

Scottish Natural Heritage

Farmland and Lowland Ecosystems Group

Biodiversity on intensive grassland



SCOTTISH
BIODIVERSITY
FORUM

Introduction

This leaflet sets out a range of actions and land management procedures which, when incorporated into the normal management on intensive grassland farms, can enhance their biodiversity. The word biodiversity is short for 'biological diversity' and can be summarised as 'the total variety of all living things'.

Adjustments to grassland husbandry, such as the timings of fertiliser applications, rolling and using sympathetic mowing techniques, can result in

considerable benefits. The obvious opportunities, however, occur on field margins, boundaries, farm woodlands and in uncropped areas such as around farm steadings, ponds and watercourses.

We urge you to consider the accompanying suggestions and see if any could be incorporated into your own land management. The measures are unlikely to have any major effect on the viability of the farming enterprise. All farmers are already contributing

to biodiversity and you may find you are already carrying out many of the suggestions. You can discuss these issues with an adviser or consultant, who will be able to provide guidance on how best to implement these measures.

In many cases grant aid may be available through the agri-environment programme.



Measures relating to enhancing biodiversity on the whole farm unit

The biodiversity of intensive grassland could be enhanced by considering the whole farm unit and how it fits in to the wider landscape.

In trying to encourage a greater diversity of species and habitats, some of the following could be considered:

- Planning a pattern of rotation of both crops and types of grass usage. Different sward heights and grass usage adjoining other crops, stubbles, arable silage and features provide a diverse mosaic of vegetation, habitat and feeding areas.
- Less intensive areas provide more opportunities for biodiversity enhancement.
- Plan fertiliser application through nutrient budgeting, analysis of soil and slurry and careful targeting of artificial fertilisers. Excess or ineffectual application wastes money and risks runoff, leaching and soil damage.
- Make use of stock access corridors, steadings and unproductive ground to plant shrubs, trees, hedges and rough cover.
- Establish new grass by undersowing where possible.

Measures concerning farm woodland and trees

Woodland, especially native woodland, together with the associated understorey, provide a habitat for a wide range of plants and animals. In an intensive grassland situation the woodlands will be particularly important providing key landscape features and islands of high biodiversity value. You may wish to consider the following suggestions for management of woodland and trees on your farm.

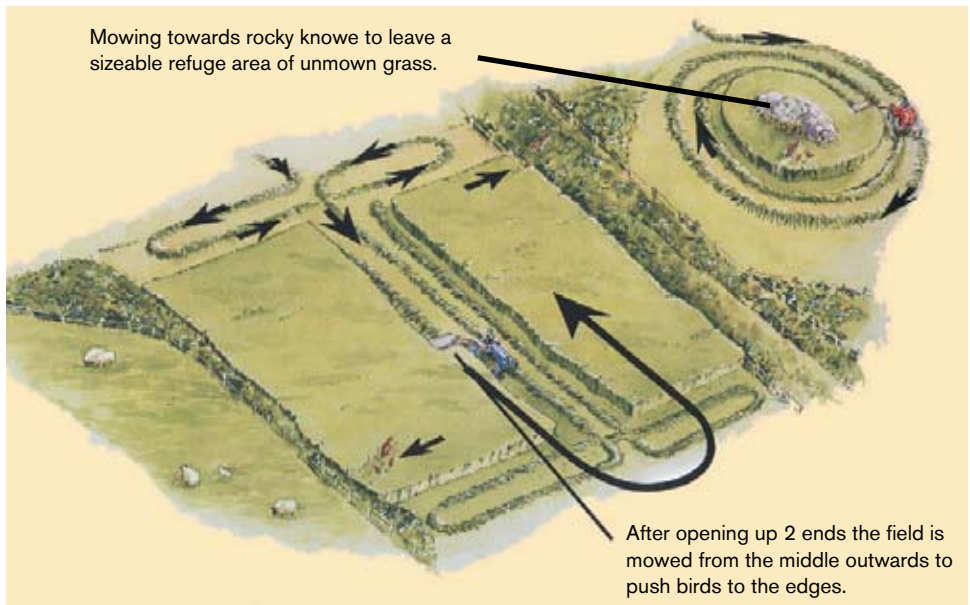
- Thinning and pruning trees helps to diversify woodland habitat. It also improves timber quality and the growth potential of trees. Pruning broadleaves improves their form and ultimate value.

- Leaving deadwood and brashings. Natural forests are characterised by deadwood in standing trees, fallen trees and branches. Deadwood and brashings are a key component of the woodland ecology and if left in-situ enriches the habitat.
- Leave ivy on trees. Ivy creates nesting sites for birds and habitat for insects. It causes no harm and should be left to grow unless it moves onto the upper branches of trees.
- Fencing woodland for regeneration allows ground vegetation to re-establish and seedlings to grow: this creates habitats, ensures continuation of the wood and preserves the woodland's genetic stock. You can encourage individual regeneration of plants by protecting them with tree guards.

