

Grazing management of lowland heathlands

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British White browsing.
Rob McGibbon/Surrey County
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Sustained by a partnership between people and the landscape, lowland heathlands have developed over thousands of years into a rich and valuable part of our natural heritage. Historically, extensive livestock grazing has played a pivotal role in this relationship. Unfortunately, this practice virtually ceased on most of our heathlands by the mid 20th century, threatening their long-term future. More recently, however, grazing has once again become part of the series of management techniques being re-introduced to heathlands.

This leaflet aims to promote good practice for re-introducing livestock grazing to heathland by drawing on the wealth of experience available from conservation land managers across a variety of organisations.

Why grazing?

Over many centuries lowland heathlands have played an integral part in the economy of rural communities, providing a host of products including fuel, food and animal bedding. Food was largely provided for cattle, sheep, and other grazing stock which was put out on the heath in extensive grazing systems. This form of management restricted the level of scrub invasion and created a myriad of ecological niches for plants and animals, making heathlands rich in the variety of wildlife we now call biodiversity.

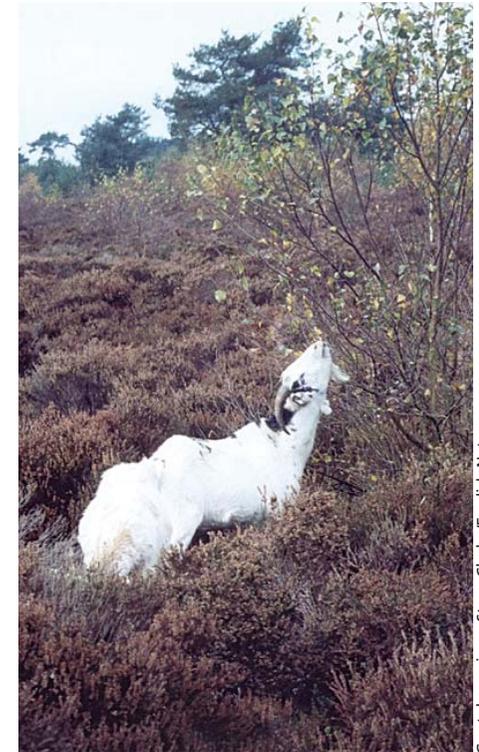
Developments in agriculture, especially in the last hundred years, have led to the loss of many of the old farming practices that sustained heathlands historically. These changes have contributed to the decline in both the quality and quantity of heathlands that exist in this country today. Scrub invasion is



Cattle at Horsell. Rob McGibbon/Surrey County Council

now widespread and the relatively uniform sward found on many heathlands is a direct consequence of the absence of grazing.

