



for birds
for people
for ever

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The RSPB is the UK charity working to secure a healthy environment for birds and wildlife, helping to create a better world for us all. We belong to BirdLife International, the global partnership of bird conservation organisations.

Front cover: the RSPB's nature reserve at Geltsdale, Cumbria, by Andy Hay.
Inside, the RSPB's Insh Marshes nature reserve by Pater Cairns, sheep by David Broadbent, red deer by Danny Green,
RSPB Haweswater reserve, Cumbria, by Andy Hay, dipper by Ben Hall, black grouse by Mike Lane, Penaran Forest, Wales
by Andy Hay, wind turbine by Niall Benvie, the RSPB's nature reserve at Forsinard by Andy Hay, common sundew by
Niall Benvie, walker by Mark Hamblin, heather burning by Andy Hay (all rspb-images.com)
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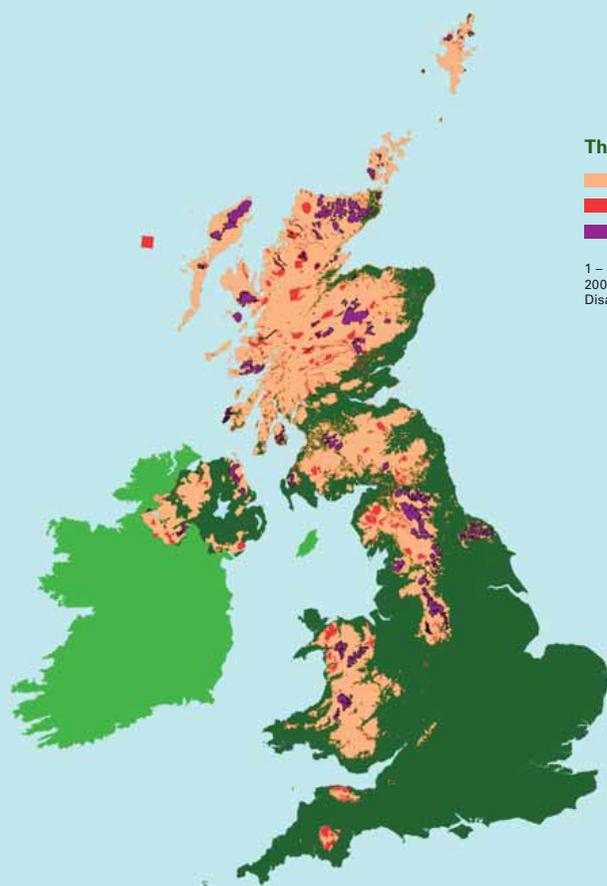
THE UPLANDS

Time to change?





Our uplands extend from the valley bottom upwards through rough grass, scrub, heath and moor and higher still to hill top and mountain summit.



The UK's uplands

- The uplands¹
- Special Areas of Conservation
- Special Protection Areas

1 – data based on Countryside Survey 2000 and land designated as Severely Disadvantaged Area (Northern Ireland)

Hills, valleys, moors and mountains form a large part of our countryside – 40% of the UK's land area. Beloved by some, yet ignored by many, the uplands are tough places to survive, whether for sheep, trees, birds or businesses. This short document aims to trigger a debate on the future of upland land use.

What are the uplands for?

WHY ARE THE UPLANDS IMPORTANT?

People tend to think of the uplands as wild areas, but the truth is very different. They have been influenced by man over thousands of years.

Today, upland industries are dominated by farming, grouse and deer sporting management, forestry and outdoor recreation. Employment has declined and upland farmers, dependent on subsidies and rural development grants, face a tough future. The majority of our uplands are designated as Less Favoured Area (LFA), having reduced agricultural potential due to their challenging physical conditions.

These cherished landscapes have inspired works of art, literature and music for centuries, and these sparsely populated areas now host more than 100 million day visits a year. Upland businesses that depend on the beauty of their location, such as tourism, do not always have a means of safeguarding the features they rely on.

Uplands gather more than 70% of our drinking water, store billions of tons of carbon in peat and soils and are home to some of our most special wildlife. Whilst upland birds such as the raven and peregrine are faring well, others are in decline, with black grouse populations falling by 22% in the last 10 years, and others contracting in range.

'The wild place is the hero and should be valued as such – places where the endless natural cycles take place, as they have done since time began, free from the threat of development.'

*Colin Prior,
landscape
photographer*



Grazing animals form an important component of the uplands. Good grazing management helps maintain ground vegetation with a variety of structure and species, and is important in woodland restoration and management.