Actions within individual fields

The less productive field edges offer most opportunities for biodiversity, but the adaptation of certain farming operations can deliver benefits across the whole field. You might consider some of the following options:

- Time grassland management operations such as spraying, topping, rolling and harrowing to minimise disturbance to wildlife during the breeding season.
- Careful and timely application of fertiliser, manure and slurry can avoid over application, puddling of slurry, runoff and soil damage. Avoid field edges (particularly near drainage ditches and watercourses).
- Cut for hay and silage from the centre outwards to allow ground nesting birds to escape. (See illustration.)
- Retain damp areas which are vital as nesting and chick rearing habitats for waders.
- Grass conservation headlands are particularly valuable when situated next to a permanent habitat such as a hedgerow, woodland, water margin or fenceline. Use headlands to form links between habitats. Many farmland birds and their chicks rely on the edges of grass fields to find enough plants, seeds and insects to feed on. Extensively managed headlands provide the variety of sward heights and density needed to encourage insects and broadleaved plants.
- Identify any areas of species rich grassland.



Actions within individual fields (continued)

- Hedgerows are a vital habitat in several ways. The hedge bottom provides a habitat for a variety of plants and offers cover for small mammals. The hedgerow and banking itself provides a nesting area for birds and can produce a large quantity of seeds and berries as a food source. Mammals and invertebrates also find a range of habitats within the hedgerow and banking. Hedgerows provide shelter and shade. Hedgerow management to benefit biodiversity can be carried out at negligible cost by ensuring that:
 - herbicides are not sprayed into the base of the hedge.
 - hedges are trimmed in late winter after the fruits have been eaten.
 - trimming is staggered so not all hedges are trimmed in the same year.
 - hedges are trimmed in a flat A shape to increase volume.

Hedgerow regeneration can be achieved by:

- Coppicing leggy hedges by cutting the main stem 8-10cm above the ground level. Cut at a slight angle to allow water to run off. Fencing may be necessary to prevent livestock browsing regrowth.
- When hedgeside fences are renewed ensure they are positioned at least a metre from the centre of the hedge to allow the hedge to develop a wide bushy profile.

Wetlands, watercourses and ponds

Wetland is a valuable habitat for a wide range of invertebrates, small mammals and birds. In order to maintain the conservation interest of such wetlands at little or no cost, please consider the following measures:

- To provide suitable breeding and feeding areas for such birds as redshank, snipe, curlew and oystercatcher, reduce stocking levels to a minimum over these areas during the nesting season (April to July).
- Between July and October (ground conditions permitting) allow stock access in sufficient numbers to control rank growth of low conservation value. This measure will allow less competitive plants such as orchid, to survive and increase the diversity of the vegetation and wildlife dependant on it.
- To avoid damage to sensitive plant species, maintain a fertiliser and chemical buffer zone round a wetland.
- Operations involving keeping livestock or applying fertilisers or pesticides should comply with diffuse pollution regulations (General Binding Rules).

Ponds and watercourses can provide a haven for a variety of insects such as dragonfly, other invertebrates including snails and such mammals as the water vole. Birds such as moorhen and duck will rely

on these habitats for food and sanctuary. The following measures are suggested to maintain or enhance these habitats:

- Erect a temporary fence along the margin of a burn or around the fringe of a pond to deny stock access. This will allow marginal vegetation to develop, creating a protective buffer between the intensively managed grassland and the water.
- Limit stock access to a few carefully constructed waterings to decrease poaching of banks and limit pollutants getting into the water.
- Beyond the enclosure, very little management is necessary to maintain an established pond. Dredging can do more harm than good to the conservation interest of this habitat.
- When farm ditches are cleaned, carry out the work in the autumn and winter, clean ditches on a rotational basis round the farm and try to work on one bank at a time leaving the other bank untouched that year. If cleaning ditches in areas where water voles are present, avoid disturbing the vole runs and obtain a licence to clean the ditch.

Relevant operations affecting watercourses must comply with the Controlled Activities Regulations.

Checklist

Use this checklist to help audit what is relevant to your farm and what action you can take.

	Action
Farming practices	
Farm woodlands and trees	
Water margins	
Hedgerows	
Hay/silage cutting	
Grass conservation headlands	
Management of wetlands	
Species-rich grassland	
Ponds and watercourses	
Conservation audit	

Why help biodiversity?

There are many arguments in favour of supporting biodiversity:

- it increases the variety of wildlife on the farm and can enhance the sporting interest, tourist potential and the enjoyment of wildlife for its own sake
- it creates a better balance by preventing the loss of genetic material and beneficial organisms
- protecting biodiversity is a strong public relations argument which helps the whole of the agricultural industry
- by becoming more involved in the biodiversity process and raising your awareness of the issues involved, you are likely to be better placed to deal with any cross-compliance and GAEC measures introduced as part the agricultural support schemes.
- the satisfaction of knowing that you are contributing to an ideal which has widespread support and encouragement from Government, conservation bodies and the industry generally. You as a land manager are now able to do something practical about the situation.

Organisations represented on the Farmland and Lowland Ecosystems Group.

Crofters Commission	Scottish Environment Link
Forestry Commission	SCRI
Game Conservancy Trust	SGRPID
LBAPs	SEPA
NFUS	SNH
SAC	SRPBA
Scottish Crofting Foundation	

Other Leaflets in the series are:

- 1) Biodiversity on lowland arable farms
- 2) Biodiversity on hill and upland farms
- 3) Biodiversity on croftland and common grazing
- 5) Biodiversity and intensive cropping
- 6) Biodiversity and sporting enterprises

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