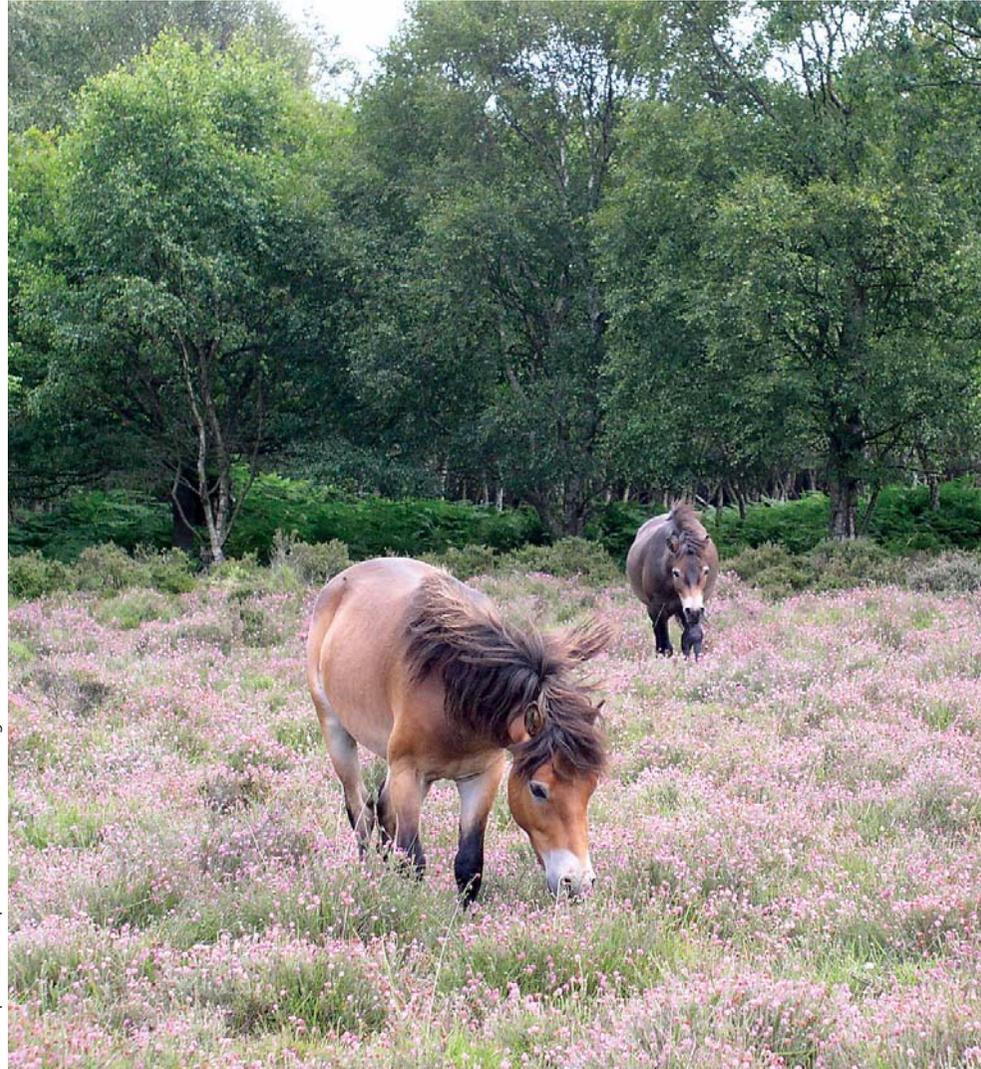
People like heathland, as a number of opinion polls have shown, but the interest today is in the conservation, recreation and landscape values far more than products like firewood and stock bedding. Extensive grazing can be an essential part of the management of many heathland plant and animal communities which cannot realistically be supported using other management techniques. However, the economic reality means that mainstream agriculture no longer delivers these benefits as a by-product of farming. A modern interpretation of traditional heathland grazing could still become a viable



Goats browsing. Steve Clarke/English Nature

and economically-realistic land-management option though. We would need developing markets linked to the production of ranged or organically-produced meat where possible and the development of alternative grazing practices that do not depend on animals being sold in agricultural markets.

There are relatively few areas of the country where heathland grazing has survived unchanged, although the New Forest and Cornwall are notable exceptions. In other parts of the country successful attempts to re-introduce grazing are proving the value of a return to grazing as a management tool.



Exmoor ponies at Skipwith. Isabel Alonso/English Nature



Prey Heath. Rob McGibbon/Surrey County Council



Prey Heath four years later. Rob McGibbon/Surrey County Council

What does grazing achieve?

Grazing achieves major management objectives for lowland heathland, but the degree of success depends upon getting the correct grazing animal in the right place for the right length of time.

- **Grazing can be used to achieve a mosaic of micro-habitats -**
This is essential for maintaining the richness and diversity of heathlands.
- **Grazing can be used to control invasive species -**
Woody weeds and scrub, bracken, purple moor grass, rank grasses and other invasive species can all be suppressed to some degree by grazing.
- **Grazing can be used to remove nutrients from the ecosystem -**
Even where animals are not removed from a site daily there is a net reduction in the levels of nitrogen, potassium and phosphorus compared with ungrazed sites. This can go some way to maintaining the low nutrient status of heathlands and restricting the opportunity for invasive species to establish.



British White. Michael Knight/English Nature

What should I do to re-introduce grazing?

