Managing Wildflower Grasslands

Helen Baczkowska

Wildflower-rich grasslands are found across Norfolk, in river valleys, on old commons, on outcrops of chalk, and scattered across the countryside. These grasslands vary in character, but all are important habitats and attractive features of the landscape. The decline in the area covered by these special grasslands has resulted in serious losses of biodiversity.

Norfolk Wildlife Trust is active in encouraging both farmers and non-farming landowners to manage existing grasslands and to create new wildflower grasslands.

This handout provides information on the management of species-rich grasslands (with the exception of chalk grassland, for which specialist advice should be sought). Refer also to other handouts in this series which give advice on specific aspects of wildflower grassland management.

The aims of grassland management

Management should aim to prevent the growth or spread of scrub, to remove the year's growth of grass and to control rank areas (such as large patches of nettles) or undesirable species (such as bracken).

Managing meadows allows wildflowers to flower and set seed and offers habitat for invertebrates and birds to breed, feed and over-winter. Some bumblebees and butterflies will benefit from leaving areas uncut. Uncut areas should be rotated annually to prevent development of rank grass or scrub.

Why manage meadows?

Left alone, grasslands will eventually turn to scrub. Grassland swards need regular management to maintain their open character and species diversity. The timing and extent of management such as grazing and cutting will determine the character of the sward and how effective the grassland is as habitat for small mammals, invertebrates and other wildlife.

As management will always be specific to a site, seeking advice is recommended to ensure the very best for wildlife.

Grasslands can be managed as traditional hay meadows with cutting and grazing; by cutting only; as traditional grazed pasture, rough grassland or wet grassland; or as improved grassland for hay and silage.

Traditional hay meadows

For hundreds of years, until the invention of modern feeds and silage, hay was essential winter feed for livestock. The management of land for hay created specific grasslands, some of which survive in the landscape today.

Traditional hay meadow management involves cutting and removing hay from July, after most of the finer-leaved grasses and wildflowers have set seed, and then grazing the re-growth (traditionally called 'aftermath') from September until the soil becomes too wet, usually in November or December. Grazing helps to control some more vigorous species (such as hogweed). It also creates greater structural diversity in the sward as animals lightly poach the soil, trample some areas and neglect others. This mosaic of species and sward heights is of great benefit to insects.

An example of a traditional regime is:

January and February	Light grazing on any new growth (optional).
Early March	Remove grazing; this allows plants to grow and creates good habitat for ground nesting birds.
April to July	Cut hay once wildflowers have seeded from mid-July; cut meadow slowly, allowing animals to escape. Remove all cut materials.
September to end of December	Main grazing period with light grazing down to a short sward height; a mosaic of plant heights helps encourage insects.

Some sites are so small that traditional hay management with 'aftermath' grazing is now too awkward or too expensive. In these cases, cutting should be delayed until after mid-July when most wildflowers have set seed. Spring cutting should take place before the end of February, but only where really needed.

All cuttings should be removed to prevent smothering of wildflower seedlings and to prevent nutrient build up, which can encourage competitive species that eventually dominate more fragile wildflowers.

A suggested timetable is as follows:

Mid February	If needed, cut short any significant winter growth leaving 1-2 inches of sward.
Mid July - end October	After flowering, carry out main cut and remove all cut material. Leave some areas uncut each year as refuges for invertebrates.

Traditional pasture

In the past, many meadows were only ever managed by grazing, usually with sheep or cattle. In Norfolk a variety of grasslands, including wet fens, low lying fields near streams and high, dry acidic grasslands were managed by grazing stock. Although management and stocking rates vary according to the nature of the site, most traditional pasture management involves grazing lightly in the spring and summer with sheep or cattle. This allows wildflowers to set seed and to provide a diversity of vegetation structure.

A recommended general regime is as follows:

January – February	No grazing.
March	Light grazing only on new growth (optional) – consider if the grassland contains geminating annuals such as yellow rattle.
April to July	Very light or no grazing.
July to end of December	Main grazing period, with light grazing over a long period to help create a varied sward height, allowing some 'islands', corners, margins or tussocks to over-winter.

Traditional pasture management is particularly beneficial to the breeding and over-wintering of invertebrates. It also supports the nesting and feeding of some birds. Lighter, later and/or less frequent grazing will be of greater benefit to invertebrates and may help ground-nesting birds, such as skylarks. Heavier grazing in autumn/winter can have greater benefit for plant diversity.

Stocking rates

The suitable stocking rate for a site will vary depending on what stock is available, how dry or damp the land is, how much grazing is available and many other factors. Generally low intensity grazing over a large area will create a more varied grassland. It is best to seek advice on grazing species-rich sites, but the following guidelines may be helpful:

- The following is a guide to livestock units (LU): dairy or mature beef cattle or horse = 1 LU; cattle aged 6 months to 2 years = 0.6 LU; pony = 0.6 LU; lowland sheep = 0.15 LU; upland sheep = 0.1 LU.
- Average stocking rate on old pastures = 1 LU/per hectare.
- Light stocking rates for aftermath grazing or during summer months = 0.4 to 0.6 LU/per hectare.
- Acid grassland and very wet land may require lighter stocking, at around 0.3 LU/per hectare.

These should only be treated as a rough guide and the key to grazing is to remove the year's growth of grass, control any small scrub and to remove animals before land becomes poached (muddy) or bare patches appear.

What stock to use?

Different livestock types have different effects on the structure of pastures:

- Sheep tend to create a mosaic of long and short patches, but are good on free-draining sites and for controlling young woody species.
- Cattle will tear at plants and open up rank pasture; they will also lightly poach or trample soils and are good on sites with reeds or fen vegetation.
- Horses are very selective feeders which can lead to increased rank vegetation in some patches, with close-cropped 'lawns' in others. However, native ponies can be useful at a low stocking density, especially on dry, acid grasslands. For further information see our handout on managing grasslands with horses.

Wet grasslands

Wet grasslands, fens and water meadows are defined by their damp and usually low-lying nature; many of these areas were considered agriculturally marginal in the past, being difficult to drain and manage. True water meadows were seasonally flooded early in the year to encourage a spring flush of grass – essential for livestock that had often had little food through the winter.

Most wet meadows were traditionally cattle grazed and this is still the best approach; light poaching in winter can open up some areas of sward and maintain a diversity of sward structure. Wet grassland can support a wide diversity of plants and invertebrates, so advice on management should be sought.

These pastures are often good places for birds, including wintering wildfowl and breeding waders.

Green Recovery Challenge Fund

Department for Environment Food & Rural Affairs
The National Lottery Heritage Fund
Environment Agency
NATURAL ENGLAND