

# Vision for Essex Lowland Meadows

Safeguarded, improved and extended lowland meadows habitats appreciated for their wealth of wildlife.

Lowland meadows and grasslands are encouraged and sympathetically managed for their biodiversity and as corridors between fields of crops and alongside roads, drains, rivers and other features.

Existing grasslands extended and managed in a favourable way, with grazing animals and appropriate cutting regimes where possible.



## Lowland Meadows

### National Description

A wide-ranging approach is adopted in this plan to lowland grasslands treated as lowland meadows. They are taken to include most forms of unimproved neutral grassland across the enclosed lowland landscapes of the UK. In terms of National Vegetation Classification plant communities, they primarily embrace each type of *Cynosurus cristatus* - *Centaurea nigra* grassland, *Alopecurus pratensis* - *Sanguisorba officinalis* floodplain meadow and *Cynosurus cristatus* - *Caltha palustris* flood-pasture.

The plan is not restricted to grasslands cut for hay, but also takes into account unimproved neutral pastures where livestock grazing is the main land use. On many farms in different parts of the UK, use of particular fields for grazing pasture and hay cropping changes over time, but the characteristic plant community may persist with subtle changes in floristic composition.

In non-agricultural settings, such grasslands are less frequent but additional examples may be found in recreational sites, church-yards, roadside verges and a variety of other localities.

As indicated in the Habitat Statement included in *Biodiversity: the UK Steering Group Report, Vol 2* (1995), unimproved neutral grassland habitat has undergone a remarkable decline in the 20<sup>th</sup> century, almost entirely due to changing agricultural practice. It is estimated that by 1984 in lowland England and Wales, semi-natural grassland had declined by 97% over the previous 50 years to approximately 0.2 million ha. Losses have continued during the 1980s and 1990s, and have been recorded at 2 -10% per annum in some parts of England. Extensive agricultural modification of unimproved grasslands has also been recorded in Scotland between the 1940s and 1970s. Recent conservation survey findings in Britain and Northern Ireland reveal that the impact has been pervasive, and an estimated extent of less than 15,000 ha of species-rich neutral grassland surviving today in the UK is given in the Habitat Statement.

The plan concentrates on meadows and pastures associated with low-input nutrient regimes, and covers the major forms of neutral grassland which have a specialist group of scarce and declining plant species. Among flowering plants, these include fritillary *Fritillaria meleagris*, Dyer's greenweed *Genista tinctoria*, green-winged orchid *Orchis morio*, greater butterfly orchid *Platanthera chlorantha*, pepper saxifrage *Silaum silaus* and wood bitter vetch *Vicia orobus*. Lowland meadows and pastures are important habitats for skylark and a number of other farmland birds, notably corncrake which has experienced a major range contraction across the UK.

The overall outcome of habitat change in the lowland agricultural zone is that *Cynosurus* – *Centaurea* grassland, the mainstream community of unimproved hay meadows and pastures over much of Britain, is now highly localised, fragmented and in small stands. Recent estimates for cover in England and Wales indicate that there is between 5000-10,000 ha of this community in total. There is an especially important concentration in Worcestershire and other particularly important areas include south-west England (Somerset, Dorset and Wiltshire), the East Midlands & East Anglia (Leicestershire, Northamptonshire, Cambridgeshire and Suffolk), in various parts of Wales and in West Fermanagh and Erne Lakeland in Northern Ireland.

Unimproved seasonally-flooded grasslands are less widely distributed. They have lower overall cover, but there are still a few quite large stands. *Alopecurus* - *Sanguisorba* flood-meadow has a total cover of <1500 ha and is found in scattered sites from the Thames valley through the Midlands and Welsh borders to the Ouse catchment in Yorkshire. These include well-known but now very rare Lammas meadows, such as North Meadow, Cricklade, and Pixey and Yarnton Meads near Oxford, which are shut up for hay in early spring, cropped in July, with aftermath grazing from early August; nutrients are supplied by flooding episodes in winter. *Cynosurus* - *Caltha* flood-pasture is also now scarce and localised, with probably <1000 ha cover in England and Wales. Scotland is estimated to have 600-800 ha of this community.

It will be important to ensure that such periodically flooded grasslands are taken into account during implementation of the action plan for coastal and floodplain grazing marshes; actions in the two plans need to be closely integrated.

Agricultural intensification has led to the extensive development of nutrient-demanding, productive *Lolium perenne* grasslands. These are managed for grazing and also silage production which has widely replaced traditional hay-making. Where fertiliser input is relaxed or in swards which have only been partially improved, *Lolium* - *Cynosurus* grassland is common; in many respects this is intermediate between improved and unimproved lowland neutral grasslands but has few uncommon species and is generally of low botanical value.

## **STATUS IN ESSEX**

There is very little information available describing the current extent or previous loss of grasslands in Essex. However, it is almost certain that their fate has been similar to grasslands in other counties across lowland England and Wales.

It seems likely, that the landscape of Essex has primarily been arable for many centuries, and, away from the coast, extensive areas of semi-natural grassland were probably restricted to the 'London Clay' region, which would have been used for dairy pasture supplying milk and butter to London. None-the-less, up until widespread mechanisation of farming after World War II, unimproved grassland would still have been a relatively frequent feature in the countryside. For example, even within wheat growing districts they were important for providing fodder and grazing for draught animals required to work the land. The remaining areas of species-rich grassland are typically small and fragmented; confined to nature reserves, village greens, marginal agricultural land, and roadside verges. Brownfield areas have provided an opportunity for some new stands to develop, but this is insignificant when compared to what has been lost.

