

Scottish Natural Heritage

Biodiversity on hill and upland farms

Farmland and Lowland Ecosystems Group



SCOTTISH
BIODIVERSITY
FORUM



Introduction

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

In a hill and upland situation, biodiversity is high. A wide range of habitat supports a large number of species. We seek to encourage you to further understand what you already have and find out how your management practices can be adjusted, at little or no cost, to

further encourage biodiversity. In most cases the management of grazing will be a key issue, although we recognise that there are many external factors such as sporting interest, forestry and deer, which influence both husbandry and management.

We urge you to consider the following suggestions and see if some 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 some cases, grant aid may be available through the agri-environment programme.



Measures concerning in-bye

Many species move from the hill to in-bye during their breeding, feeding and wintering cycles. Waders such as lapwing, curlew and redshank are important species on in-bye and are sensitive to farm operations. The mosaic of in-bye habitats, grazed and ungrazed areas, trees, hedges, cropped areas or ploughing all provide differing and important habitats.

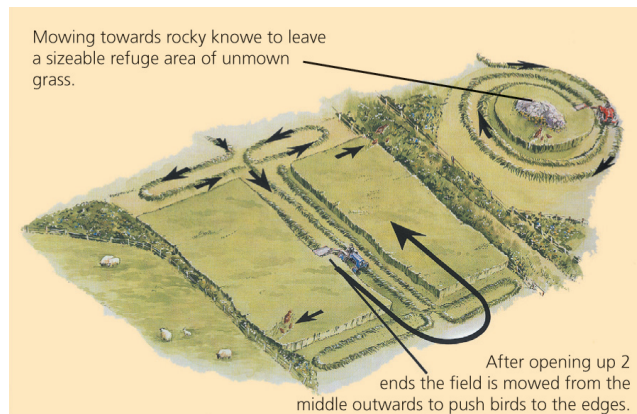
Farming operations

- Damp areas are vital as nesting and chick rearing habitats for wading birds.
- Fodder crops are a very valuable habitat for birds, providing cover and food over a barren time of year.
- Consider marking nests during cultivations and limiting weed control to allow some annual weeds to set seed. Cereal stubbles are particularly important feeding areas for birds.
- Think carefully about the composition and timing of applications of manures and fertiliser to minimise leaching.

- When possible, delay cutting silage and hay until mid July to encourage flowering and provide favourable cover for nesting and fledging birds.
- Consider cutting fields in a wildlife friendly way - see illustration.
- Avermectins are expensive and may reduce the number of insects in dung. Take advice to ensure you are not dosing unnecessarily and consider sampling to ascertain the parasites present.

Grassland management

- Consider the timing of grassland management operations such as spraying, topping, rolling and harrowing to minimise disturbance to wildlife during the breeding season.
- Many fields closed for silage, hay and other crops have steep banks of unimproved flower-rich grassland beside them. These areas benefit from the grazing break during the flowering period and can be grazed with the aftermath. They provide a refuge for native flowers, butterflies, moths and bumblebees.



Measures concerning rough grazing

Livestock production is an essential element in the management for wildlife and the biodiversity of hill and upland areas.

Mosaics of different habitats (grassland / heathland / scrub) can be particularly beneficial for biodiversity.

Supplementary feeding

- Choose drier sites to reduce poaching.
- If possible, feed stock on hard standing.
- Attempt to locate feed sites away from water and avoid archaeological sites.
- Avoid feeding in semi-natural woodland and other areas of high biodiversity value.
- Site feeding points on ground with less biodiversity value, preferably on grass and away from stands of mature heather. Move feed sites regularly.
- Manipulate stocking densities by having several small dispersed feeding sites. This can be used to push stock away from low ground and distribute stock over the hill.

Shepherding and Animal Husbandry

- Regular shepherding and careful siting of feed sites can disperse stock and re-distribute grazing pressure.

- Appropriate small-scale patch burning of areas that are under-used will encourage livestock movement.
- Be sensitive with use of ATVs and machinery to avoid areas of biodiversity value and reduce tracking and erosion. Avoid wet areas, soft peat and bogs. Use gravelly areas where possible for crossing burns or make a crossing.

Muirburn

- Assess the grazing distribution across the hill.
- Avoid burning where regeneration is poor or where other plants may displace heather. Burn areas where ling or bell heather dominate.
- Avoid early or intensive grazing of recently burnt areas.
- Develop a heather burning rotation.
- Follow the Muirburn Code.

Bracken control

- Control bracken through an ongoing rotational programme concentrating on those areas where treatment can be followed up and integrated with stock management changes.
- Consider, where appropriate, using cattle feeding practices as part of bracken control measures. Cattle open up the sward, exposing the rhizomes to frost.

Measures concerning woodland

Productive Woodland (Commercial plantations)

Productive commercial forest margins can be managed to benefit wildlife, in particular black grouse, owls and insects. Consider the following points:

- respacing trees to create more open edges. Planting trees such as birch, willow, Scots pine and larch in some of the open areas
- maintaining adjacent wetlands, a habitat rich in insects
- controlling foxes and crows
- controlling deer
- encouraging heather, cotton grass and blaeberry; which are favoured feeding for black grouse
- dismantle redundant deer or stock fences and mark fencing in use to reduce bird strike



Semi-natural Woodland and Scrub

Areas of semi-natural woodland and scrub, if managed well, will provide field shelter to stock, a buffer zone between watercourse and grazing, a habitat for a wide range of species and a landscape enhancing feature. Careful planning of woodland can also assist with the management and handling of stock.

Consider:

- Fencing off steep ravines to prevent poaching, erosion and encourage riparian woodland.
- Localised thinning of the woodland to open up the canopy and allow native shrubs to develop.
- Planting of small areas to provide 'linkages' for wildlife between other woodland areas.
- Tubing up seedlings to protect them from browsing.
- Leaving dead trees, fallen timber and brash to decay as habitats for a wide variety of insects and fungi.

Checklist

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

	Action
Management of Wetlands	
Silage/hay cutting	
Cropping	
Management of species rich grassland	
Commercial plantations	
Semi-natural woodlands	
Rough grazings	
Stocking rates	
Shepherding	
Muirburn	
Bracken control	
Conservation audits	

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 Ecosystem Group:

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

Other Leaflets in the series are:

- 1) Biodiversity on lowland arable farms
- 3) Biodiversity on croftland and common grazing
- 4) Biodiversity on intensive grassland
- 5) Biodiversity and intensive cropping
- 6) Biodiversity and sporting enterprises

To obtain the other leaflets contact your local adviser or consultant or visit

www.snh.org.uk

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