NORFOLK BIODIVERSITY ACTION PLAN

CEREAL FIELD MARGINS

Ref 1/H3	Tranche 1	Habitat Action Plan 3
Plan Author:	RSPB	
Plan Co-ordinator:	Farmland BAP Topic Group	
Plan Leader:	RSPB	
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For the purposes of this action plan, the term 'cereal field margins' refers to strips of land lying between cereal crops and the field boundary, and extending for a limited distance into the crop, which are deliberately managed to create conditions which benefit key farmland species.

1. CURRENT STATUS

Definition

- Cereal field margins can take a variety of forms, the principal types being:

  (i) A 'wildlife strip' 6m wide adjacent to a cereal crop, together with a 1m 'sterile strip' between the wildlife strip and the crop. The wildlife strip is cultivated once a year but not cropped; the sterile strip is maintained so as to prevent aggressive arable weeds spreading into the adjacent cereal crop.

  (ii) A 'conservation headland' either 6m or 12m wide forming the outer margin of the crop and separated from an adjacent field boundary or other vegetation by a 1m sterile strip. The conservation headland is cropped with cereals but is managed with reduced inputs of pesticides so as to favour wild arable plants and invertebrates.

  (iii) A combined wildlife strip and conservation headland, separated by a sterile strip and managed as described as above.

  (iv) Game crops, stubble or grassland fallows lying between annually cropped land and the field boundary.

- The focus on cereal rather than arable field margins in this action plan reflects the dominance of cereals among arable crops.

- Cereal field margins as described in this plan could provide nesting and feeding sites for game birds and some passerines. Many species of butterflies, grasshoppers and other invertebrates are associated with such sites at the interface of crops, hedges and other features.

- Rare arable flowers include pheasant's eye (*Adonis annua*), cornflower (*Centaurea cyanus*), broadleaved spurge (*Euphorbia platphyllos*), corn parsley (*Petroselinum segetum*), shepherd's-needle (*Scandix pecten-veneris*) and narrow-fruited cornsalad (*Valerianella dentate*). Arable wild flowers are of conservation concern because of enormous national declines in their distribution and abundance. Overall, some 300 species of plants can occur in arable fields.

2. CURRENT FACTORS AFFECTING THE HABITAT IN NORFOLK

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

- Intensification of cereal production, including the use of herbicides to ensure a weed free monoculture, and summer use of insecticides.

- The shift to winter cropping and the associated loss of winter stubbles.

- The reduction in rotation of cereal crops with other land covers (including grass leys and fallows).

- The reduction in the undersown area associated with the shift to winter cropping. Undersown cereal crops are important for overwintering sawflies.

3. CURRENT ACTION

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 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 overspraying of water courses and to protect non-cropped habitats.

- From July 2005, cross-compliance under the single payment scheme requires farmers not to cultivate, or apply fertilisers, manures or pesticides within 2m of the centre of a hedgerow or watercourse on fields over 2ha.

Management, Research and Guidance

- Cereal field margins are targeted under various management options in agri-environment schemes. The options are: 2m or 6m margins, 2m, 4m or 6m buffer strips (possibly) beetle banks, 6m cultivated margins, conservation headlands (with or without fertiliser input restrictions), and wildlife mixture options. Breckland ESA also has options for uncropped wildlife strips and conservation headlands (6m or 12m widths).

- Farmers can meet their set-aside requirements by setting-aside field margins of a minimum of between 6m and 10m width.

- Some 1,530 km (185 ha) of conservation headlands have also been established by some 100 farmers under initiatives encouraged by the Game Conservancy Trust.

4. ACTION PLAN OBJECTIVES AND TARGETS

National

- Maintain, improve and restore by management the biodiversity of some 15,000 ha of cereal field margins on appropriate soil types in the UK by 2010.

Norfolk

- Maintain, improve and restore by management the biodiversity of some 750ha of cereal field margins in Norfolk by 2010. [Target based on some 5% of national arable farmland in Norfolk.]

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.1	**Policy and Legislation**			
5.1.1	Assess the most appropriate geographical areas to target cereal field margin options.	Identify most appropriate area(s) in Norfolk to promote cultivated margin conservation, especially for the benefit of arable plants and invertebrates.	NE, FWAG	
5.1.3	Review management guidelines for wildlife strips and conservation headlands.	Discuss opportunities for major field margin experiment/action with Natural England or suitable research establishments.	NCC	Emorsgate
5.2	**Site Safeguard and Management**			
5.2.1	Promote management favourable to cereal field margins through appropriate environmental schemes.	Promote management favourable to cereal field margins through appropriate environmental schemes.	FWAG, NE, Norfolk County Farms, NT	Landowners
5.2.2	Consider extending the current advisory network.	Support extension of current advisory network.	FWAG	
5.3	**Advisory**			
5.3.1	Review existing guidance on conservation management of cereal field margins.	Develop guidance to complement new agri-environment information.	NE, FWAG, GCT	
5.3.3	Develop training courses on cereal field margin management and target these on land management advisers (eg ADAS, Agriculture Colleges) groups of farmers, and major landowners (eg National Trust), and pesticide spray contractors.	Develop workshops or training courses on field margin management for land management advisers, major landowners, agronomists and Easton College, possibly funded through Vocational Training Scheme as part of the ERDP.	NE, FWAG	
5.4	**Monitoring and Research**			
5.4.2	Assess existing research on the practicalities and benefits of undersown conservation headlands.	Encourage research/ survey on field margins management techniques including collation of existing data/research.	NE, BTO, ADAS	