The character of species-rich grasslands is influenced by their underlying geology and topography, together with the hydrological and management regimes to which they are subjected. This plan deals with the following types:

### **Neutral meadows and pastures**

These tend to be flower-rich grasslands upon ancient turf that have escaped destruction or agricultural improvement. They are often managed in a traditional manner, and produce a charismatic display of colourful meadow herbs in summer. Particularly characteristic are flowers such as common knapweed, sorrel, meadow buttercup, lady's bedstraw, burnet saxifrage, and ox-eye daisy. They are also home to uncommon species like green-winged orchid, betony, pepper saxifrage, dyer's greenweed and adder's tongue fern.

Scarcer still are wet meadows and pastures. Only a handful of sites remain, largely confined to the Lea, Stort and Roding Valleys'. They are distinguished by the occurrence of a suite of uncommon plants including marsh marigold, southern marsh orchid, sneezewort and brown sedge.

Aside from their floristic interest, meadows and pastures often provide important foraging areas for butterflies and other invertebrates (e.g. meadow brown and meadow grasshopper) and a refuge for ground-nesting birds such as skylark and meadow pipit.

### **Calcareous grasslands**

Two variants are recognised in Essex: those occurring upon chalky boulder clays, and, much less commonly, those of solid chalk deposits. Sadly stands of both are now confined to road verges and the peripheries of quarries, with a handful of larger examples surviving as greens where they have been protected from agricultural improvement and quarrying. The best remaining sites are located in Uttlesford and Thurrock. Calcareous grasslands are rich in wildlife and have a distinct suite of flowers and invertebrates. Characteristic plant species include field scabious, pyramidal orchid, yellow-wort, common spotted orchid, and greater knapweed. As well as some of the county's rarest and most colourful species, such as crested cow-wheat, sulphur clover, man orchid, round-leaved wintergreen and yellow bird's-nest.

**Thames terrace grasslands** Unique to the Thames Estuary and supporting a distinctive flora and fauna, this grassland type occurs upon uncultivated gravel deposits laid down in prehistoric times by the river as it flowed across a much larger area than it does today. Essex has some of the finest remaining examples, located mainly in Thurrock and Basildon. This habitat is home to numerous rare invertebrates such as the UK BAP brown carder bumblebee and shrill carder bee, as well as the nationally rare autumn squill plant.

### **Semi-improved grassland and scrub**

Semi-improved grassland encompasses those swards that have lost many, but not all, of the characteristic plants associated with unimproved species-rich grassland. This is usually as a result of inappropriate management or disturbance at some point in the past.

Although lacking the inherent floristic value of other types, with so little species-rich grassland left in the county the plan recognises the important role they play, and the potential for restoration that they offer.

When managed sympathetically, they can provide important habitat for invertebrates, reptiles, amphibians, small mammals, bats and birds.

Finally, the importance of scrub as a component of semi-natural grasslands is also acknowledged, and on all but the smallest of sites its presence in limited amounts is to be encouraged.

### **Meadows and pastures**

Once commonplace features of the landscape, meadows and pastures have arguably fared the worst of all grassland types. Unimproved neutral grassland is now very rare in Essex.

They have been ploughed, drained and re-seeded as agriculture production has intensified since World War II. It is estimated that by 1984 in lowland England and Wales, semi-natural grassland had declined by 97% over the previous 50 years.

In Essex, grasslands that remain are confined to protected sites and nature reserves, but the difficulty of sustaining mowing or grazing still threatens many meadow species which rely on traditional management regimes for survival. This is exacerbated by the decline in livestock farming, which has largely disappeared to be replaced almost entirely by arable. Therefore, maintaining grasslands in good condition requires considerable investment in stock, machinery and labour, which most landowners can ill afford.

The botanical character of a meadow or pasture is influenced by the underlying geology, the hydrology of the site, and whether the grassland is mown or grazed.

Typically however, they comprise a mixture of grasses such as crested dog's-tail *Cynosurus cristatus*, meadow foxtail *Alopecurus pratensis*, common bent *Agrostis capillaris*, perennial rye-grass *Lolium perenne*, Yorkshire fog *Holcus lanatus* and red fescue *Festuca rubra*, together with a suite of meadow herbs which include common knapweed *Centaurea nigra*, lesser bird's-foot trefoil *Lotus corniculatus*, meadow buttercup *Ranunculus acris*, and less frequently adder's-tongue fern *Ophioglossum vulgatum*, devil's-bit scabious *Succisa pratensis* and sneezewort *Achillea ptarmica*.

Essex rarities found in this habitat include pepper saxifrage *Silaum silaus*, betony *Stachys officinalis*, meadow saxifrage *Saxifraga granulata* and lesser brome *Bromus racemosus*. Nationally important species are also present at some sites such as corky-fruited water-dropwort

## **Targets**

<b>National Targets    Lowland meadows</b>		<b>target date</b>
1	No loss of existing resource 10,521ha	ongoing
2	Achieve favourable or recovering condition for 7088ha	ongoing
3	Re-establish 345ha	ongoing

<b>East of England Targets    Lowland meadows</b>		<b>target date</b>
1	Restore 40 ha of lowland meadow from semi-improved or neglected grassland	2015
2	Re-establish 60ha grassland of wildlife value from arable or improved grassland	2015

<b>Essex Targets    Lowland meadows</b>		<b>target date</b>
1	No loss of existing lowland meadow resource currently est 592ha	2020
2	Achieve optimum biodiversity condition for 50% of lowland meadow = 296ha	2020
3	Create 50ha of lowland meadow	2020