ENGLISH NATURE

The importance of livestock grazing for wildlife conservation

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Cattle grazing species-rich grassland. Peter Wakely/English Nature

The importance of livestock grazing for wildlife conservation

Introduction

Livestock grazing is essential for the management of many of England's most important wildlife habitats. Grassland, heathland, wood pasture, floodplain and coastal marshes all require some grazing to maintain the structure and composition upon which a variety of plants and animals depend for their survival. Farming has played a significant role in shaping these habitats and the continuation of certain farming practices is often crucial for their survival. However, farming practices have changed dramatically over recent decades, in response to both political and market forces, and this has often had negative consequences for these valuable habitats. This process of change is far from over and the future management of these habitats is still uncertain.

Over-grazing has historically been the issue which has caused most damage to these habitats and this will continue to be an issue of crucial importance, particularly in the uplands. However, we are also facing a new challenge. Extensive livestock farming, particularly beef cattle, has been suffering from very low profitability for many years and these types of enterprise were often only economically viable because of the high level of subsidies they attracted.

Cattle grazing. Paul Glendell/English Nature

Recent changes to the Common Agricultural Policy, which break the link between subsidy and production, mean that the future of livestock grazing is at risk in large areas of the country because farmers no longer have to keep unprofitable enterprises running in order to receive subsidy.

Under-grazing is already a real issue in many lowland areas and it is likely that this problem will increase over coming years. This will have dire consequences for those habitats which require livestock grazing to sustain the delicate balance of plant, insect, bird and other animal species which make them unique.

Dorset heath. Peter Wakely/English Nature

Green-winged orchid. Paul Glendell/English Nature

Why grazing is important

Livestock grazing plays a key rôle in maintaining species-rich habitats by controlling more aggressive species which would otherwise dominate these areas and by preventing scrub encroachment. The selection of certain plant species in preference to others by livestock is an important factor determining the structure and floristic composition of the vegetation of various habitats. Livestock grazing removes plant material more gradually than cutting or burning and gives mobile species a better chance to move to other areas within the habitat. Grazing also supports other farming activities such as hay-making which provides active management for valuable meadow habitats, allowing slower-growing grasses to flower and seed. By grazing hay meadows after they have been cut competitive coarse grasses are controlled and the trampling that occurs creates gaps in

the vegetation which allow seedlings to grow. This ensures a variety of species continues to flourish.

To ensure that wildlife habitats are managed for greatest environmental benefit it is important that the type, number and timing of livestock grazing is tailored to the needs of an individual site. Different types of livestock graze in different ways and this influences their suitability for grazing individual habitats. Even within livestock types individual breeds can graze differently.

Sheep have thin mobile lips and move slowly over the sward nibbling the grass. They can graze very close to the ground which can result in tight 'lawn-like' vegetation. Sheep are very selective grazers and will target flowering plants which can have a negative impact on species diversity. Sheep can push their way through scrub and can browse saplings preventing new growth. However, they find it harder to graze longer vegetation which is often trampled instead.

Sheep grazing on Spurn Head. Paul Glendell/ English Nature

Horses and ponies have teeth which point slightly forward and can graze as close to the ground as rabbits. Horses and ponies are selective grazers and will leave some areas of pasture untouched resulting in taller patches of vegetation. These 'latrine' areas can benefit insects and small mammals but can also result in undesirable areas of rank grass if they are not managed correctly. Hardy breeds can forage on species such as rush, bracken and reeds and can also help to control scrub encroachment by browsing saplings and other woody material.

Dartmoor pony grazing near Rippon Tor, Dartmoor. Paul Glendell/English Nature

Cattle use their tongues to pull tufts of vegetation into the mouth. This means that they do not graze vegetation too close to the ground and often leave tussocks of grass which are used by insects and small mammals. Because of their wide mouths cattle do not graze selectively and as a result do not target flower heads and herbage which is important for botanically-diverse habitats. Cattle are able to create their own access into rough areas and the trampling of these areas can be an important way of controlling scrub.

