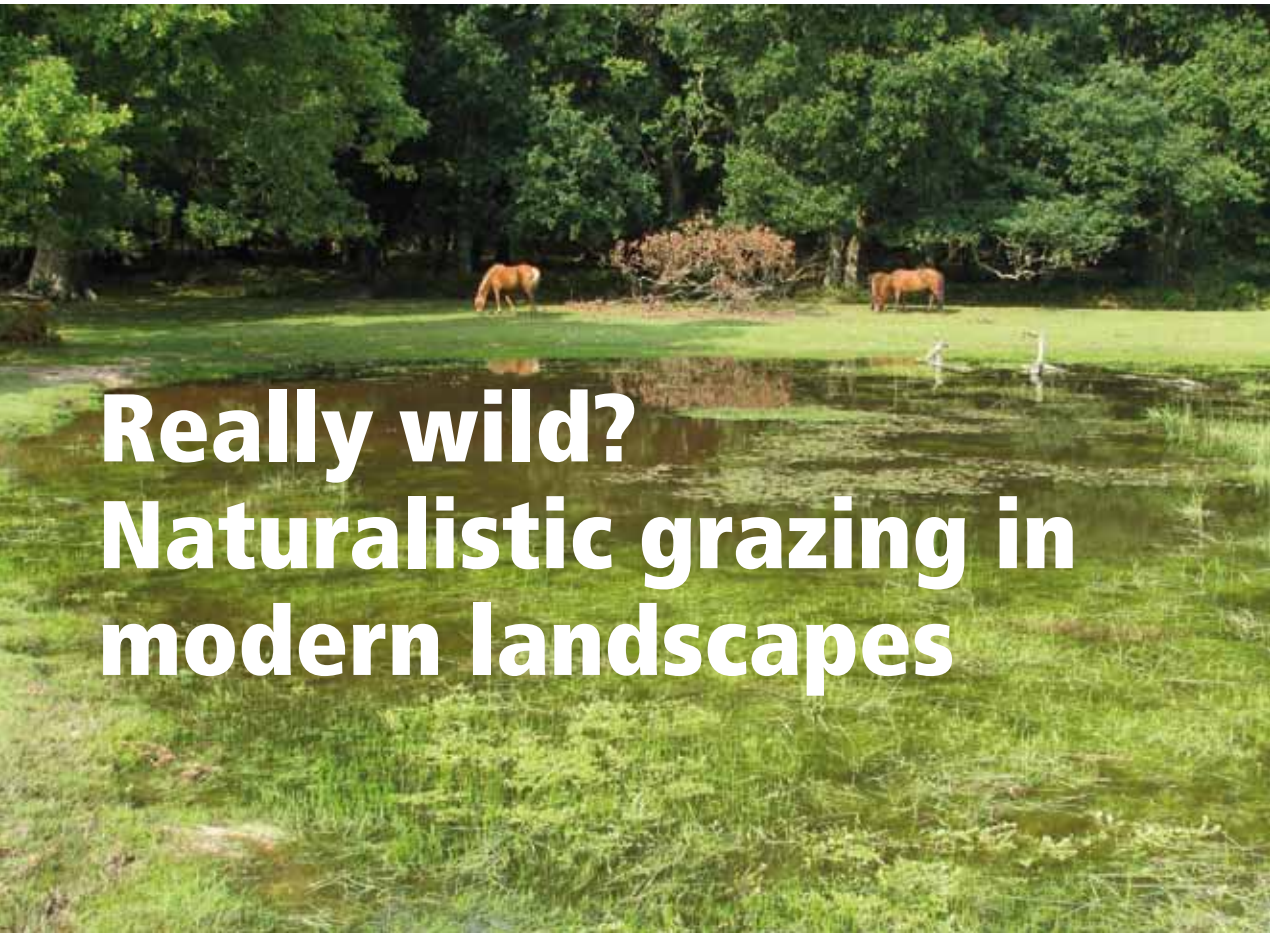


# Really wild? Naturalistic grazing in modern landscapes

**New Forest Ponies grazing by a pond at Redshoot Wood.** Andrew Branson

**Kathy H Hodder and James M Bullock**

From neat fields and hedgerows to wind-swept moors and mountains, the present landscape of the crowded islands of Britain has been shaped by people. Although 18th-century landscape architects unashamedly created scenery to please the eye, our domination of plant and animal life, and of nutrient, water and energy flows, has generally been a product of economic necessity. Even features once considered natural, such as the Norfolk Broads, can have artificial origins.

