

ARABLE FIELD MARGINS (UK BAP PRIORITY HABITAT)



Summary

This is herbaceous vegetation managed for wildlife and forming strips 2-12 m wide around the edges of arable fields, on deep, fertile, well-drained soils in the enclosed agricultural lowlands.

At many sites the herbaceous vegetation is short-term (1-2 year) cultivation of cereal crops which are never or rarely sprayed with pesticides, so that a lower layer of annual agricultural weeds can flourish. Taller herbs can also occur. Some examples of this priority habitat include plants sown deliberately in order to provide seed for wild birds, or to provide pollen and nectar for invertebrates. Other examples have more permanent grass swards, commonly coarse and tussocky.

This priority habitat can be an important refuge for birds, mammals and insects. It is most common in the arable landscapes of south-eastern Scotland, and is managed (generally under Tiers 2-3 of the Scotland Rural Development Programme SRDP) by crop-sowing and subsequent avoidance of pesticides or, for more permanent grasslands by little more than occasional mowing.

What is it?

Arable field margins belonging to this priority habitat have herbaceous vegetation and are managed for wildlife. They mostly form marginal strips 2-12 m wide around the edges of the arable fields, but some extend further into the fields as strips or blocks separating two areas of crops. Details about the locations of boundaries of areas of this priority habitat are described in the Definitions section below.

The vegetation of this priority habitat varies from 1-2 year rotation cultivations to long-term grasslands.

The short-term cultivations can be of cereal crops as elsewhere in these fields, but, unlike the main crop areas, are not sprayed with insecticides or herbicides except in cases where a particular herbicide has had to be used to prevent the spread of injurious weeds such as creeping thistle *Cirsium arvense* or invasive grasses such as barren brome *Anisantha sterilis*. The relative freedom from spraying treatments gives annual agricultural weed species a better chance to flourish. Such species include common field speedwell *Veronica persica*, field pansy *Viola arvensis*, common chickweed *Stellaria media*, field madder *Sherardia arvensis*, corn spurrey *Spergula arvensis*, red dead-nettle *Lamium purpureum*, pineappleweed *Matricaria discoidea*, scentless mayweed *Tripleurospermum inodorum*, nettle *Urtica urens*, cleavers *Galium aparine*, common rampion fumitory *Fumaria muralis*, shepherd's purse *Capsella bursa-pastoris*, annual meadow grass *Poa annua*, knotgrass *Polygonum aviculare* and scarlet pimpernel *Anagallis arvensis*. These species are generally low grown and can be well hidden by the cereal plants, but they form a well developed and, when in flower, colourful lower zone of vegetation. These assemblages can also include some taller plants such as the poppies *Papaver rhoeas* and *P. dubium* and grasses such as perennial rye-grass *Lolium perenne*, rough meadow-grass *Poa trivialis* and creeping bent *Agrostis stolonifera*.

Some short-term cultivation of unsprayed cereal crops mixed with broadleaved crops such as kale or oilseed rape are sown in order to provide seed for wild birds. Others are sown with native herb species such as yarrow *Achillea millefolium*, common knapweed *Centaurea nigra*, meadow buttercup *Ranunculus acris*, red clover *Trifolium pratense* and tufted vetch *Vicia cracca* or agricultural legumes such as medick *Medicago sativa* or clovers *Trifolium* spp. in order to provide an abundant source of pollen and nectar for invertebrates. Any of these crops can also develop low-grown assemblages of some of the species listed in the previous paragraph.

In contrast to these short-term cultivations are more permanent grassland swards. These typically consist of a lush growth of grasses such as false oat-grass *Arrhenatherum elatius*, cock's foot *Dactylis glomerata*, *Holcus lanatus*, meadow foxtail *Alopecurus pratensis*, *Poa trivialis*, common couch *Elytrigia repens* and red fescue *Festuca rubra*. These grasslands belong mostly to the NVC MG1 community. Those with much *Arrhenatherum* or *Dactylis* tend to be tussocky: this structure can be beneficial to birds, small mammals and insects such as beetles. Some swards have plentiful *Lolium perenne* and belong to the MG6 or MG7 communities. In general these grasslands are not very rich botanically, but they can include herbs such as *Centaurea nigra*, *Achillea millefolium*, *Plantago lanceolata*, cow parsley *Anthriscus sylvestris*, hogweed *Heracleum sphondylium* and lesser burdock *Arctium minus*. Where they have been left unmown for some years, bramble *Rubus fruticosus* can thicken up into dense patches (NVC W24).