THE STATE OF THE UK'S UPLANDS

People have influenced the uplands since Neolithic times, clearing forests, draining wetlands, canalising rivers, fertilising soils and introducing livestock.

Large parts of the uplands are managed intensively for red grouse and, in Scotland, for deer stalking. In some areas, bad burning of heath and grass leads to habitat degradation. Grouse moor management is beneficial for some priority upland birds such as black grouse, golden plovers and curlews. Illegal persecution of birds of prey has left tracts of the uplands, particularly in Northern England, bereft of birds such as the iconic hen harrier.

Hill farming – dominant land use, incomes declining

In England and Wales, hill farming continues to be the predominant land use. Extensive areas of bog and wetland have been drained in the past in an attempt to improve soil productivity. In 2006, there were almost 105,000 agricultural holdings within the LFA, averaging from 38 ha (Northern Ireland) to 132 ha (Scotland). Holdings tend to be larger in the uplands than elsewhere, but net farm incomes are lower. Sheep and beef cattle are the mainstay of the upland agricultural economy. Farm incomes are declining within the LFA and average farmer age is increasing. Between 1990 and 2005, the average age of farmers rose from 55 to 58. Further declines in net income are likely as upland farm incomes largely depend on subsidy, and future reductions of CAP and LFA payments are likely. In 2005, LFA-linked payments totalled £146 million in the UK.

Despite farming dominating the upland landscape, Foot & Mouth Disease in 2001 demonstrated that farming no longer dominates the rural economy. Closing the countryside lost billions of pounds to non-farming businesses. Despite this, upland farming continues to be a major influence on the natural capital of the uplands.

Woodland in variable condition

Woodland covers 2.8 million ha, 12% of the UK land area, with two-thirds in Scotland, where it occupies 17% of the land area. Over three quarters (78%) of Scottish woodland is in the uplands whilst in England and Wales, only one fifth is in the uplands. Upland woodland comprises old sessile oak woods, birch woods, mixed pine/birch woods and native pine woods: about one-third of features in designated upland woods are in poor condition, with little regeneration of young trees due to the impacts of grazing animals.

Drinking water requires attention

Much of our drinking water is collected in the uplands. This water is affected by the impacts of grazing on soils, water movement and erosion. Levels of Dissolved Organic Matter and Dissolved Organic Carbon have almost doubled in upland waters since the late 1980s. This suggests that our current approach to management in key catchments is far from ideal. Over the last century, deposition of sulphur and nitrogen from the atmosphere has acidified upland streams, affecting aquatic invertebrates including mayfly and caddis fly, and has had an effect on birds and fish.

Protected areas in poor shape

UK uplands include habitats and species of international importance. Large areas are protected in various ways: as Special Areas of Conservation (1,077,000 ha), Special Protection Areas (912,000 ha) and within a network of National Parks (covering 1.9 million ha), Areas of Outstanding Natural Beauty (701,000 ha) and Scottish National Scenic Areas (1.4 million ha). Some special sites are protected as nature reserves, including 23, covering 75,000 ha, managed by the RSPB.

Many protected areas are in poor shape, with 36% of all the special features designated as part of the upland SSSI/ASSI network in unfavourable condition, principally caused by inappropriate grazing, poor burning practice and water management issues. Important habitats have declined in extent. Upland heath and upland semi-natural oakwood have declined in extent by more than 25% since the late 1940s and blanket bog by 21% between the 1940s and 1980s. Upland hay meadows, such a characteristic feature of upland valley bottoms, are now reduced to 1,000 ha in the English uplands.

Some once common and widespread upland birds are faring no better. The black grouse, ring ouzel, curlew and twite are contracting in range or undergoing widespread decline.

The uplands are treasured and unique areas, but despite significant public subsidy, the potential public benefits are not being delivered. Habitats, wildlife, natural resources and businesses have all declined. The vast potential of the uplands could be husbanded better than now.



'If we don't care for our uplands we don't care for the environment and we deny our children a glorious heritage. It really is that simple.'

*John Humphrys
(BBC)*



Rainwater filters into rivers, reservoirs and lakes. The quality of Lakeland water partly depends on land use and management practices. We need to manage uplands to reduce erosion and run-off to benefit water quality, reduce the need for intensive treatment of raw drinking water and to reduce downstream flooding.