As urbanisation, agriculture and forestry intensified during the 20th century there was little room left for the diversity of species and ecosystems characteristic of earlier times. Growing concern for our diminishing wildlife led to the development of the nature conservation movement, with the aim of safeguarding our flora and fauna (Sheail 1998). This in turn engendered the practice of targeted conservation management, combining low-intensity and traditional techniques with the growing science of ecology. This mainstream approach has often been accompanied by a counter-current, recently voiced in *British Wildlife*, that 'Nature is becoming subservient to Nature Conservation' (Oates 2006), that something intangible or spiritual is lost through too much management. Alternatives where intervention is reduced, or even withdrawn, have periodically entered conservation literature and discourse. Sixteen years ago, the 'Edwards Report' suggested that a 'number of experimental schemes on a limited scale should be

set up in the [upland] National Parks, where farming is withdrawn entirely and the natural succession of vegetation is allowed to take its course'. Today, this would be called 'Re-wilding'.

Re-wilding has received increasing support in the UK and interest extends beyond advocacy groups, as evidenced by a consortium of 38 ecologists and policy-makers who recently placed re-wilding and its consequences in the top 100 ecological questions of high policy relevance for the UK (Sutherland *et al*. 2006). It has even been advocated as the 'optimal conservation strategy for the maintenance and restoration of biodiversity in Europe'. Specifically, this includes the restoration of grazing and browsing by wild large herbivores i.e. 'naturalistic grazing' (Vera 2000). It was in this climate that English Nature commissioned us to investigate the ecological, cultural and welfare implications of naturalistic grazing and re-wilding in modern English landscapes.

## What is 'naturalistic' grazing?

What makes naturalistic grazing distinct from other types of extensive grazing for conservation? After all, visitors to nature reserves in most parts of western Europe are accustomed to seeing horses, cattle, goats and sheep grazing over wide areas as part of the management regime. In fact, a large body of research has developed on the science and practice of conservation grazing. This research recognises the key importance of large herbivores and their strong direct and indirect influences on ecosystem dynamics. Indeed, most countries in western Europe have grazed reserves that are outstanding in terms of biological diversity: the Camargue in France, the New Forest in England, Mols Bjerge in Denmark, Öland in Sweden, the Borkener Paradies in Germany and the Junner Koeland in The Netherlands. So, the utility of *extensive* grazing for conservation of unenclosed habitats is well established, but conservation managers have been considering adopting *naturalistic* grazing methods as pioneered in the Oostvaardersplassen, Netherlands (Wigbels 2001).

Two decades ago, conservationists in the Oostvaardersplassen started an unusual project described as 'new nature below sea level'. In an area reclaimed from the sea with dykes (a polder), but never developed as a result of economic recession, they let domestic livestock form semi-wild populations. A wetland area developed into an important nature reserve, and since the 1980s 2,000ha of grassland, which had been partly developed for agriculture, have been added to the reserve and grazed by free-ranging herds of Heck cattle, Konik ponies and Red Deer *Cervus elaphus*. The idea was to allow the animals to regulate themselves, without human intervention. They are not fed when their grazing runs low. Disease is left untreated, and there is no attempt to protect animals from bitter winters or dry summers. However, animals are culled when their condition and behaviour indicate that they are near death (Tramper 1999).

Based on the Oostvaardersplassen model, the key features that differentiate naturalistic grazing from other forms of extensive grazing are:

- No specified herbivore density; instead, populations are resource-limited, so that numbers fluctuate according to factors such as food availability, climate, pathogens and parasites.
- Grazing animals are assumed to drive the ecosystem, and natural processes are allowed to act, rather than being aimed at targets for habitat and species composition.
- Direct management intervention is reduced to a minimum, and the natural process is seen as an aim in itself.

Defining these objectives highlights the considerable contrast between naturalistic management and most other extensive managements, the latter seeking to achieve conservation targets (such as species composition) through application of specific grazing pressure.