Ruby red cattle in north Devon. Rob Walton/English Nature

Political and economic factors affecting livestock grazing

Our ability to retain sustainable livestock grazing, using suitable types and numbers of livestock at the appropriate time of year, is essential to the maintenance of many important wildlife habitats.

However, there is a number of factors that influence the sort of grazing systems that are, or are not, put in place by land managers. These include market forces, the profitability of different sorts of farming activities and EU and UK agricultural policies. These have resulted in significant changes to farmland habitats over recent decades and will continue to play a crucial role in their future management.

Loss of heathland to arable production. Steve Clarke/ English Nature

The second half of the twentieth century saw huge increases in crop and livestock production in England through intensification of farming methods and specialisation of farm businesses. This has been achieved through:

- increased use of pesticides and artificial fertilisers;
- ploughing and re-seeding of old grassland;
- a move from hay to silage;
- more mechanisation and land drainage;
- the introduction of high-yielding crop varieties; and
- a switch from spring to autumn sown crops.

Unfortunately, many of these advances have been at the expense of farmland wildlife. Habitats have been lost or reduced to small fragments and their capacity to support wild plants and animals has been degraded. Old grasslands that have remained 'unimproved' by artificial fertilisers, herbicides, drainage and re-seeding have become very rare with 97% being lost by the mid-1980s.

Species-rich grassland. Paul Glendell/English Nature

An increase in livestock numbers in some parts of the country has been dramatically accelerated by the support payments for sheep and cattle provided by the Common Agricultural Policy. The use of 'headage' based payments, calculated on the number of livestock on a farm, naturally resulted in farmers seeking to maximise their income by increasing livestock numbers.

Sheep on over-grazed upland on Dartmoor. Paul Glendell/ English Nature

This led to a number of important wildlife habitats suffering from the pressure of over-grazing, particularly in the uplands.

In the light of these, and other problems, the Common Agricultural Policy has undergone a series of reforms which has resulted in changes to the way in which farmers receive support payments. From 2005 onwards farmers will no longer receive payments based on the number of animals they own. This presents both threats and opportunities for the future of the livestock sector and it is still unclear exactly how the industry will respond to the challenges that it presents. It is, however, clear that this will have a significant impact on the nature of the farmed environment in England.

This period of change offers a number of opportunities to move livestock farming onto a more environmentally-sustainable basis but it also means that market forces will become increasingly important. The livestock industry will no longer be buffered from the reality of the

market by headage-based production subsidies and farm businesses will need to be economically viable in their own right if they are to continue. As a consequence the indirect environmental benefits of the subsidy system, which often maintained uneconomic livestock grazing, will be lost.

Policy changes are likely to have both positive and negative impacts on livestock grazing, including:

- Reduced grazing pressure in the uplands and on common land, although it is difficult to estimate the scale and timing of this reduction.
- Under-grazing or the withdrawal of grazing. This will be particularly evident in areas such as the lowlands where livestock production has already declined, and it could also become a problem in areas which currently have significant numbers of livestock.
- A reduction in the profitability of beef cattle. This will lead to a decline in extensive cattle grazing as farmers leave the industry or move towards more intensive production systems.
- A decline in mixed farming and grazing. Increased specialisation will mean it is harder to maintain the mosaic of habitats upon which many species depend.

These changes present us with a new set of challenges that will need to be addressed if valuable wildlife sites are to be managed appropriately. The solutions to these problems are likely to vary considerably between upland and lowland areas.

The lowlands

Many of our lowland habitats were once integral to mixed arable and extensive livestock farming systems. Grasslands, wetlands and heathlands were traditionally grazed, at relatively low intensities, by hardy breeds of sheep, cattle and ponies. However, the specialisation and intensification of agriculture over the last 50 years has resulted in a decline in these mixed, low intensity systems.