LAKE DISTRICT CASE STUDY

The Lake District National Park (230,000 ha), established in 1951, is the largest in England and Wales. Beloved of Wordsworth, an inspiration to Beatrix Potter and hugely popular with visitors, the Lake District epitomises the beauty of the UK's uplands to many people. How is it living up to its potential as a haven for wildlife?

Wildlife

The National Park comprises a network of nationally and internationally important wildlife sites (18 SSSIs, two SPAs, 18 SACs, three Ramsar sites). The Special Areas of Conservation extend to 33,000 ha and include a number of important habitats. Between 1995 and 2004, the number of butterfly species recorded declined in 57% of sample plots within the Park. Over the last 20 years, lapwings declined by 63% and curlews by 39%. Formerly widespread species, including the corncrake, yellow wagtail and yellowhammer, are now scarce or absent as, over the decades, valley bottoms have been drained and agriculturally developed with the loss of traditional hay meadows and wet pasture.

Rivers and lakes

75% of designated features are in an unfavourable state. Protected sites include Bassenthwaite Lake, with two species of rare fish (vendace and schelly). The status of the Bassenthwaite vendace population is of concern, due to inconsistent breeding success. The lakes, becks and tarns hide problems, resulting from pollution from agricultural run off and discharge from the built environment, soil erosion, fertiliser use, bank-side management and inappropriate flood defence, under their tranquil surfaces.

Woodland

43% of features designated are in an unfavourable state, mainly because of overgrazing and inappropriate agri-environment prescriptions. Huge areas of native woodland have been lost, in places replaced by commercial forests. The natural tree line has been lost, primarily through forest clearance, overgrazing and burning over hundreds of years. Large and special areas of sessile oakwood survive, home to pied flycatchers, redstarts and the iconic red squirrel.

Heath, bog and fell

29% of features designated are in unfavourable condition, mainly because of inappropriate grazing (mostly overgrazing) and inappropriate agri-environment prescriptions and a further 70% are unfavourable but recovering. In Cumbria, 40% of heathland has been lost since the mid 20th century. Extensive fell areas are now covered in bracken.

'I love the mountains of Lakeland. They have been good friends to me over a long life, always there when wanted, always reliable, always welcoming ... I have often sung their praises in an attempt to repay the debt I feel I owe them.'

Alfred Wainwright

AN AGENDA FOR CHANGE

The Lake District is widely regarded as a national treasure but, to some, its landscape is severely damaged. The hills are denuded of heather and woodland and show the effects of decades of intensive grazing. In wildlife terms, the Lake District is average, or below average, rather than exceptional. The status and quality of the Park's environment should be apparent not just in the beauty of its landscape, but in thriving wildlife, and well-husbanded water and soils. The 12 million people who visit the Park each year should leave enthused by the vibrancy of this part of the uplands, and the role of the National Park in protecting and restoring their natural capital.

The following five point programme would help restore the ecology of the Lake District and would apply to many other upland National Parks.

- Reduce diffuse pollution through catchment management.
- Plant more native trees to restore a more natural tree-line.
- Restore floodplains and wetlands to reduce flood risk.
- Promote less-intensive grassland management.
- Reduce grazing pressure to allow recovery of upland heath vegetation and the spread of woodland and scrub, and to protect vulnerable upland soils.

The Lakes in the future

The Lake District is beautiful and beloved, but is not yet delivering its potential for wildlife. This is the picture in too many of our upland National Parks. If the Lakes' special habitats and environmental assets were restored, they would truly merit Wordsworth's accolade of being 'a national property'. More generally, to what extent do we want National Parks to be exemplars of best management practice? Are National Parks supposed to be special? If so, are they special enough at the moment?



'The systems of walled fields of the hill farms ... up to the limit of cultivation, and the predominantly treeless hillsides ... have become an essential part of the Lakeland scene. Yet they are almost wholly artificial.'

Derek Ratcliffe, Lakeland.



Until recently, this moorland and blanket bog was afforested, holding little value for black grouse or other wildlife. Pioneering work by the RSPB and Forestry Commission Wales has opened out the habitat, and black grouse have recolonised this site at Penaran Forest.

CASE STUDY: BLACK GROUSE

Black grouse are spectacular birds found in upland areas of Wales, the Pennines and most of Scotland.

Black grouse use a mixture of habitats from woodland and scrub, heath and rough grass to blanket bog, and do best where there is a mosaic of habitats. Adults feed on a wide variety of foods at different times of the year, including heather, blaeberry (bilberry) shoots and berries, rowan berries, birch and larch buds, cotton grass, rush and sedge seeds. Chicks feed on insects, which they find on taller vegetation associated with boggy areas. In Scotland and Wales, black grouse are associated with forest and woodland edges, but in the north of England, where trees are much less abundant, they associate with the edges of managed grouse moors.