## Case studies in the English landscape

To focus on practical issues, we used questionnaires and interviews with site managers, owners and advisors from three contrasting English landscapes of approximately 3,000-5,500ha in which re-wilding was an issue. These landscapes encompassed a range of possible scenarios: a scenic upland area, a lowland site consisting largely of fertile agricultural/forestry land, and a coastal site of varied habitats with high conservation value. This was very much a 'What if?' study, because the resource-limitation aspect of cattle and pony

**Hardy native breeds of livestock, such as Highland Cattle, are often used in conservation grazing schemes, such as here near Malham in North Yorkshire.** Peter Roworth

populations central to the naturalistic approach would be prohibited by animal-welfare legislation in the UK.

Opinions differed within and between sites with regard to priorities and approaches (not surprisingly), but three common themes emerged:

- bigger is better,
- aiming without a target, and
- wilderness views.

## Bigger is better

As would be expected, it was clear that scaling-up of management had great potential ecological benefits, such as reducing isolation, in addition to potential economic savings. However, landscape-scale management was seen as a separate matter from the prospect of managing with minimum intervention, and any move towards the use of naturalistic or resource-limited grazing animals was a distinct issue.

## Aiming without a target

The practical difficulty of attempting to reconcile 'naturalistic' ideology with the day-to-day issues of site management was a major theme. Although vision statements, and the like, might describe creating wilderness areas, removing artificial boundaries and allowing room for natural processes, on closer deliberation these aspirations were not always compatible with more specific objectives. None of the managers expressed an intention to give natural processes entirely 'free rein'. Even when a general ambition to 'allow nature to take its course' was expressed, managers were understandably reluctant to accept losses when pressed about individual species or valued habitats.

Limits to acceptable change that could be more flexible than prescriptive management targets were often mooted as an alternative approach. Change in the proportion of habitat types (e.g. grassland and scrub) could be monitored and, if necessary, action taken. The preferred method for this was the manipulation of grazing levels. However, this may not be easy for free-ranging animals that have formed social groups. Where a site has high biodiversity value, acceptable limits to change would be likely to differ very little, if at all, from existing management targets.

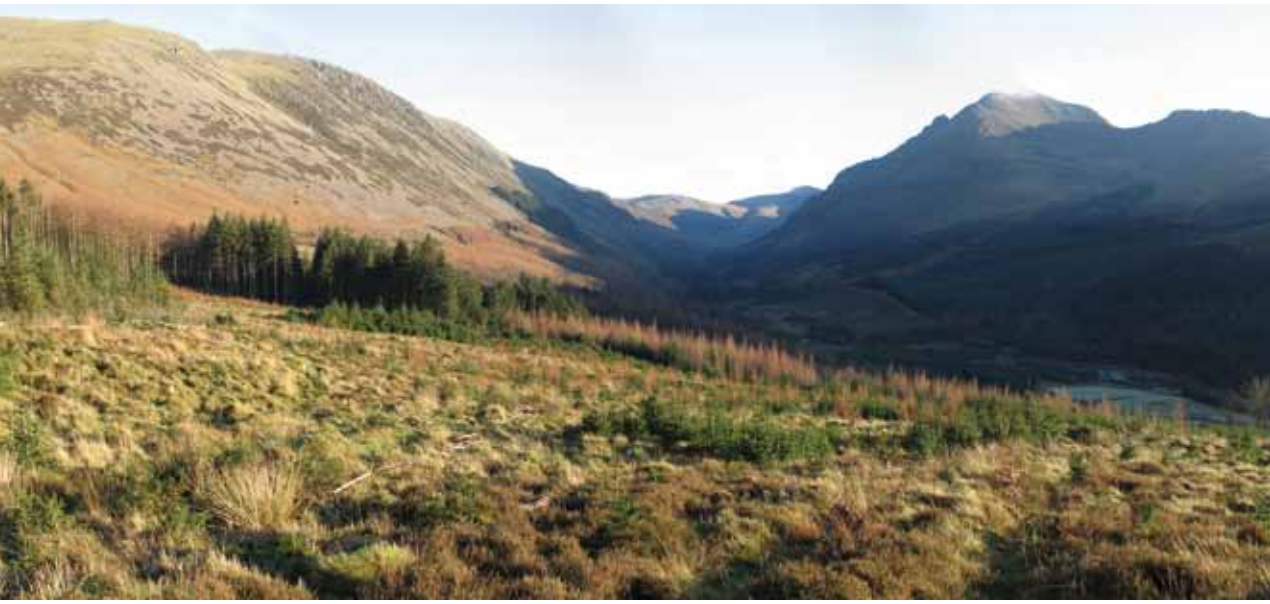
The wood-pasture type of landscape that has been envisaged for naturalistic lowland areas depends on the development of a shifting mosaic including open grassland and woodland glades (Olff *et al*. 1999). Managers, in some cases, hoped that shifting mosaics of vegetation would develop as a result of 'natural processes', and particularly through naturalised grazing. However, the scope for shifting mosaics to operate if stock levels are manipulated to maintain proportions of habitat within certain limits must surely be low. If herbivores were kept at sufficient density to maintain species-rich grassland areas, this would not permit the woodland-regeneration phase of the shifting mosaic to occur. Herbivore population crashes would be required to provide windows of opportunity for scrub and tree regeneration. This could potentially be managed by simulating population crashes by periodically reducing stock density, but this, of course, would not be 'naturalistic'.