Galloway cattle grazing. Paul Glendell/English Nature

Many of our surviving lowland wildlife habitats are no longer part of the economic farm business, often only remaining as isolated fragments, and commercial grazing has in some areas ceased to be a viable economic activity. As a result it is increasingly

difficult to find livestock to graze remaining wildlife sites. In many cases this has led to a rapid deterioration in their environmental condition. Without appropriate management, scrub and invasive weedy plants often take over, with consequent losses of wildflowers, butterflies, reptiles and other species characteristic of these areas. Once grazing has been lost altogether it can be very difficult and expensive to reinstate as the necessary skills, infrastructure and livestock may no longer be present.

Sutton Marshes with heavy scrub. Peter Wakely/ English Nature

Where livestock production still occurs in the lowlands there has been a shift towards more intensive grazing systems. The use of more productive grass varieties or alternative fodder crops such as maize, the greater use of fertilisers and a shift from hay to more frequent cuts for silage also have had negative environmental consequences. This has led to a massive loss of traditional hay meadows and their associated plants and wildlife.

Under-grazing is a key concern in the lowlands and already affects over 530 Sites of Special Scientific Interest covering 21,000 hectares of land. Under-grazing is expected to become increasingly widespread as a result of the changes to the way livestock farmers are supported.

Important lowland habitats and the grazing issues that affect them

Lowland calcareous grassland has a very rich flora, including many nationally rare and scarce species. It supports many different invertebrates including scarce butterflies like the adonis blue, the silver-spotted skipper and the wart-biter cricket. It also provides a feeding and breeding area for a number of scarce or declining birds including stone-curlews.

Parsonage Down Site of Special Scientific Interest. Peter Wakely/ English Nature

Well-managed calcareous grassland has an open, grazed sward. Livestock grazing is essential to maintain a species-rich sward; left ungrazed it can become covered in rank grasses and scrub and require expensive clearance work.

Lowland acid grassland is characterised by plant species such as heath bedstraw, sheep's-fescue and wavy hair-grass. Dwarf shrubs such as heather and bilberry can also occur in small quantities. Lowland acid grasslands can be rich in lichens, mosses and a variety of fungi. They are also important for breeding bird species such as woodlark, stone-curlew and nightjar and support a number of invertebrates that only occur in acid grasslands, such as solitary bees and wasps and the rare field cricket.

Wildlife Enhancement Scheme on lowland acid grassland. Peter Wakely/English Nature

Well-managed lowland acid grasslands have an open, grazed sward of small, tussocky grasses. They also have patches of open ground suitable for colonisation by lichens, ephemeral plants and invertebrates. Sites require active management, in particular grazing, if they are to support these species.

Lowland neutral grassland includes three particularly important grassland types.

Hay meadow. Peter Wakely/English Nature

- **Species-rich meadows and pastures** cut for hay and then grazed. Once characteristic of lowland England this habitat is now very rare; where it remains it supports species such as green-winged orchid, adder's-tongue fern and pepper saxifrage.

- **Riverside flood meadows** are also cut and grazed but are subject to winter flooding. They have plant species such as greater burnet and, in a few sites, fritillary. Larger meadows are also important for breeding and wintering waterfowl.
- **Coastal and floodplain grazing marshes** which are particularly important for breeding and wintering waterfowl such as snipe, curlew and swans. These marshes also have ditches that are rich in aquatic plants and invertebrates.

Each of these habitats is affected by under-grazing with meadows being particularly vulnerable as they are often small, isolated and in areas where there is a lack of demand for hay and grazing. Without livestock grazing, these habitats become dominated by tall grasses which suppress smaller plants and reduce the botanical richness of these sites.

Lowland heath occurs on poor, acidic soils and is characterised by plants such as heather, cross-leaved heath and gorse. Lowland heathland provides a habitat for birds of European importance, including the Dartford warbler, nightjar and woodlark. It is also the primary habitat for rare reptiles, such as the sand lizard and smooth snake.

