 (1 June 1995) in Cambridgeshire the length of existing arable field boundaries is estimated at 26,000km. If all boundaries were buffered by 6m margins, this would amount to approximately 15,500ha of land that would be brought into sensitive management. 2m margins would contribute 5,166ha.

### Species

Field margins as described in this plan could provide significant habitat for these priority (middle list) species:-

Brown Hare

Grey Partridge, Corn Bunting, Linnet, Tree Sparrow

Great Crested Newt

Corn Cleavers, Fine-Leaved Fumitory, Grass Poly, Narrow-Fruited Corn Salad, Small Flowered Catchfly

Invertebrates are poorly understood. However many are associated with tussocky grasses and wildflowers found in this habitat, and includes butterflies, bumble bees and other beneficial insects.

Field margins are also advocated for their ability to buffer sensitive habitats, especially watercourses and hedgerows, from the effects of pesticide and fertiliser inputs and soil ingress. Buffering helps maintain biodiversity.

The undisturbed margins abounding hedgerows also provide nesting sites for small (long listed) mammals such as mice and field voles. These in turn provide favourable hunting grounds for Barn Owls (long list) and other raptors. Adjacent to rivers and ditches field margins create the ideal habitat for over-wintering amphibians such as newts and offer nesting and foraging sites for water voles.

Equally as dependent on field margins are comparatively rare arable wildflowers which have suffered considerably as a result of increased pesticide and fertiliser inputs. In Cambridgeshire, pheasants' eye, spreading hedge parsley and shepherd's needle are now a rarity alongside the species cited above.

It is estimated that over 300 species of plants can occur in arable fields of which the majority may be expected to occur over the varied soils of Cambridgeshire.

## **2 CURRENT FACTORS AFFECTING FIELD MARGINS IN CAMBRIDGESHIRE**

- Intensification of arable production leading to the maximum use of all agricultural land and encouraging farmers to crop as close to the field boundary as possible.
- Increased use of pesticides preventing the growth of arable wildflowers within the crop and perennial wildflowers from establishing around field boundaries as well as reducing invertebrate populations.
- Improved seed cleaning techniques and changes in cultivation dates, cropping patterns and use of herbicides have contributed to the decline of arable weeds.
- Reduction in the practice of rotation and the virtual disappearance of grass leys & fallow.
- Reluctance to establish grass margins due to the perception by farmers that grass margins harbour crop pests, weeds and diseases and that unwanted public access will be encouraged.
- Benefits to wildlife on existing margins are sometimes lost due to mis-management, particularly over-mowing of grass margins, pesticide, fertiliser drift and ploughing out margins.
- Trends towards larger fields and block cropping thereby reducing the amount of field margin/ha e.g. difficulties with the current no-spray zone for certain pesticides have caused a few farmers to fill in ditches and increase field size.
- The shift from spring to winter cropping has reduced the foraging opportunities for many birds e.g. grey partridge making field margins a less favourable habitat for nesting.
- The use of Cambridgeshire to pilot the Arable Stewardship scheme will have a beneficial effect on the arable field margins habitat.
- The adoption of genetically modified organisms (GMOs) is likely to have a profound and unpredictable effect on habitats associated with farmland.

## **3 CURRENT ACTION**

### **3.1 Legal status**

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, the Pesticides Safety Directorate have designated 6m no-spray zones for certain pesticides near watercourses. This is currently under review and risks may be farmer assessed in the future. (Report should be available Jan/Feb. 99).

### **3.2 Management, research and guidance**

- Under the Countryside Stewardship Scheme options are available to establish either 2 or 6m grass margins or 2m beetle banks. If the land is light then cereal crops adjacent to these margins are required to have 6m conservation headlands in addition. Grants for hedgerow restoration or planting require the establishment of 1m grass margins alongside. Land entered into this scheme is not eligible for Arable Area Payments but grant is based on income foregone and there should be no net loss to the landowner. There is strong competition for grants in this region and the administrative side can be onerous.
- Between 1998 and 2001 the Arable Stewardship Scheme is being trialled in Cambridgeshire. This FRCA administered scheme is primarily aimed at encouraging farmers to manage their land in ways which benefit those species of wildlife which depend upon the arable system. In particular, those species which have suffered dramatic declines in both numbers and range due to changes in arable farming. Payments are available on a competitive basis for the establishment of 9--12m margins (with limited inputs) in cereal crops. In addition there are payments for grass margins (4--12m), uncropped wildlife strips (4--12m) and beetle banks (2--3m) as well as special options for providing more diversity of wildlife habitats. Because this scheme is being piloted, the progress and benefits will be closely monitored providing some valuable information about field margins.
- Farmers can meet their set-aside requirements by setting aside margins of a minimum 20m width as headlands. These can be used to buffer sensitive habitats such as watercourses and provide forage and nesting opportunities for skylark and lapwing. If the minimum width was reduced such benefits could be more widely spread on an individual farm.