This priority habitat does not include set-aside, biomass crops, organic crops, over-wintered stubbles, unsown patches such as skylark plots within fields, and field margins managed under Tier 1 of the SRDP.

How do I recognise it?

This priority habitat is defined as strips of herbaceous vegetation 2-12 m wide and managed specifically for wildlife (currently through tiers 2-3 of the Scotland Rural Development Programme SRDP), around the edges of arable fields. Some such strips may also extend further into the arable fields, separating different blocks of arable crops.

The inner boundary of a strip of this priority habitat is defined as the boundary between the herbaceous vegetation and the arable crop. This inner boundary is generally sharply defined.

The exact location of the outer boundary of this priority habitat (i.e. the boundary furthest from the arable crop and nearest to the field boundary itself) varies according to the nature of the field boundary:

- If the field boundary is a hedge or line of trees, the outer boundary of the Arable field margins priority habitat is 2 m into the field from the centre-line of that hedge or line of trees. If the hedge in question belongs in the Hedgerows priority habitat, this line 2 m into the field from the centre-line of the hedge marks the boundary between these two priority habitats.
- If a ditch runs along the field boundary, the outer boundary of the Arable field margins priority habitat is 2 m into the field from the centre-line of that ditch, unless the ditch is more than 4 m wide in which case the outer boundary of the priority habitat is 1 m into the field from the inner edge of that ditch.
- If the field boundary is a fence or wall, the outer boundary of the Arable field margins priority habitat is simply taken as the outer edge of the area managed specifically for wildlife.

Differentiation from other Priority Habitats

This priority habitat can occur in close association with the Hedgerows priority habitat: see the first bullet point above for separation of that priority habitat from the Arable field margins priority habitat.

Definition in relation to other classifications

Classification	Habitat types belonging to this UK BAP priority habitat
NVC	The Arable field margins priority habitat is not defined by any NVC communities, but can include examples of MG, W24 OV1, OV3-4, OV7, OV9-10 and OV12-14.
Phase 1	This priority habitat belongs within the Phase 1 habitat type J1 Cultivated/disturbed land.
UKBAP Broad Habitat	Forms part of the UK BAP Broad Habitat type – Arable and Horticulture.
Habitats Directive Annex 1	Does not include or belong within any Habitats Directive Annex I types
SNH SSSI Habitat Features	Does not include or belong within any SSSI habitat features

Where is it?

At the sites of this priority habitat the soils are generally deep, well drained and fertile. The adjacent habitats are arable crops on the one side and hedgerows or other field boundaries on the other. These mixtures of habitats are all within enclosed lowland farmland, and on a larger scale these fields can be interspersed with blocks of woodland, semi-natural grassland (pasture or meadow), or less commonly wetlands and urban or industrial habitats.

Distribution and extent

This priority habitat is widespread through the southern and eastern lowlands of Scotland, especially in the east which is where most of the arable land is. There are also more scattered occurrences to the north and west including the Hebrides, hence the inclusion of corncrake in the list below. No figures are available on its extent in Scotland, and of course this extent may vary from year to year if some fields are taken in or out of Rural Development Contract schemes.

What is special about it?

Within the intensively managed agricultural lowlands, this priority habitat can be an important refuge for feeding and breeding birds, various mammals, and for insects including butterflies and bugs. Some species of special conservation status recorded in this priority habitat in Scotland are listed below.