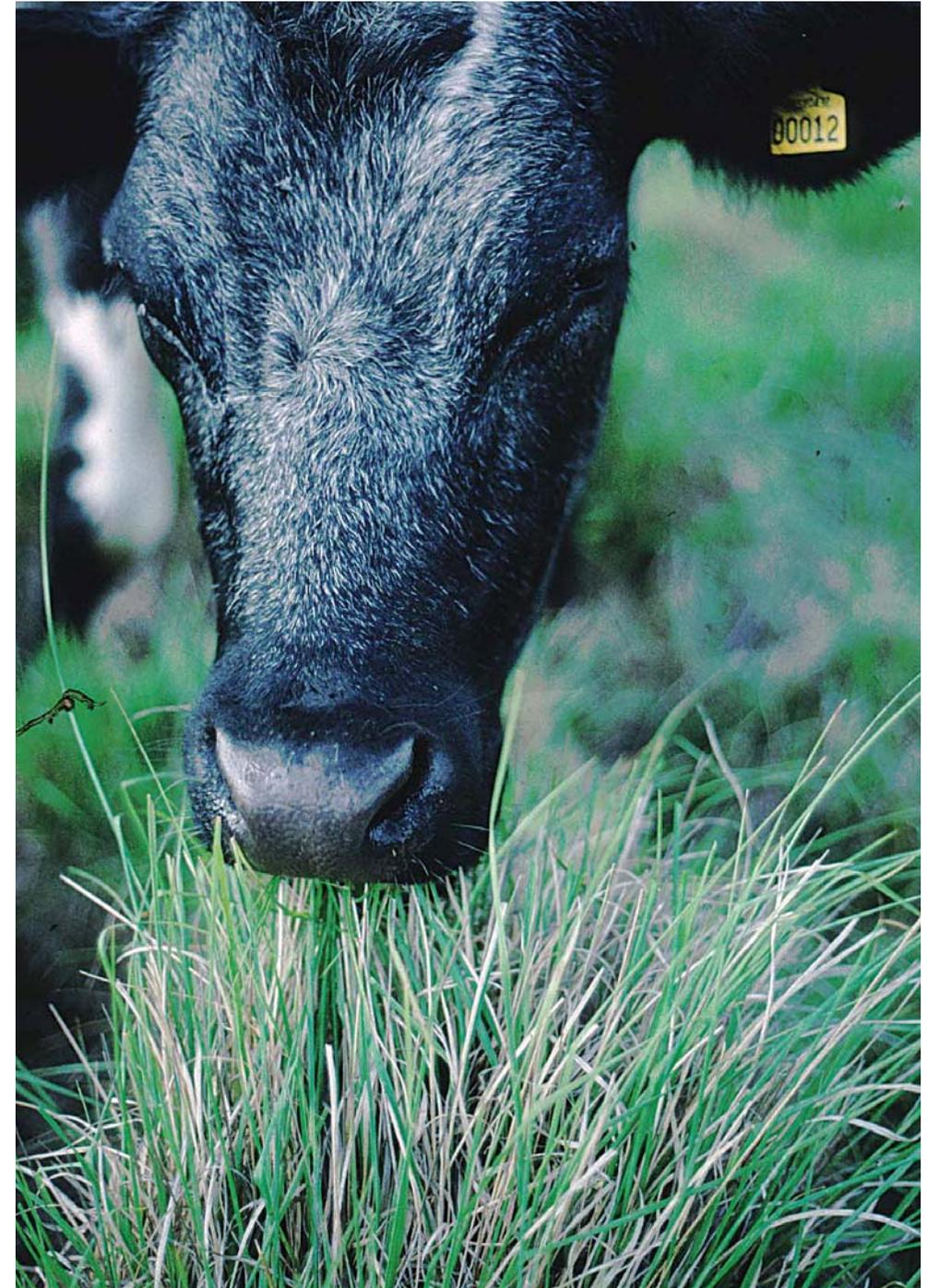
The re-introduction of grazing is not a simple undertaking and there is a number of issues that need to be addressed.