Birds, reptiles and heathland plant species require a mosaic of both open and dense vegetation. Well-managed heathland contains areas of grassland and gorse, scattered trees and scrub and also bare ground. This habitat can only be maintained through active management, of which livestock grazing is an essential component.

Heather cut sward on lowland heath. Peter Wakely/English Nature

Ellerton Ings, ragged-Robin and yellow iris. Peter Wakely/ English Nature

Fen, marsh and swamp covers a diverse group of wetlands, including basin fens, which are restricted to hollows; seepage fens and springs, restricted to the area around the groundwater that feeds them; and reedbeds. Fens are very rich in wildlife, and contain up to 550 different higher plants, a third of our native species. Fen habitats support more than half the UK's species of dragonfly and are home to the swallowtail butterfly. A range of aquatic beetles, and several thousand other insects and spiders are found in these habitats, which are also an important breeding ground for birds such as bitterns.

Drainage and water abstraction continue to be the main problems facing these sites but the growth of scrub and a lack of suitable grazing, are also significant problems.

The uplands

Upland habitats support a wide variety of birds, insects, mammals and reptiles. All require variation in the structure and composition of the vegetation in order to complete their life-cycles successfully. Livestock grazing can play an important part in maintaining the vegetation structure of upland habitats but this can only be achieved if the type, breed and number of livestock are appropriate to the site in question. Grazing is not necessary for all upland wildlife, however. Some habitats, for example wet blanket bog and wooded limestone pavement, benefit from areas where no grazing by livestock occurs.

Historically the size of herds or flocks grazing upland areas was limited by the available forage vegetation and the manpower to shepherd animals around the hills. Over the winter all cattle and most sheep were brought

North York Moors National Park, heather on Blakey Ridge. Peter Wakely/English Nature

down from the hills and the few that remained received additional hay only during periods of bad weather. This made it unlikely that any particular area was damaged through over-grazing or trampling.

With the introduction of production-related support, however, this changed and sheep numbers increased dramatically. Many farmers also moved away from traditional, hardy breeds and towards faster-maturing continental breeds which required additional feeding. This has resulted in widespread over-grazing and inappropriate supplementary feeding, causing significant damage to vulnerable upland habitats. In many cases over-stocking has meant that the rich mosaic of upland plants has been replaced with a uniform covering of close cropped grasses. It has also led to problems of soil erosion and poor water quality.

Over-grazing remains an issue of key concern in the uplands, affecting 190 Sites of Special Scientific Interest covering 130,000 hectares of land. Changes to the Common Agricultural Policy will remove the artificial incentive for farmers to overstock. This is a positive step forward but in itself is unlikely to result in the sort of management that upland habitats require.

Impact of grazing management. Peter Wakely/English Nature

Spring gentian, Langden Beck. Derek Ratcliffe/English Nature

Important upland habitats and the grazing issues that affect them

Upland calcareous grassland contains a mixture of grasses and herbs such as sheep's-fescue, common bent and wild thyme. Many lime-loving plants such as common rock-rose, bird's-eye primrose and bloody crane's-bill can also be found in these species-rich pastures. Upland calcareous grasslands are of particular importance for a number of nationally-rare butterfly species, including the northern brown argus and the small blue.

Catons Wildlife Enhancement Scheme exclosure 3rd year. Peter Wakely/English Nature

Livestock will often graze this habitat in preference to heaths or more acid grasslands. This can cause intense grazing pressure and over-grazing is one of the main issues affecting this habitat. Reduced stocking numbers and the introduction of mixed grazing with cattle, combined with shepherding, can help bring these areas back into good environmental condition.

Upland acid grassland typically has species-poor swards but is an important nesting ground for waders such as curlew, redshank and lapwing, and it is also an important feeding and hunting ground for moorland nesting birds such as golden plover and merlin. Many of the insects associated with acid grassland are specific to the conditions found in this environment and do not occur in other habitats.

Over-grazing is by far the greatest cause of damage to this habitat but it is also affected by inappropriate moor-burning and stock-feeding.