Set-aside is currently at 10%, but Agenda 2000 is likely to eliminate compulsory set-aside.

- Many conservation headlands have been established under initiatives from the Game Conservancy Trust. Although farmers initially received no payment, under the Arable Stewardship Scheme financial incentives are now available.
- The Cambridgeshire Landscape Forum has sub-groups working within the Chalk and Fen natural areas. This will be a useful group for discussing ideas and exchanging information.

## **4 OBJECTIVES & LONG TERM TARGETS**

### **4.1 Objectives**

- Creation of wildlife headlands (Field margins) adjacent to arable crops.
- Enhance and improve arable field margins for wildlife.
- Provision of buffer zones adjacent to watercourses, woodland, hedgerows and designated sites.

### **4.2 5 Year Targets for 2005**

- Increase the extent of field margin habitat without sacrificing field size or workability through the incorporation of Beetle banks where new hedging is unacceptable.
- Encourage the promotion of buffer zones adjacent to watercourses. Also buffer other habitats such as woodland, hedgerows and designated sites.

- Encourage the amendment of the set-aside regulations to enable them to become more beneficial to wildlife.

#### **4.3 10 Year Targets for 2010:**

- Creation of wildlife headlands (Field margins) adjacent to arable crops. Nationally a figure of 15,000ha of cereal field margins has been set as an objective. This equates to 0.45% of the total area under cereals. Extrapolating this to Cambridgeshire 218,220 ha were cropped according to the 1995 Agriculture and Horticulture census. This equates to a target of 982ha of field margins by 2010. (1,636,666km x 6m).

## **5 PROPOSED ACTION WITH TARGETS**

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

### **5.1 Policy and legislation**

- Produce Local Species Action Plans according to priority.
- Review current grant schemes with a view to improving field margin options, benefits to biodiversity and payments.
- Explore the possibility of making the favourable management or establishment of field margins a condition of grant and subsidy payments.
- Assess the benefits of altering set-aside rules to allow headlands narrower than 20m as field margins.
- Assess the implications of the proposed new LERAPS (local environment risk assessments plans) legislation for the creation of watercourse and other buffer zones.

### **5.2 Site safeguard and management**

- Carry out a study into the practicality and affordability of a survey of Cambridgeshire to establish the current hectareage of grass margins and associated species richness.
- Establish which field margins are important and set up a county log in conjunction with the proposed County Biological Records office.
- Ensure that planners and developers are aware of any important or species rich sites.
- Review the current perception that field margins encourage public access. Explore the need for sign posting new margins explaining the need to leave them undisturbed.
- Increase field margin area in the county by 82 ha annually to achieve 327ha by 2002 to maintain Cambridgeshire's contribution to the national target.

### **5.3 Advisory**

- Review and update current management practices for field margins in Cambridgeshire.
- Develop training courses for field margin management targeted at landowners, farm staff, pesticide contractors, agronomists and crop advisors.
- Promote the establishment of field margins through advisory farm visits. Emphasise the added benefit of locating new field margin habitat next to designated sites, water bodies and other features benefitting from buffer zones.
- Establish demonstration sites showing the range of field margin types utilisable.

### **5.4 Future research and monitoring**

- Develop a framework for surveying and monitoring field margins paying particular attention to selecting key indicator species.
- Monitor how effectively the prescriptions of current grant scheme field margin options are contributing towards the conservation of key species.
- Research the debate into natural regeneration of vegetation versus sown seed mixes.
- Review the environmental profiles of common pesticides with a view to highlighting those best used on field margins.

- Anticipate, observe and report impact of genetically engineered crops on management and biodiversity, allocating sufficient priority to this work as the implications of GMO technology unfold.
- Research species linked to the field margins habitat to facilitate and prioritise species action plans.

### **5.5 Communications and publicity**

- Produce guidance for best management practice of Cambridgeshire's field margins.
- Continue to promote an awareness among the public and land managers of the importance of field margins for wildlife and of the need for management to maintain biodiversity.
- Report on GMO developments.

### **5.6 Costings**

Review income & benefits from field margins against crop gross margins.

## **6 REVIEW**

Review this action plan annually at first and monitor progress. See title text for latest review date.