EXISTING FEATURES

One of the first questions that should be asked is whether grazing will damage or destroy any existing feature on the site. An example might be the possible loss of vegetation structure on sites which support important populations of reptiles, or

the loss of nectar sources for invertebrates. Expert advice will be needed on a case-by-case basis, and it may be that measures to isolate the feature from possible grazing damage will be needed.

Similarly there may be archaeological artefacts, such as Scheduled Ancient Monuments, that will need similar protection measures. Again specialist advice should be sought. The best way to proceed is to ensure that all bodies with an interest are made aware of your plans to re-introduce grazing.



Molinia grazing. Rob McGibbon/Surrey County Council



Erecting a fence at Hartland Moor SSSI. Peter Wakely/English Nature 18,575

STOCK CONTROL

In the age of the motor car, the infrastructure that underpinned traditional grazing systems is usually no longer adequate for the safe control of stock. Modern levels of stock safety and control will need to be applied and fencing may be needed as well as gates and possibly cattle grids. Stock-handling and watering facilities will certainly be required.

If it proves necessary to use fencing there are two basic approaches that can be adopted; erecting a ring-fence around the boundary (or at least the majority) of the site and allowing the animals to roam at will within the fence, or erecting much smaller,

targeted compartments where grazing pressures are more tightly focused. The large ring-fence approach tends to maintain more of the open 'wilderness' feel of heathlands which is important to many heathland visitors, but delivering an effective grazing regime is more difficult to achieve, especially on a diverse site. Also, the scale of the enclosure means that managers tend to prefer permanent fences for these sites which brings issues of impact on the landscape and access. Keep fencing to a minimum and try to follow the line of the land using natural features to hide fencing as much as possible. Smaller compartment grazing is more controllable, can be achieved sensibly with temporary fencing which can be removed when the stock

is not present (which also removes the landscape and public access issues) but can create an impression of paddocks on the open heath. Erecting any kind of fencing may require legal permissions, for example where fence-lines cross public rights-of-way or are erected on common land. In such circumstances public consultation may well be necessary.

fencing. Design and installation of cattle grids on the public highway will also need to be approved and carried out by the local highway authority or, in the case of trunk roads, by the Highways Agency. Again permissions will be needed if cattle grids are used on common land.



Cattle grid. Steve Clarke/English Nature

The use of cattle grids can often overcome difficult fencing needs on fragmented sites. Their initial cost can be very high when used on the public highway, as much as £20,000 - £75,000. Cattle grids on farm tracks can cost as little as £1,500 - £2,000. Even so they can be more cost-effective than fencing in the longer term as maintenance is very much lower than for long lengths of

PUBLIC OPINION

Success or failure on this point can make or break any project. It is vitally important that you bring local communities along with you and that you keep them informed of developments.

Any change of management can potentially create opposition within a



Highland calf at The Lizard Peninsula. Isabel Alonso/English Nature

local community, particularly where it involves the fencing of common land. If people are well informed of changes and involved at an early stage, then experience has shown that they can be very supportive. Local press, newsletters and parish meetings are all ways that a project can inform local opinion and gain support.

Experience has shown that once animals have been re-introduced, and the public knows that they are there for positive conservation management, then local communities generally welcome the return of traditional livestock to the landscape.



The effects of grazing. Rob McGibbon/Surrey County Council

GRAZING UNIT

Large grazing units are desirable not only from a cost-effectiveness point of view but also in terms of habitat diversity and animal welfare. Having a range of habitats on the grazing unit to include dry and wet heath as well as scrub, open water, bog and poor fen not only increases biodiversity within the unit but also provides a range of grazing conditions and shelter for the grazing stock.

In addition to the main grazing unit there should ideally be some accommodation land adjacent to the heathland. This can be used to support grazing animals during adverse weather conditions or following some disaster such as an extensive uncontrolled fire.