Group	Common name	Latin name	UK BAP priority list	EC Habitats Directive Annex II	Scottish Bio-diversity List	Red Data List	Wildlife and Countryside Act (1981)
amphibians	great crested newt	<i>Triturus cristatus</i>	y	y	y		y
birds	Eurasian tree sparrow	<i>Passer montanus</i>	y		y	y	
birds	skylark	<i>Alauda arvensis</i> subsp. <i>arvensis/scotica</i>	y				
birds	common linnet	<i>Carduelis cannabina</i> subsp. <i>autochthona/cannabina</i>	y				
birds	corncrake	<i>Crex crex</i>	y		y	y	y
birds	reed bunting	<i>Emberiza schoeniclus</i>	y		y		
birds	corn bunting	<i>Emberiza calandra</i> subsp. <i>calandra/clanceyi</i>	y				
birds	grey partridge	<i>Perdix perdix</i>	y		y	y	
birds	twite	<i>Carduelis flavirostris</i> subsp. <i>bensonorum/pipilans</i>	y				
birds	yellowhammer	<i>Emberiza citrinella</i>	y			y	
birds	house sparrow	<i>Passer domesticus</i>	y			y	
birds	common starling	<i>Sturnus vulgaris</i> subsp. <i>vulgaris</i>	y				
flowering plants	cornflower	<i>Centaurea cyanus</i>	y		y		
flowering plants	corn buttercup	<i>Ranunculus arvensis</i>	y			y	
flowering plants	purple ramping-fumitory	<i>Fumaria purpurea</i>	y		y		
flowering plants	small-flowered catchfly	<i>Silene gallica</i>	y			y	
flowering plants	caraway	<i>Carum carvi</i>	y		y	y	
flowering plants	basil thyme	<i>Clinopodium acinos</i>	y		y	y	
flowering plants	annual knawel	<i>Scleranthus annuus</i>	y		y	y	
mammals	brown hare	<i>Lepus europaeus</i>	y		y		
mammals	hedgehog	<i>Erinaceus europaeus</i>	y				
mammals	polecat	<i>Mustela putorius</i>	y	y			
mosses	spreading-leaved	<i>Weissia squarrosa</i>	y			y	

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	beardless-moss						
reptiles	slow-worm	<i>Anguis fragilis</i>	y				y

How do we manage it?

This habitat is managed deliberately for its wildlife value, by being left alone or with occasional mowing in the case of field margins of coarse, more or less permanent grassland, or by sowing of crops and subsequent avoidance or limited use of pesticides. Management is generally carried out under Tiers 2-3 of the SRDP.

References, links and further reading

Averis, A., Averis, B., Birks, J., Horsfield, D., Thompson, D., & Yeo, M. 2004. An Illustrated Guide to British Upland Vegetation, c.470, figs, B5 softback, ISBN 1 86107 553 7
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Rodwell, J.S., Dring, J.C., Averis, A.B.G., Proctor, M.C.F., Malloch, A.J.C., Schaminee, J.H.J. & Dargie, T.C.D. 1998. Review of coverage of the National Vegetation Classification. Joint Nature Conservation Committee contract report F76-01-170. Coordinated by the Unit of Vegetation Science, Lancaster University.

UK BAP 2008. http://jncc.defra.gov.uk/pdf/UKBAP_BAPHabitats-02-ArableFieldMargins.pdf

Usher, M.B., Bain, C. and Kerr, A. eds. 2000. Action for Scotland's Biodiversity. Scottish Biodiversity Group. Edinburgh, The Scottish Executive and The Stationery Office.

Common Standards Monitoring guidance: documents (pdf files) downloadable from
<http://www.jncc.gov.uk/page-2199>

National Biodiversity Network (NBN) Gateway species distribution information
<https://data.nbn.org.uk/>

Scottish Government website – information about agricultural grants, subsidies and services:
<http://www.scotland.gov.uk/Topics/farmingrural/Agriculture/grants/A-Z/Intro>

Scottish Natural Heritage website: <http://www.nature.scot>

UKBAP information on JNCC website <http://jncc.defra.gov.uk/default.aspx?page=5155>