## **7 LIST OF INDIVIDUALS AND ORGANISATIONS CONSULTED**

Anglian Water Services Ltd  
 Biodiversity Partnership Co-ordinator  
 Cambridge City Council  
 Cambridgeshire County Council  
 CLA  
 Countryside Commission  
 East Cambridgeshire District Council  
 English Nature  
 Environment Agency  
 Fenland District Council  
 FRCA  
 FWAG  
 Huntingdonshire District Council  
 Landscape 2000  
 NFU  
 Peterborough City Council  
 RSPB - East Anglia  
 South Cambridgeshire District Council  
 The Wildlife Trust

### **Appendix**

Recent research by the Game Conservancy Trust has confirmed the value of encouraging beneficial insects. A reduction in predatory insect numbers of up to 80% caused an increase in aphid numbers of 31% and an overall wheat yield loss of 0.37t/ha.

**CAMBRIDGESHIRE LHAP: ARABLE FIELD MARGINS  
3-YEAR PROGRAMME 1999-2001**

<b>ACTION</b>	<b>RESPONSIBLE AGENCIES</b>	<b>TIMETABLE</b>		
		<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>A. Policy and Legislation</b>				
Complete all middle list Species Action Plans	<b>WiT/RSPB</b>	*	*	*
Identify the most appropriate natural area(s) in Cambs. to promote field margins, especially for the benefit of arable plants and invertebrates.	<b>EN</b>	*		
Review grant schemes to improve field margin options Gather information that will allow effective lobbying on Stewardship policy Promote the expansion of the Arable Stewardship Scheme if it is successful.	<b>FRCA BAP partners</b>			
Review management of county highways verges and recommend changes where necessary.	<b>FRCA CCC</b>			*
Consider a survey of Cambridgeshire to establish the current hectarage of grass margins and associated species richness.	<b>CCC BAP partners</b>	*		
<b>B. Site safeguard and management</b>				
Review management of field margins owned or managed by Cambs. BAP partners.	<b>BAP partners</b>			
Target owners/occupiers of land adjacent to SSSIs, watercourses and other valuable habitat and request the creation of buffer zones through the use of Arable Stewardship Scheme field margin payments	<b>FRCA/ Cty Fms</b>	*		
Increase field margin area in the county by 82 ha annually.	<b>FRCA/NFU/FW AG</b>	*	*	*
<b>C. Advisory</b>				
Hold annual training courses developed as above.	<b>EN/FWAG</b>	*	*	*
Continue to promote management of field margins through farm walks (emphasising extra benefits accrued by buffer zones)	<b>FWAG</b>	*	*	*
Continue to promote management of field margins through sponsorship (to include buffering watercourses)	<b>FWAG</b>	*	*	*
Promote the buffering of watercourses through the use of field margins (see also buffer zones proposal, above)	<b>EA/IDB</b>	*	*	*
Promote the establishment of beetle banks to divide fields where hedging is not an option	<b>FWAG</b>	*	*	*

<b>Action</b>	<b>Responsible Agencies</b>	<b>Timetable</b>		
		<b>1999</b>	<b>2000</b>	<b>2001</b>
Establish demonstration sites showing the range of field margin types utilisable.	<b>FWAG</b>		*	
<b>D. Future research and monitoring</b>				
Review field margin research needs.	<b>EN</b>	*		
Implement results of research needs	<b>BAP partners</b>		*	*
Monitor how effectively the prescriptions of current grant scheme field margin arable stewardship options are contributing towards the conservation of key species.	<b>MAFF</b>	*	*	*
Research species linked to the field margins habitat to facilitate and prioritise species action plans.	<b>CCC/WiT</b>	*		
Anticipate, observe and report impact of genetically engineered crops on management and biodiversity, allocating sufficient priority to this work as the implications of GMO technology unfold.				
<b>E. Communications and publicity</b>				
Seek and then schedule opportunities to promote good field margin management through the media, farm walks etc.	<b>FWAG/NFU CLA</b>	*	*	*
Develop training courses on field margin management for land management advisors, landowners, agronomists & College of West Anglia	<b>EN/FWAG</b>	*		
Report on GMO developments	<b>NFU/FWAG</b>	*	*	

#### **Abbreviations**

BSG	Cambridgeshire Biodiversity Steering Group
CBAPTG	Cambridgeshire Biodiversity Action Process Technical Group
EN	English Nature, Local Team
FWAG	Farming & Wildlife Advisory Group
GBP	Cambridge Green Belt Project
LAs	Local planning authorities
RSPB	Royal Society for the Protection of Birds
WiT	Wildlife Trust for Beds, Cambs, Northants and Peterborough