GRAZING ANIMAL TYPE

Modern breeds of commercial grazing stock will, almost without exception, fail to perform as well on heathland as on farmland. Some breeds may in fact lose condition. Conversely the more traditional and hardy breeds do perform well and, given the right mix of conditions, will thrive on heathlands. Obviously some breeds will fare markedly better than others and local knowledge and experience is invaluable in selecting the right animals. Research into traditional breeds will pay dividends and, even if local breeds are no longer available, then some near relative may be. It is also worth forging links with the local Rare Breeds Trust, which might be able to offer valuable help or even grazing animals. The Grazing Animals Project has produced some useful references on breed selection.

Whether to use cattle, ponies, sheep, or goats depends on the conservation objectives for the site as each animal or even breed has a different grazing or browsing method which can significantly affect the resulting sward.



controlling woody weeds on some heathland sites.

Mixed grazing, using a variety of livestock types, can be a particularly powerful tool as it provides a range of sward types and hence increased habitat diversity. However, in the early years of a project it may be that the availability of grazing animals will dictate the type used.

The choice of grazing animal very much depends on the desired



Longhorn on heathland area of Epping Forest. Stephen Ayliffe/English Nature

Cattle tend to tear at grass and do more trampling, creating an open and uneven structure, whilst ponies tend to bite very close to the ground and can easily create level 'lawns' over a few seasons if grazing densities are sufficiently high. Sheep will selectively remove some rank grass species from a sward and many primitive sheep breeds will utilize woody weeds and purple moor grass. Similarly goats have proved useful in

conservation objectives, and much care is needed; the existing type of sward and the characteristics of the type required need to be matched carefully with the grazing or browsing properties displayed by the particular breed being considered. A detailed analysis is beyond the scope of this leaflet although the experience of existing grazing projects will be very helpful and the advice of project managers must be sought.

GRAZING DURATION

The grazing duration is the period when animals directly graze heathland. The timing of this can be critical and will have a great bearing on the sward produced at the end of the season. In general, grazing is most often done during the spring, summer and autumn months as winter grazing can seriously damage the heather sward and it is harder to maintain the health of the livestock. Grassy heaths, however, can benefit from winter grazing, especially where they support species that need a short sward early in the spring.

Some sites are more sensitive than others, especially those that consist almost exclusively of heather-



Hebridean sheep grazing. Steve Clarke/English Nature

dominated dry heath. These sites will have correspondingly shorter grazing periods which may last for as little as 4-8 weeks. Again, local conditions and objectives will dictate the best pattern and experience will modify this further.



Exmoor ponies on Skipwith Common. Julian Small/English Nature



Beulah speckled-face sheep. Steve Clarke / English Nature

Livestock tends to preferentially eat rank grasses and purple moor grass during spring and early summer, and it is only during the later part of the summer, when most of the available grasses are gone, that heather is utilised to any great extent. This can be beneficial to introducing structure to the heather sward, although care must be taken as overgrazing can occur and this can substantially damage heather and promote invasive species, such as rank grasses.

STOCKING RATES

The stocking rate is the number of grazing animals that is allowed to graze within any given unit of heathland, usually quoted as live stock units (LSUs)/hectare. A cow is one livestock unit, and there are standard conversions for other types of stock, suckling animals with young at foot, and so on. The stocking rate can have a significant effect on the grazed sward. Too much and invasive species can be promoted

and desirable species disappear; too little and grasses, woody weeds and undesirable species can predominate. Until you know your site thoroughly, it is perhaps as well to start with a lower pressure and build up, although some grazing practitioners recommend higher rates in the first year or so of grazing re-introduction.

Normally the stocking rate is expressed as the number of animals per hectare for the grazing season. In practice the science of grazing is not nearly so neat, as the productivity of vegetation varies so much between sites and only general 'rules of thumb' can be applied. Equally some

animals are significantly heavier than others and even within breeds there can be noticeably-differing rates of consumption depending on age, gender, and so on. Similarly rates of vegetation productivity can significantly vary on a site between one year and the next. Effectively this means that there are no hard and fast rules and each site will need to be individually assessed and grazing pressure modified as a result of experience. Be aware that quoted stocking rates can be misleading: 1LSU/ha/year could be a cow per hectare throughout the year, or twelve cows per hectare for a month! However, it is reasonable to assume



Heavily-grazed gorse at Minsmere, Suffolk. Isabel Alonso/English Nature

that in general one adult cow can utilise between two and eight hectares of heathland depending on the rate of productivity. The more productive the heathland, the higher the rate. Ponies generally should be grazed at a much lower intensity of one pony to every 5 to 12 hectares. Sheep can vary between five ewes per hectare, on more productive grass heaths, to as low as 0.5 ewes per hectare on very unproductive sites (usually heavily dominated by mature *Calluna*).