Also, timescales would need to be long, at least decades, to allow woodland regeneration (Harmer *et al*. 2001), and there is no evidence that 'natural half-open parkland' would result from naturalistic grazing. In the Oostvaardersplassen, more than 20 years after the start of grazing by cattle, ponies and deer, the fertile soil supports a high density of the herbivores on a close-cropped turf. There are patches of scrub (mainly willow *Salix* and Elder *Sambucus nigra*) that colonised or were planted in the marginal area prior to its addition to the grazing reserve, but since then most have been killed through bark-stripping by the herbivores. There is virtually no sign of tree or scrub regeneration, and it seems likely that a major population crash would be required to start this process. There is no way of accurately predicting the temporal or spatial patterns that might emerge.

## Wilderness views

The importance of management to create an *appearance* of wilderness, particularly the need to provide unobstructed views, and to remove unsightly artificial boundaries, was not underestimated in our case studies. This was reflected in the visions, or overall aims, of the sites, which were much concerned with creating wilderness areas and allowing room for natural processes. In some cases, though, conflation of the wilderness experience (which often has to be managed for) with increased scope for natural processes (deliberate removal of management) resulted in impasse and could even be in conflict.

The creation or preservation of a sense of



**A sense of wildness, such as can still be experienced in upland regions of Britain, as here in the Ennerdale valley, Cumbria, is an important consideration for many visitors to nature reserves.** Gareth Browning

remoteness, particularly in upland areas, may be a significant factor guiding reserve design and management. Visitors to Ennerdale, in Cumbria, for example, enjoy views of spectacular craggy mountains. Unimpeded regeneration of conifers could block these views, significantly detracting from the sense of wildness. These landscape-management aims should not, however, be confused with an intention to allow unchecked natural processes to act in an area. The 'Wild Ennerdale' scheme cites the preservation of a 'sense of wildness' as a key aim (Browning & Yanik 2004), and provides an excellent example of a large-scale and extensively managed initiative where great care is being taken to disentangle the various distinct goals (landscape and ecological) in order explicitly to state them and hence effectively to manage towards them.

## The heart of the matter: why is re-wilding so beguiling?

Probably the most fascinating question raised in our appraisal of naturalistic grazing was that of why these ideas are so appealing. Attempting to answer this question entails trespassing into environmental philosophy, but, far from being purely academic, it gives an opportunity to step back and re-evaluate some of the motivation and rationale behind nature conservation.

### Marketing

Although not normally articulated, the most simplistic aspect of the appeal of re-wilding may be its marketing potential. Politicians, managers of public lands and the public themselves are much more likely to buy proposals that sound romantic and appealing – which 'landscape-scale conservation' does not. Naming a place a 'wilderness' or 'wildland' gets us away from what Dave Foreman aptly describes as the 'cold-potato' language of science. Protection of the diversity of life requires clever marketing, and 'piggybacking onto the popular wilderness preservation movement is a good way to do it' (Foreman 2004).

### 'Getting away from it all'

Although focus on virgin wilderness has been described as one of the 'true idiosyncrasies in the American character' (Shepard 2002), the emotional pull of 'self-willed land' has extended across the Atlantic, despite the fact that nearly all European ecosystems are certainly not wilderness in the untrammelled sense. In fact, writing from the Aldo Leopold Wilderness Research Institute in the US, David Cole is convinced that the ubiquity of human disturbance forces us to 'confront the fact that we cannot have wilderness that is truly wild or natural' (Cole 2001). However, re-wilding still seems to offer an antidote to the all-pervasive

influence of humans in this 'anthropocene' era.