Typical acid grassland plants. Peter Wakely/English Nature

Upland heath typically has a range of dwarf shrubs such as heather, bilberry, and crowberry. Wet upland heath is most commonly found in the north and west and is dominated by mixtures of cross-leaved heath, deergrass, heather and purple moor-grass and can include rare mosses and liverworts. Upland heath is an important habitat for merlin, hen harrier and short-eared owl and there are also scattered remnant populations of black grouse.

Many upland heaths are over-grazed and are burned too frequently. This can reduce the amount and diversity of the heath, both in terms of species and structure.

Upland neutral grassland includes both enclosed meadows and pastures in upland valleys and neutral grassland on open moorland and is characterised by a rich mixture of grasses and herbaceous plants. The most striking feature of the vegetation is generally the variety and abundance of herbs, including wood crane's-bill, great burnet and lady's-mantles. Upland pastures are of considerable importance for a number of small songbirds, such as skylark, and are used for feeding and breeding displays by the increasingly rare black grouse.

Over-grazing can cause changes in the growth of plants, the species present and in the structure of the vegetation. Maintaining upland meadows in favourable condition depends on a continuation of hay-cutting and low-intensity grazing, coupled with occasional dressings of farmyard manure and lime.

Hay meadow in Upper Teesdale SSSI. English Nature

Blanket bog. Malcolm Stall/English Nature

Upland blanket bog is a globally rare habitat and includes species of heather, cross-leaved heath, deergrass, cottongrasses and bog-moss species. Its associated pools can support a number of rare and scarce invertebrates, such as northern dart moth and great yellow bumblebee. Many of these bogs are of European importance for birds such as merlin and a number of waders, including golden plover, curlew and dunlin.

Over-grazing, burning and drainage are particular problems for this habitat.

What we are doing

English Nature recognises the extremely valuable role that livestock grazing plays in managing our most important wildlife habitats. The future viability of the livestock sector, in particular extensive beef production, is therefore intrinsically linked to our ability to deliver our environmental objectives. We will be working hard, with a range of other organisations and partners, to find ways to help livestock farmers make the most of the environmental credentials of their product in the market place. We will also be looking at the best way to support those livestock farmers and graziers who are managing important habitats with little economic return, to ensure that the public benefits that their activities produce are recognised and rewarded.

Wildlife scheme discussion. Peter Wakely/English Nature

What you can do

There is a number of ways landowners can protect and enhance the wildlife habitats on their farm. This can range from managing land under an agri-environment scheme, such as Environmental Stewardship, to reducing the number or sort of livestock grazing vulnerable areas.

There is a number of organisations that can provide advice on the best way to manage valuable habitats, including those at the end of this leaflet.

Further reading

The Breed Profiles Handbook: a guide to the selection of livestock breeds for grazing wildlife sites

From English Nature publications (Catalogue code IN7.1).

Price - £15 inc. P&P.

Stock Feeding on Moorlands in England - Environmentally Sustainable Grazing in the Uplands

ISBN: 1 85716 624 8.

Full colour, 12 pages.

Free of charge from English Nature publications.

Guide to Animal Welfare in Nature Conservation Grazing

September 2001.

Free from the GAP office address in the contact details.

Farming for wildlife. Farmers sharing their expertise. Peter Roworth/English Nature

Local Grazing Schemes: a best practice guide (2nd Edition)

June 2003.

Free from the GAP office.

Farmland wildlife: past, present and future

ISBN: 1 85716 792 9.

A5, full colour.

Free of charge from English Nature publications.

Sustainable grazing in the English uplands

ISBN: 1 85716 806 2.