ANIMAL HUSBANDRY AND WELFARE

With the exception of mineral licks, livestock on properly stocked heathland will not normally need supplementary feeding. Such feeding will probably not be permitted directly on Sites of Special Scientific Interest. It is not considered good practice to feed supplementary hay due to the probability of introducing alien grasses and importing nutrients.



East Devon Pebblebed Heaths. Isabel Alonso/English Nature

Welfare problems appear to be less prevalent amongst extensively-grazed herds. Whilst there is no substitute for good husbandry it would seem from experience that there are fewer veterinary interventions associated with extensive systems. However, good welfare practices should be followed and care taken not to expose animals to the risks of ragwort and bracken.

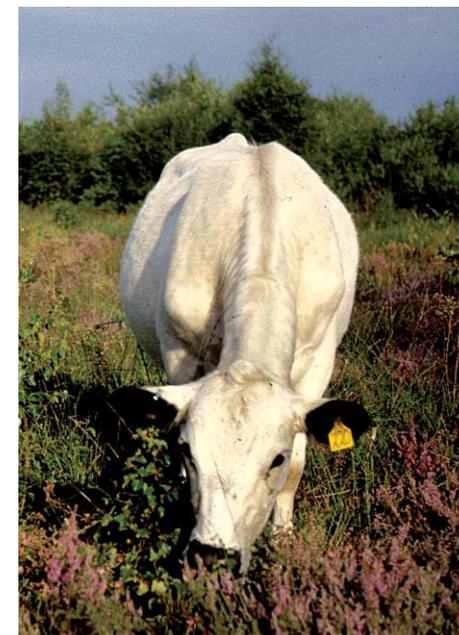
The use of the Ivermectin-based anthelmintic treatments is not good practice because of the persistent residues this leaves in animal dung and the potential effect this can have on insects. It should therefore be avoided as alternatives do exist and local suppliers and vets should be consulted.

ECONOMICS

Until very recently the economics of heathland grazing militated against its re-introduction on many sites. However, recent developments have demonstrated that grazing can be very cost-effective in putting heathland into reasonable condition, and in some circumstances a profit can be made. Where possible it is advisable that projects seek to integrate with existing commercial systems so long as this does not threaten the conservation objectives of introducing a grazing regime. This will allow heathlands to become woven into the local economic fabric, thereby enhancing their long-term

viability. The production of organic and ranged meat is an example of a sector of the market that is starting to develop a premium niche that could prove quite profitable in the future. The agri-environmental schemes such as the new Environmental Stewardship can also assist with grazing and extensification.

Lastly, ensure that any grazing agreement you have with any third party is subject to a formal legal agreement which should take account of the need to maintain flexibility in grazing numbers to respond to changing conditions. Everyone will know where they stand with a legal agreement; without it you may compromise your ability to manage the land in the way you want to.



British White browsing. Rob McGibbon/Surrey County Council

Some final points to consider

- Inform and involve the public and local communities.
- Check with statutory bodies and others that your grazing will not damage an existing feature.
- Select appropriate grazing units and suitable grazing infrastructure. Be aware of the need to preserve the landscape and visual integrity of the site.
- Select the correct type and breed of stock that will achieve your conservation goals.
- Ensure you have all legal permissions needed to put up fences.
- Learn from others, and from your own experience. Be prepared to modify your grazing regime to suit changing conditions.

Theory put into practice

Further advice on grazing management can be obtained by contacting your nearest project through the contacts detailed below.



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Cattle grazing. Steve Clifton/English Nature