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.5 **5.5.1**	**Communications and Publicity** No action proposed.	Seek opportunities to promote good field margin management through the media, farm walks, etc.	FWAG, NFU, GCT, NE	

NORFOLK DISTRIBUTION

MANAGEMENT GUIDANCE

(This guidance is a general summary; for more detailed information or advice, please consult the references or contacts below.)

Arable Field Margins

Field margins are generally the least productive areas of a field and just a 1-metre grass strip between the outer edge of the hedge and the crop edge can benefit wildlife in many ways. Wider margins are funded by the agri-environment schemes or created using set-aside. The management depends on the wildlife; different management types may be used around the farm.

Benefits for wildlife

- **Grass margins can provide nest sites for ground-nesting birds**
  A tussocky grass strip against a short, thick hedge provides an ideal habitat for ground-nesting bird species such as grey partridges, whitethroats and yellowhammers. Corn buntings may use the same kind of strip alongside hedgeless field boundaries.

- **Grass margins boost numbers of beneficial insects and spiders on arable farmland**
  Tussocky grass margins provide essential over-wintering habitat for many welcome insects and spiders, which will feed on crop pests in the spring. They are also used by grass-hoppers, sawflies and other insects that provide chick food for birds such as partridges, tree sparrows and reed buntings. Wild flower strips attract nectar-feeding insects, such as bumble bees, and hoverflies, which lay their eggs where there is an abundant supply of aphids for the larvae to feed on.

- **Grass margins provide habitat for small mammals**
  Small mammal populations, such as voles and harvest mice, are able to build up in wide grass margins, providing ideal hunting habitat for barn owls and kestrels. Wide margins away from roadsides can reduce the risk of barn owls being killed by road traffic.

- **Cultivated margins can help conserve rare arable plant species**
  Many rare plants are now confined to the edges of arable fields. Careful management of these margins can help them without creating a significant weed burden at the edge of the crop. Cultivated margins on light soils with low fertility can provide seeds for farmland birds. Choose sites carefully to prevent infestations of noxious weeds.

Conservation Headlands

Conservation headlands are headlands of cereal crops that are sprayed selectively to allow small populations of broad-leaved weeds and their associated insects to develop.

Where to site conservation headlands

The ideal location for conservation headlands is alongside tussocky grass margins or beetle banks that provide over-wintering sites for a wide range of insects.

Conservation headland management is most suited to light soils in locations that do not suffer from high weed infestations or problems with cleavers or barren brome. Conservation headlands can boost predatory insect numbers and this helps with pest control.

You should only practise this type of management when the field contains a cereal crop. The aim is to achieve a sprinkling of broad-leaved weeds in the headland and to encourage the insects that live on these.

If you find that an unexpected infestation of weeds develops, and you cannot control this with selective herbicides, then select a more appropriate location in following years.

Managing conservation headlands

The width of a conservation headland can be between 6 and 24 metres. The sprayer boom is switched off when spraying the headland of a cereal crop with any insecticide after 15 March or herbicides that target broad-leaved weeds.

You should check conservation headlands in February/March, and again in May, for any significant weed problems. If cleavers become a problem, then they can be selectively treated using amidosulfuron in February or March. If other broad-leaved weeds create a significant problem, then you should seek advice from a BASIS trained agronomist and your project officer (if doing this under an agri-environment scheme).

You may prefer to leave a sterile strip around the crop edge to control weeds, although if you establish a perennial grass margin between a hedge base and the crop, this should not be necessary. Where you use such strips, however, they should be positioned between the grass margin and the crop.

Reduced fertiliser use within the conservation headland would benefit the less competitive arable plants and reduce the problem of invasive weeds such as cleavers, although it would also incur a further yield loss. This approach is most appropriate on sites that are home to rare arable plants.

Insecticide use on crop margins

Even where the placement of conservation headlands is inappropriate due to a high weed burden, you may consider leaving margins unsprayed whenever insecticide is used on a cereal crop after 15 March. A reduction in spraying of this type will increase the food available to birds and buffer the insect-rich field margins from the effects of spray drift.

Acceptable sprays for conservation headlands under the Countryside Stewardship Scheme (in England)

- All fungicides
- All plant growth regulators
- Cleaver control: amidosulfuron
- Grass weed control: tri-allate, diclofop-methyl, difenzoquat, flamprop-m-isopropyl, fenoxaprop-ethyl, fenoxaprop-p-ethyl, tralkoxydim, clodinafop-propargyl.

(Extracted from the RSPB website.)

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REFERENCES

RSPB website: www.rspb.org/countryside/farming/advice/farmhabitats/

GCT website: www.gct.org.uk