Managing farmland habitats for invertebrates:

Grassland

Invertebrates are fascinating creatures that form the vast majority of animal life and they play an essential role in the health of our countryside. Without a variety of insects, many of our crops and native plants would not be pollinated. Invertebrates are useful to farmers as they play a major part in soil creation and removal of dung. Other wildlife such as birds and bats are dependent on a good supply of invertebrates for food.

There are lots of things that farmers can do to put the richness and colour back into the countryside. This leaflet contains suggestions and illustrations on how to do this and highlights some of the financial incentives on offer under current agri-environment schemes.

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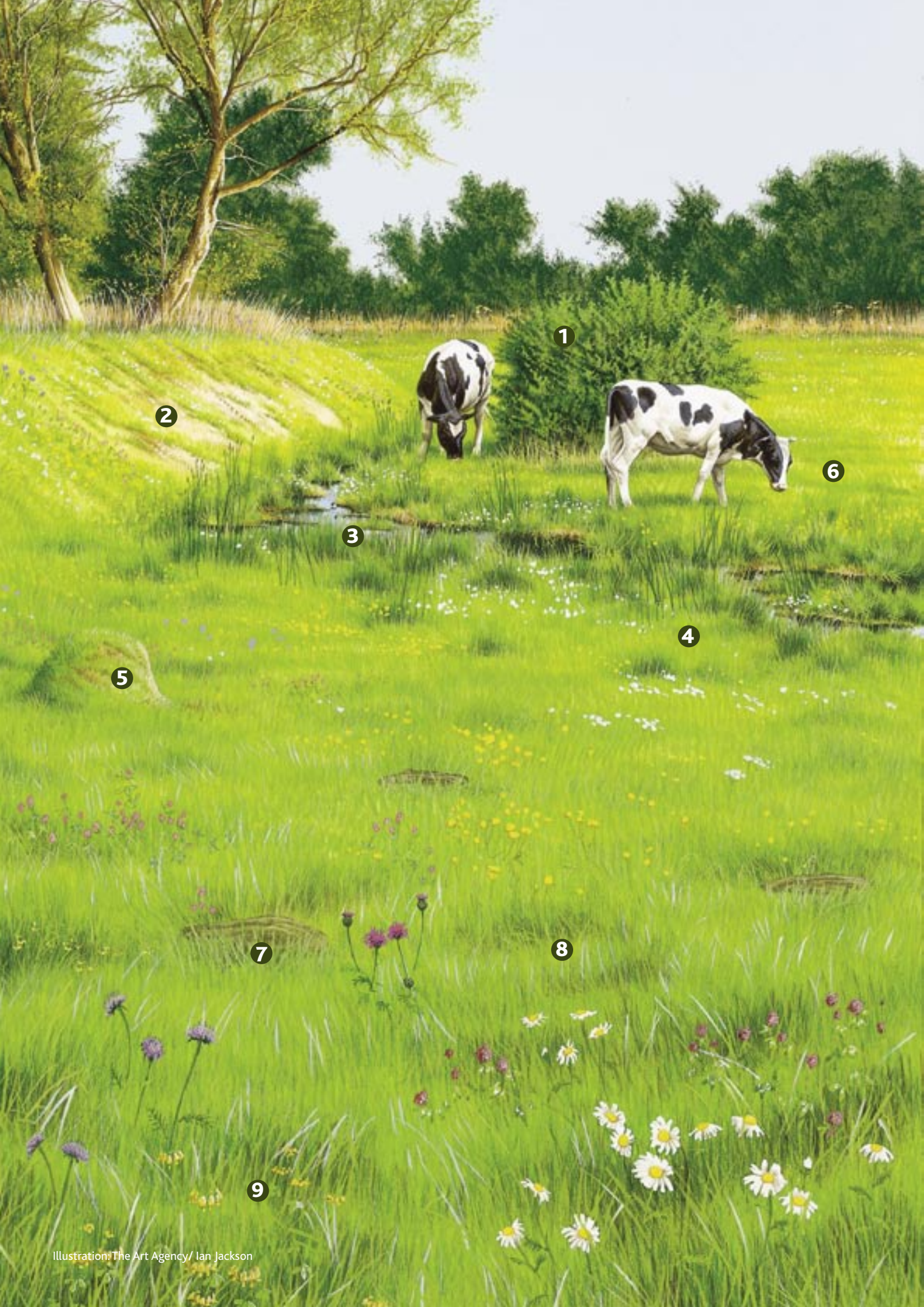

Illustration: The Art Agency/ Ian Jackson

How to create features in grassland that will benefit invertebrates

When managing grassland for invertebrates, the most important consideration is to provide a variety of habitats for a wide range of species. Maintaining areas of unimproved permanent grassland as part of a varied patchwork of habitats, including features such as woodland and hedgerows, will greatly increase the biodiversity of farmland and benefit a wide range of wildlife.

1 Scattered scrub/trees

Leave some trees and scattered flowering shrubs, e.g. hawthorn and bramble, in and around grassland to increase the range of habitat available and provide nectar for adult insects such as hoverflies - the larvae of many hoverfly species feed on aphids.