People cling tightly to the flawed perception that they are experiencing pristine nature. For instance, in the Val Grande National Park (an 'alpine wilderness area' in Italy), 62% of polled visitors came to experience 'untouched nature', despite the fact that large areas had been cultivated for centuries (Hochtl *et al*. 2005).

The importance of the natural beauty of 'wild country in which one can escape from the strain of modern life' was recognised by early conservationists (Tansley 1945), and even enshrined in the British National Parks and Access to the Countryside Act (1949). What was once called 'getting away from it all' by enjoying the wilder countryside is now reframed as 'ecopsychology', an emerging academic discipline and service industry providing spiritual renewal to beleaguered citizens of the over-comfortable rich nations. The benefits of wild landscapes for outdoor recreation have even been formalised as 'wilderness therapy' (Russell 2001). Educational attributes of wilder areas were also espoused in mid-20th-century writings and more recently described as a moral resource to inspire us to live sustainably (Nash 2001).

The problem arises when the complementary but distinct goals of managing for wildland attributes become overly conflated with a laissez-faire approach to conservation based on replacing targets with a notion of natural processes. The former may well require active intervention that would negate the basis of the latter. Therein lies much of the difficulty in defining wild land, as acknowledged in the web pages of the fledgling UK Wildlands Network.

## Managing for change

Adopting flexible limits to ecological change rather than rigid targets must gain considerable credence from constant reminders that we are entering a period of accelerated change due to climatic perturbations. Range shifts and changes in phenology (the seasonal timing of biological events, e.g. fruiting or migration) are already being recorded for a wide variety of taxa, including birds, butterflies and plants. The fossil record shows us that sudden catastrophic changes have occurred in the UK, where entire ecosystems have been wiped out within periods far shorter than the human lifespan.

Facilitating natural processes may seem at first glance to be a pragmatic response to these challenges. However, it is not clear how processes can be evaluated (except in clear-cut cases, such as reinstating natural fire regimes in some North American forests). An alternative viewpoint is that acknowledging the existence of a dynamic landscape does not absolve one from a duty of stewardship. To keep with tradition, a quote from Aldo Leopold's *Round River* would seem appropriate: 'To keep every cog and wheel is the first precaution of intelligent tinkering.' In contemporary terms, David Western puts forward a similar argument for managing the wilds: 'Clear goals, scientific understanding, and measurement of human impact are far better guides for protecting and managing biodiversity than our feelings of what constitutes the wilds.' (Alpert *et al*. 2004).

## Intelligent tinkering

Enlarging and linking nature reserves so that whole landscapes can be managed is better than trying to conserve biodiversity in small, fragmented sites. If we are to conserve biodiversity in Europe, this approach is likely to be essential. Extensively managed herds of large herbivores would undoubtedly play an important role in these networks and large reserves. But it is not clear what added benefit may be gained by leaving them entirely unmanaged.

Throughout the UK and Europe there are now excellent opportunities for developing large interconnected nature reserves, such as Wild Ennerdale in Cumbria and the planned expansion of Wicken Fen (National Trust 2007). There are concerns about how to maintain biodiversity in such large areas within limited budgets. But replacing management targets for species and habitats with a vague notion of 'natural process' conservation cannot be the solution, for many reasons. For one, 'natural process' is, sadly, something of a misnomer: nature reserves will be affected by pollution, exotic species and falling groundwater levels, and will lose key species, to name just a few 'unnatural' problems. Perhaps 'naturalistic' belongs in the aspirant language of conservation politics – good for rallying support, but less useful when vision statements are converted into practice. Even in larger reserves than those of our case studies, such as Wicken Fen, active management is expected: grazing pressure will be controlled to prevent succession from open fen to fen-woodland (Friday

& Moorhouse 1999).

Cronon (1996) warns against fleeing into a mythical wilderness to escape history and the obligation to take responsibility for our own actions that history inescapably entails. Rather, we should focus on how our impacts can be managed and designed to allow people to coexist 'more generously with other living things' (Higgs 2003). In the words of one of the pioneers of British ecology and conservation, we need to seek 'some wise principle of co-existence between man and nature, even if it has to be a modified kind of man and a modified kind of nature' (Elton 1958).

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