

NATURAL HERITAGE

(2009)

NH 004

The grasslands of Northern Ireland were originally created when forests and scrub were cleared to provide land for arable farms, grazing pastures and hay meadows. Today, grasslands are maintained either by cutting, or grazing of cattle, sheep or rabbits, all of which were introduced. Without cutting or grazing, grassland will revert back to scrub and forest as trees and shrubs invade. The types of grassland found depend very much on the soil characteristics and the way in which the land is managed.

CALCAREOUS GRASSLAND

In Northern Ireland, calcareous grassland is mostly confined to the limestone areas of Co Fermanagh, such as Marlbank. Small areas may also be found on wind-blown calcareous sands near the coast, e.g. Killard Nature Reserve, Co Down. The thin alkaline soil which covers the limestone rock or shell sand is rich in calcium carbonate but poor on other plant nutrients like nitrates and phosphates.

The growth of more vigorous plants is limited by the lack of nutrients, drought and grazing. The harsh conditions prevent any one species from taking over and eliminating other plants, and subsequently a rich flora develops on the limestone soil:

Grasses:	Blue moor grass, red fescue, sheep's fescue, crested hair grass, quaking grass;
Sedges:	Glaucous sedge;
Flowers:	Thyme, purging flax, kidney vetch, ox-eye daisy, bird's-foot trefoil, bulbous buttercup, cowslip;
Orchids:	Bee orchid, common twayblade, frog orchid.

UPLAND ACID GRASSLAND

This type of grassland occurs on acidic soils, most typically on hill-grazing land on the Antrim Plateau, the Sperrins and the Mourne mountains.

The vegetation is generally rather species-poor, but contains a characteristic range of grasses and flowers:-



A GRAZING COW



SHEEPS FESCUE



MAT GRASS



COMMON BENT

Upland acid grassland is used as rough grazing pasture for sheep. They keep the vegetation short and prevent the invasion of trees and shrubs like birch or rowan.

Grasses:	Sheep's fescue, common bent, mat grass, wavy hair grass, heath grass;
Flowers:	Heath bedstraw, tormentil, sheep's sorrel, thyme-leaved milkwort, eyebright.

HAYMEADOWS

Fifty years ago, every farm with livestock required hay meadows to produce winter feed. Some of these meadows had an ancient sward that had never been cultivated. Now, most meadows have been fertilised or reseeded and are cut for silage. Only a few traditional hay meadows now survive in Northern Ireland: most can be found in Fermanagh.

Hay meadows generally occur on neutral soils. They are cut for hay once a year, usually mid July/August, which prevents late flowering plants from setting seed. These soon die out, leaving room for species which flower early. Eventually a balanced community of as many as 50 different species of flowers and grasses develops to form a mature sward.

PLANTS OF WET MEADOWS

Grasses:	meadow foxtail, Yorkshire fog, meadow fescue, tufted hair grass, rough meadow grass;
Sedges:	carnation sedge, glaucous sedge;
Rushes:	jointed rush, sharp-leaved rush;
Flowers:	Lady's smock, ragged robin, marsh orchids, butterfly orchids, marsh bedstraw, devil's-bit scabious, meadowsweet.

PLANTS OF DRY MEADOWS

Grasses:	red fescue, Yorkshire fog, sweet vernal grass, cocksfoot, crested dog's tail, smooth meadow grass, yellow oat-grass;
Sedges:	oval sedge;
Flowers:	Meadow buttercup, bird's-foot trefoil, dandelion, Lady's mantle, yarrow, ribwort, fragrant orchid, ox-eye daisy, cowslip.

SEMI-IMPROVED GRASSLAND

Many areas of grassland have been slightly modified by fertilizers, herbicides, high grazing pressure or drainage. These areas usually have a reduced species diversity:

- Nitrogen fertilizers encourage vigorous grasses to compete with and overcome many of the flower species.
- Prolonged grazing results in tussocks of unpalatable grasses developing in the previously mixed swards. Some plants disappear altogether.

- Poached ground (grassland broken into patches of bare earth by excessive trampling) can be colonised by agricultural weeds such as ragwort and creeping thistle.

RESEEDED GRASSLAND

Most lowland grass fields are planted with perennial ryegrass and clover seed mixes and are regularly fertilised. They are used for intensive grazing or silage (two or occasionally three cuts per year).

Heavily cropped pastures are very poor in plant and animal species compared with other grasslands. The few weeds that can invade such fields cannot be eaten by grazing stock, e.g. greater plantain, creeping thistle and ragwort, so herbicides are often used to control them.