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Grazing management of lowland heathlands

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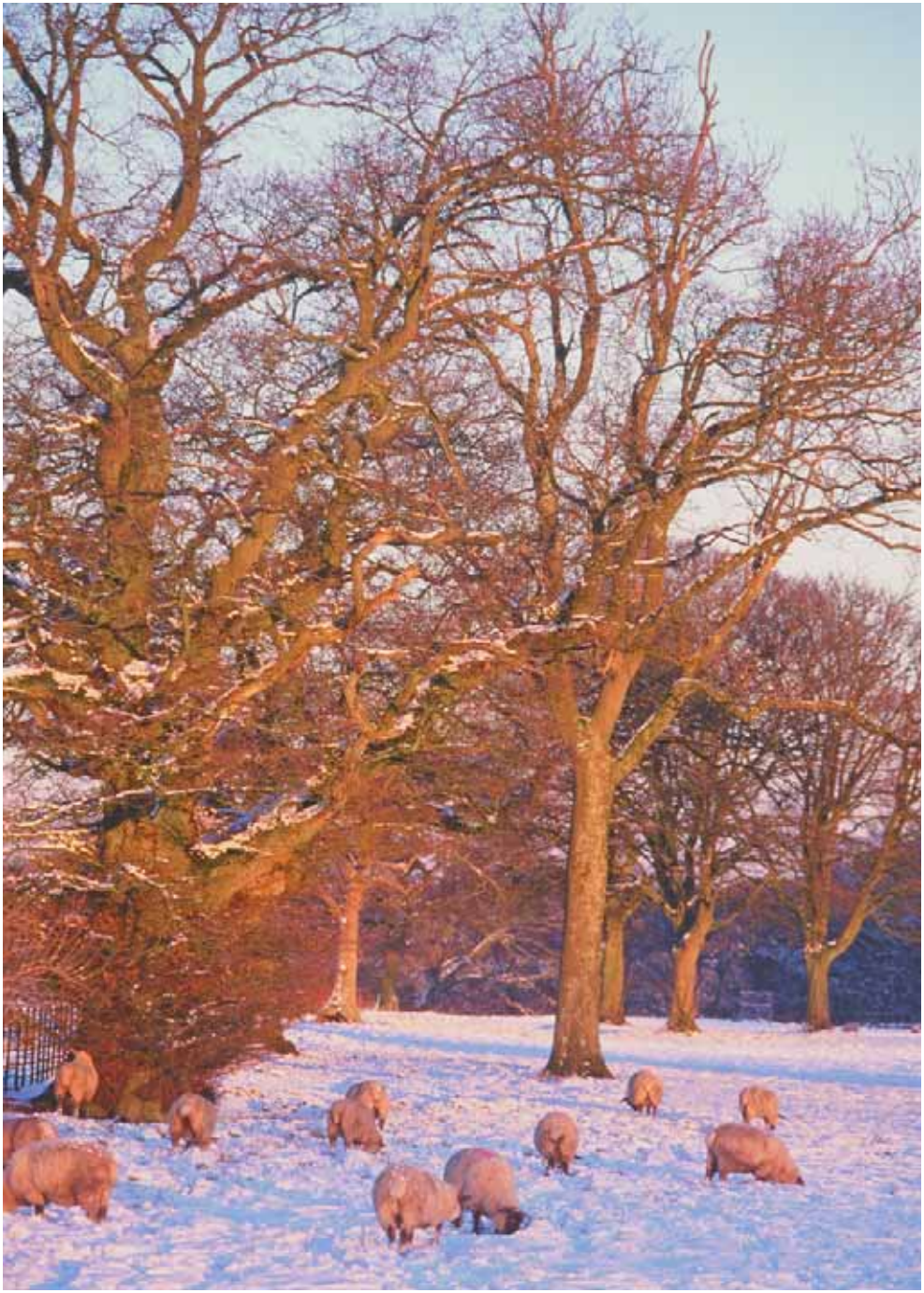

Sheep in snow covered field in Cotswolds, near Cirencester. Paul Glendell/English Nature

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Top left: Cattle grazing. Paul Glendell/ English Nature
Bottom left: Sheep grazing upland moor (Fleetwith) with Helvellyn behind. Paul Glendel/English Nature
Main: Hole Of Horcum Site of Special Scientific Interest. Peter Wakely/ English Nature

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