Between 1995 and 2005 the British population declined by 22%, to around 5,000 males (the only practical unit for counting, rather than nesting females, as they do not form conventional 'pairs'), with the greatest declines in the core range in southern Scotland. Despite this worrying drop, successful conservation work has led to recent population increases in Wales and England, giving confidence that black grouse numbers can recover when the dynamic patchwork of land cover types they need to thrive is restored.

BLACK GROUSE IN THE FUTURE

In spring, male black grouse gather at sunrise at traditional sites (leks) to perform an elaborate and spectacular display to compete for females, who visit the lek to mate.

The black grouse is a potent symbol of the way in which land-use changes in the uplands affect biodiversity. Past drainage, over-grazing and afforestation have driven black grouse to extinction in many parts of the UK. Because of the complexity of problems faced by the black grouse, no single action is likely to produce a wide-scale recovery. Restoring black grouse populations would ideally involve whole, integrated landscapes rather than single habitats. Changes in farming policies to promote low intensity mixed farming, removal of deer fencing, reduction in the deer population, increased natural tree cover and restructuring of plantation forests could all benefit black grouse. But to what extent could these changes be realised in ways which complement wider upland businesses and land use, and ensure that their role in restoring this charismatic upland bird is recognised and rewarded?

Black grouse declines have been driven by:

- heavy grazing by sheep or deer, reducing tall vegetation where the grouse shelter, perhaps making them more vulnerable to predation, and leading to conversion of shrub areas to grasses, reducing food availability;
- drainage, removing wet flushes containing insects that are vital food for black grouse chicks, and conversion of hay meadows to silage, which provides fewer food plants and insects and less cover;
- maturing forestry plantations, which shade out the shrubs so their associated food and shelter are lost. Collisions with deer fences erected to protect forestry plantations can be a significant cause of adult mortality.

Black grouse recovery can be driven by:

- providing a mixture of woodland, blanket bog, moorland and upland pasture habitats;
- rewetting some areas to generate chick-rearing habitat;
- reducing grazing intensities and increasing the availability of food plants, insects and cover on upland farmland;
- creating rotating mosaics of open habitats within wooded landscapes and adjacent moorland, and marking or removing deer fences;
- controlling generalist predators, particularly where breeding habitat is poor or fragmented and breeding success is low.

'People may not readily associate wildlife as part of our heritage but it is just as important as our mountains, castles, literature and industries. Together they make Scotland what it is today. To lose our native birds would be a travesty ... By working together, we can reverse the fate of the black grouse.'

Colin Maclean,
HLF Manager Scotland



The UK holds an estimated 15–20% of the world's blanket bog and extensive areas of upland heath, with the majority of blanket bog found in northern Scotland.

UPLANDS IN A CHANGING CLIMATE

Land use policies must reflect the urgent need to reduce greenhouse gas emissions and adapt to a changed future. The uplands have a special role to play.

Climate change impacts in the uplands

By 2080, average temperatures may rise by at least 2°C and rainfall may increase by 10–15% in winter and decrease by up to 30% in summer. There will be less snowfall. These changes will influence upland land use, recreation and wildlife in myriad ways that, now, are not easily predictable. Quite possible changes, however, are:

- Farmers may be able to grow new crops.
- Moorland and woodland may be increasingly vulnerable to the effects of fire, particularly in the summer and autumn.
- Greater care will be required when using fire as a management tool.
- Wetlands will dry out.
- An increased awareness of the environmental impacts of flying and a more favourable climate will encourage more people to visit the uplands.
- UK ski resorts will struggle to stay open.
- Familiar species, such as red grouse, may retreat uphill and to the north of the UK.

The uplands and greenhouse gas mitigation

When peat bogs dry, they lose stored carbon directly to the atmosphere as carbon dioxide or into streams in sediment form, giving water a characteristic brown colour, increasing water treatment costs.

The vast majority of our peatlands have been subjected to some drainage, resulting in drying and oxidation of peat, with loss of carbon. Improving the condition of UK peatlands is essential if we are to avoid releasing thousands of years' worth of stored carbon over the next few decades. Protecting these vast peat resources is an emerging priority.

Restoring vegetation to bare peat in eroding peat bogs will help restore its water-holding properties and in turn help to reduce downstream flooding. Changed rainfall patterns under climate change are predicted to lead to increased flood risk, so land uses which help to reduce flood peaks should become increasingly important.