2 Varied topography

If there is a south-facing bank on your land, create some areas of un-shaded short turf and bare ground to provide nesting areas for solitary bees and wasps. Solitary wasps prey on caterpillars and aphids and the bees are useful pollinators.

3 Wetter areas

Leave features such as springs, seepages and seasonal wet areas, as they are of great value to rare invertebrates. They should not be drained or deepened to form permanent ponds or shaded by shrubs and trees.

4 Tussocky grasses

Make sure that grazing levels are low enough to leave patches of tussocky vegetation that can give shelter to invertebrates such as spiders and ground beetles. This is especially important when they are over-wintering.

5 Ant hills

Treat ant hills as important features of permanent grassland and do not destroy or damage them – they support an interesting range of plants and animals.

6 Grazing

Cattle are often the best grazing livestock for invertebrate conservation as their grazing habits tend to create a more varied sward than those of sheep or horses. Grazing regimes, stocking density and choice of livestock animals and breeds need to take account of factors such as soil type, location and invertebrate species present. Expert advice should be sought (see back page for contacts).

7 Dung

Many invertebrates feed on livestock dung, so avermectin wormers, especially slow-release products, may be highly damaging to them. Animals being turned out onto pasture of conservation significance should be treated off-site at least 10 days before and alternative treatments should be sought in preference. Dung invertebrates can be an important source of food for other animals such as bats.

8 Diverse sward structure

Stock moderately to ensure that a diverse structure is maintained with areas of short turf, bare ground, tussocky grasses and flowering herbaceous plants. Overgrazing will create a uniformly short sward of little value to invertebrates.

9 Taller flowering plants

Allow a range of native plants to flower and set seed to increase the availability of food (nectar and pollen) for foraging insects. Some seed heads should be left to provide shelter and breeding sites. Avoid applying herbicides and artificial fertilisers as this reduces the diversity of flowering plants – weed wipe or spot treat any problem weeds.

Five-spot burnet moth

Flowering grassland plants attract insects such as this day-flying Five-spot burnet moth (*Zygaena trifolii*)

Thick-legged flower beetle

Larvae of the Thick-legged flower beetle (*Oedemera nobilis*) develop in plant stems

Funding and agri-environment schemes

Farmers who manage their land to benefit wildlife can obtain funding via the Environmental Stewardship scheme. Entry Level Stewardship (ELS), Organic Entry Level Stewardship (OELS) and Higher Level Stewardship (HLS) all have options that support grassland management and allow farmers to accumulate the required number of points to qualify for payments.

Priority habitats

Under Britain's commitments to protect biodiversity under the Rio Convention (1992) a number of habitats have been identified as being of particular importance for conservation, and Biodiversity Action Plans (BAPs) have been drawn up to identify how these habitats can be protected, conserved and enhanced.

Priority grassland habitats are:

- **Lowland calcareous grassland**
- **Lowland dry acid grassland**
- **Lowland meadows**
- **Purple moor grass and rush pastures**
- **Upland hay meadows**
- **Upland calcareous grassland**

Options that will benefit invertebrates in grassland:

ELS/OELS

- EE 4- 6/OE4-6: Leave 2m, 4m or 6m uncut buffer strips on mown organic or intensive grassland
- EK1/OK1: Take unproductive field corners out of management on improved grassland
- EK2/OK2: Permanent grassland with low inputs
- EK3/OK3: Permanent grassland with very low inputs
- EK4/OK4 & EL4/OL4: Management of rush pastures
- EL2/OL2 & EL3/OL3: Management of in-bye grassland with low/very low inputs (LFA land)
- EL5/OL5: Enclosed rough grazing
- EL6: Moorland and rough grazing

HLS

- HK6/7/8: Maintenance/restoration/creation of species-rich semi-natural grassland
- HK 9-14: Management of wet grassland for waders and waterfowl
- HK15/16/17: Maintenance/restoration/creation of semi-improved or rough grassland for target species
- HE11: Enhanced buffer strips in intensive grassland
- HL 7/8: Maintenance/restoration of rough grazing for birds
- HL9/10: Maintenance/restoration of moorland
- HL16: Shepherding supplement

Brown-lipped snails (*Cepea nemoralis*) show great colour variation and are often found in grassy areas

Links

- For more detailed habitat management advice, Buglife has produced a series of guides and web pages on 32 BAP priority habitats. Further details can be found at **www.buglife.org.uk**
- Information on Environmental Stewardship is available from Rural Development Service (Natural England from October 2006) **www.defra.gov.uk/rds**
- The Farming and Wildlife Advisory Group (FWAG) website is at **www.fwag.org.uk**
- Habitat management advice for BAP priority butterflies and moths can be obtained from Butterfly Conservation at **www.butterfly-conservation.org**

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Buglife-The Invertebrate Conservation Trust is the only organisation in Europe devoted to the conservation of all invertebrates and is working tirelessly to save Britain's rarest bugs, bees, spiders, beetles and many other incredible creatures.

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