INVERTEBRATES OF GRASSLANDS

In general, floristically rich undisturbed grasslands support more invertebrates than improved grasslands because there are more food plants and micro-habitants:

Soil Fauna:	Mites, springtails, earth worms, beetle and fly larvae.
Litter Layer:	Springtails, woodlice, millipedes, snails, slugs, ground beetles.
Stems & Leaves:	Leaf miners, caterpillars, beetles, spiders, grasshoppers.
Seeds & Flowers:	Weevils, crab spiders, hoverflies, moths (e.g. cinnabar, 6-spot burnet, wood tiger), butterflies (e.g. orange tip, green-veined white, small copper, common blue, red admiral, meadow brown).

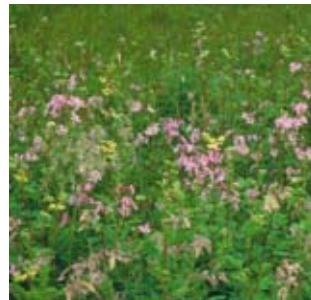
BIRDS

Because of the lack of cover, only a few specialised birds breed in grassland:

Hay meadows:	corncrakes
Tussock pastures:	skylarks, meadow pipits
Damp meadows:	Waders, e.g. lapwings, redshank, curlew and snipe.



BIRD'S-FOOT TREFOIL



RAGGED ROBIN



COWSLIP



MEADOWSWEET

These birds and corncrakes in particular, are vulnerable to agricultural practices which affect the availability of food or the cover provided by rushes and tall grass. Corncrakes are one of only three globally threatened species of bird to be found in the UK. Fermanagh is one of their last strongholds, but even here numbers are declining due in part to the practice of cutting grass for silage before the corncrakes have reared their young.

Many other species use grasslands for roosting or feeding, for example swallows, kestrels, finches, thrushes, starlings, jackdaws, gulls, plovers, swans and geese.

MAMMALS

Rabbits are the most familiar and wide-spread grassland mammal. Although they are a serious agricultural pest, rabbits maintain natural grassland habitats by eating vigorous grasses and shrubby plants.

Many mammals live in woods but hunt over grasslands, especially where the grass is long, e.g. badgers, foxes, stoats and hedgehogs.

Other grassland mammals include the pygmy shrew (Ireland’s only shrew), wood mouse and Irish hare. One of the best known British grassland mammals, the mole, does not occur in Ireland.

THREATS TO GRASSLAND

Drainage:	lowers the water table.
Fertilisers:	nitrites increase grasses (cocksfoot and rye grass). Phosphates increase legumes (clover and trefoils).
Herbicides:	reduce numbers of flowering plant species.
Ploughing:	disturbs invertebrate fauna.
Reseeding:	reduces species diversity.
Tree Planting:	shades out grassland plants.
No Grazing:	natural succession of coarse grasses, shrubs and trees.
Over Grazing:	selection for coarse grasses and poisonous weeds.

MANAGEMENT FOR NATURE CONSERVATION

Grazing

1. Removes herbage slowly so invertebrates can escape.
2. Droppings maintain soil fertility.
3. Trampling reduces the litter of dead material that may smother small plants.

Most grasslands are grazed by sheep or rabbits, but cattle are sometimes used in damp meadows.

Mowing for Hay

1. Allows seed heads to ripen and be dispersed.
2. Controls vigorous plants that flower later in the year.
3. Allows corncrakes and other ground nesting birds to rear their young before the grass is cut.

Hay is usually cut mid July-August, depending on the weather and location.

GRASSLANDS TO VISIT

Crossmurrin Nature Reserve, Co Fermanagh.
Calcareous grassland.

Binevenagh National Nature Reserve, Co Londonderry.
Upland grassland.

Murlough Bay, National Trust, Co Antrim.
Mosaic of different grassland types. Signposted from the Ballycastle to Torr Head Road.

Killard Nature Reserve, Co Down.
Calcareous coastal grassland. Off the Killard Road between Strangford and Ballyhornan.

PROTECTED GRASSLANDS

Designation	Number of Sites	Area (hectares)
ASSI	13	862.0
NNR	6	329.0
FNR	2	94.0
NT	6	543.0
UWT	5	419.0
Total	31*	2207.0*



CORNCRAKE



HEDGEHOG



EARTHWORM

GRASSLANDS

For an description of these designations, see Fact Sheet CON002.

*The total are not the sum of the figures given because, where a site has more than one designation, it is included once in the total.

FURTHER READING

Grasses, Sedges, Rushes and Ferns of Great Britain and Northern Europe -

Fitter, R & Fitter, A (1984). Collins, Glasgow.
ISBN 0-00-219128-8.

The Conservation of Chalk Grassland -

Nature Conservancy Council (1982).
Nature Conservancy Council, Peterborough.
ISBN 0-86139-167-5.

The Conservation of Meadows and Pastures -

Nature Conservancy Council (1989).
Nature Conservancy Council, Peterborough.
ISBN 0-86139-167-5.

Our aim is to protect, conserve and promote the natural and built environment for the benefit of present and future generations.

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