'A more important issue is protecting the 10 billion tonnes of carbon held in UK soils, especially upland peat soils, from release through soil erosion and inappropriate management practices such as over-grazing.'

Ian Pearson, Secretary of State for Environment, Food and Rural Affairs, 2006

CARBON FACTS

The UK uplands store some 5 billion tonnes of carbon. Scotland alone holds 2.7 billion tonnes in peat and other soils, with 1 billion stored in blanket bog.

It is estimated that peatlands in England and Wales could absorb 41,000 tonnes of carbon per year if pristine, but release 381,000 tonnes carbon per year if damaged by practices such as excessive burning, drainage and overgrazing.

Blanket bog is being restored on RSPB nature reserves at Forsinard (Scotland), Geltsdale (England) and Lake Vyrnwy (Wales) and in partnership with United Utilities in Bowland and the South Pennines (England).

Wind energy has a major role in meeting the UK's renewable energy targets and the uplands are at the centre of this emerging industry. Provided wind farms avoid damage to deep peat and other sensitive wildlife sites, wind farms and wildlife can co-exist.

Adapting to a changed climate – the role of the uplands

Climate change will increasingly drive developments in land use policy, and the uplands are uniquely placed to contribute, as:

- **a home for special flora and fauna;**
- **a store (and potential sink) of carbon in peat and other soils;**
- **a sponge to retain rainwater and release it slowly, delivering consistent and safe water supplies in the lowlands.**

Which upland land uses have the most positive carbon balances? If low intensity land use (re-wilding to some, abandonment to others) offers a positive way forward, how can land managers be rewarded for safeguarding carbon rather than producing sheep?

ADVANCING AND PROTECTING the British way of life means taking seriously the stewardship of our environment and countryside, building stronger rural communities. Because it matters that people take personal responsibility themselves, we want all individuals and businesses to join us ... to make Britain a world leader in tackling climate change'.

Gordon Brown



'Wild places aren't just good for wildlife, they are also vital for the well-being of us all.'

Graham Wynne, Chief Executive, the RSPB



WHAT ARE THE UPLANDS FOR?

The range of ecosystem services the uplands provides makes them crucially important as new thinking on land use develops.

Business

Upland businesses have traditionally been land-based, but increasingly rely on service jobs, visitors and rural support measures. Distance from markets and low production potential makes it hard for upland farmers to compete. Rural tourism often depends on, but does not contribute to, the land management providing the assets that visitors respond to. The uplands' economic base should be developed to couple wildlife and landscape enhancement to revenue-generating activities, and encourage the development of high-value, place-linked products such as food from special farming systems.

Landscapes

The uplands feature some of our most charismatic landscapes; nearly 4 million ha are included in the UK-wide network of National Parks, National Scenic Areas and Areas of Outstanding Natural Beauty. The attributes of the uplands that people most cherish should be celebrated and protected beyond the network of protected landscapes.

Outdoor recreation and health

Alfred Wainwright suggested that the English Lakeland Fells 'are a perfect cure for urban depression'. We agree, and the evidence to support this is now emerging at the level needed in modern day policy making. The uplands attract more than 100 million day visits a year. Access to green space and nature is strongly linked to improvements in physical and mental health. Walking is one of the few increasing leisure activities, and access to the natural environment is the main motivator. The uplands represent a massive opportunity to increase the nations' health through encouraging people to get out and enjoy nature.

Water

Between 70% and 90% of our drinking water comes from surface water, the majority gathered in the uplands. Upland land management can affect raw water quality and downstream flooding, adding to the costs of water provision and flood defence. Water quality and flood risk management should be recognised as products of upland land management.

Soil and carbon

The uplands' vast peat reserves are a major carbon store. Management practices that degrade the peat result in the release of carbon. Drainage, inappropriate grazing, poor

burning practice and an increasingly hot and dry climate are likely to exacerbate this problem. Peatland restoration must become an immediate priority in moves to protect carbon stores and reduce carbon loss.

Wildlife

The uplands support a range of internationally important habitats and species. Some exist only in upland habitats whilst others may increasingly depend on them in the future. Some of our most important upland wildlife depends on land use and management that has a dwindling economic base, and the conservation benefits of upland farms, moors and forests are not always recognised or rewarded. The huge potential of the uplands to conserve and protect the UK's wildlife should be explicitly developed and their richness restored.

The uplands are the last great tracts of land not currently subject to high development or production pressure. They should be cherished, recognised as the green lungs of the UK, and managed to provide climate protection, water, wildlife, and outdoor space for people to relax, enjoy nature and recharge their spirits. Reconciling conflicts between different things we need from the uplands remains a key challenge if we are to succeed in getting the most from these special places, at the same time as protecting them for the future.

'Today, it is mainly those of us who live the softer life who find these places special for their landscapes, their nature and the challenge of open-air recreation, and for the sense of fulfilment and self-development these activities contribute – not just to the individual but to the national well-being.'

Magnus Magnusson

ABOUT 1,000 FEET UP we broke through the cloud and entered a magical world. The sky was blue, the sunlight reflected on the snow and above an all-encompassing sea of cloud all we could see in every direction was mountains ... I do not believe there was a better place to be on the face of the earth than on the top of a Scottish mountain'.

John Smith. A Life. Mark Stuart



Heather burning – friend or foe?

WHAT NEXT FOR THE UPLANDS?

Policy makers and society as a whole need greater clarity over the uplands. We need a nation-wide debate over how we recognise and sustain the true value of the uplands. We should explore how a fresh approach to upland land use and management can keep the best of what we have now and balance the different demands that will be placed on land use in the future. We need to find ways to ensure that the full potential of the uplands is recognised and delivered, that the people and wildlife that live there thrive, and that the uplands deliver environmental, economic and social benefits for the whole of the UK.

The following list of questions is not easily answered, but in thinking about them we may move towards a greater consensus over upland land use:

- What does society want from the uplands? And how much are we prepared to pay for it?
- What form of public support, if any, is most appropriate?
- How can we adequately value the social and spiritual benefits of upland landscapes?
- How can we adequately value ecosystem services such as carbon storage and flood alleviation that the uplands provide?
- How can we adequately value the contribution of upland wildlife to our quality of life?
- How can public policy work with individual land managers' needs and aspirations to achieve the best combination of upland land uses?
- How do we build the certainty of climate change, but the uncertainty of its detailed impacts, into our planning for the future of the uplands?
- What are the roles of the big three traditional upland land uses, farming, forestry and game management, in the future?

These are big questions – but they need to be answered to form a sound basis for 21st century government policies that will deliver public benefits and justify continuing public expenditure to support upland land uses.

There will be difficult choices, but it would be better to face these and start to find solutions than continue to duck them.

For example:

Many would see the uplands as the ideal location for a massive expansion of renewable energy generation from wind farms, which could contribute significantly to energy security and the reduction of greenhouse gas emissions – population densities are low, land is cheap and wind is abundant. But to what extent is this aim compatible with generating greater tourist revenues, maintaining wildlife populations and allowing the uplands to be places where we can all attempt to get back to nature?

Management of land for grouse shooting has protected upland areas from the worst of over-grazing and blanket conifer plantations whilst generating income for upland communities and forming a uniquely British form of cultural land use. But to what extent is this intensive land use compatible with favourable condition of designated wildlife sites, protection of ecological services such as carbon storage and the existence of a rich population of predators such as golden eagles?

Increased tourism in the uplands could benefit local communities, providing increased income and benefiting the tourists through an enhanced leisure experience, increased physical and mental health. But to what extent might an increase in tourism degrade those very natural assets that tourists come to enjoy and also reduce the quality of life of those who are resident in the uplands?

The productivity of the uplands for agriculture and forestry might be increased through more intensive management, intervention and inputs thus benefiting individual landowners. But to what extent would this approach diminish the ecosystem services that a more 'natural' approach might deliver to society as a whole?

The RSPB aims to play a full part in debates about future upland land use. We do not know all the answers but can envisage a different future for the uplands.

- Instead of being Less Favoured Areas, they are Favoured Areas because they provide so much that society needs and values.
- Instead of being places left over after development and production has taken place, they are identified and protected as the green lungs of the UK.
- Instead of being quietly neglected, they are at the centre of a rural renaissance.
- Instead of relying on unprofitable activities to deliver public benefits as a by-product, we should support those who manage and look after our uplands on behalf of us all.

To contribute to our thinking on upland land use, please e-mail your suggestions to uplands@rspb.org.uk

THERE IS ANOTHER BRITAIN, to many of us the better half, a land of mountains and moorlands and of sun and cloud. It is equal in area to lowland Britain but its population is less than that of a single large town. It lies now, as always, beyond the margins of our industrial and urban civilisations, fading into the western mists and washed by northern seas, its needs forgotten and its possibilities almost unknown.'

WH Pearsall