



Vital Uplands

A 2060 vision for England's upland environment

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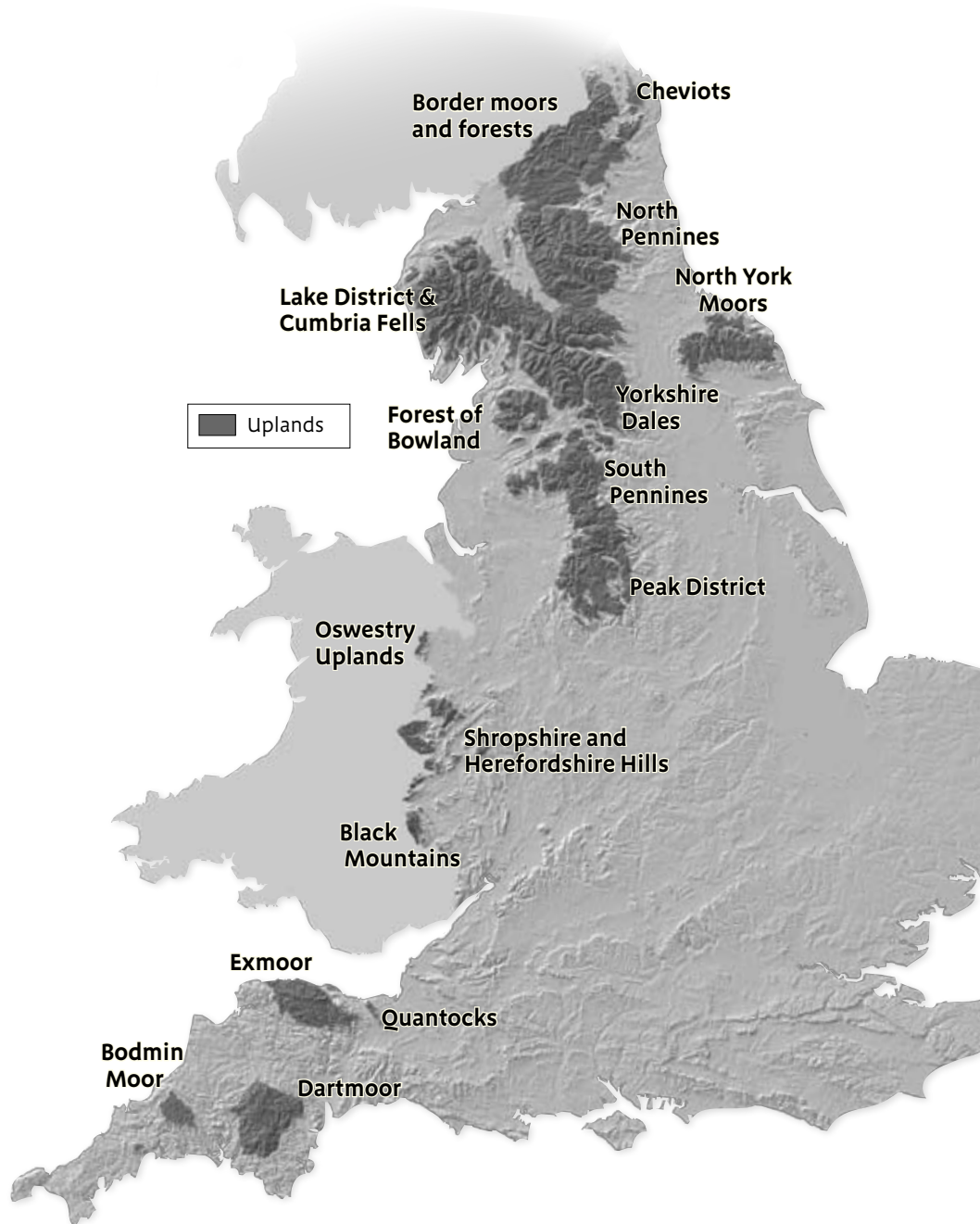


Upland hay meadows, such as this one in Weardale, North Pennines, are a much-loved yet rare and fragile component of the upland environment





Where are the uplands?



The upland boundary we have used is coincident with the 'Severely Disadvantaged Area' boundary designated as part of the European Less Favoured Area legislation.



What is this vision for?

Vital Uplands sets out Natural England's long-term vision and ambitions for England's upland environment. We are indebted to our upland partners and stakeholders for their input of evidence and views whilst we were developing this vision.

Our upland environment has been formed through centuries of people's interaction with nature. The uplands are a national asset, prized by people as places of inspiration and enjoyment, as well as a source of vital benefits such as food and clean water. They are a working landscape for farmers and others who derive a living from the land. However, the environment, and the vital benefits and services it provides, is under pressure – from climate change, from changing social and economic circumstances, and from the impacts of unsustainable use.

We hope the changes we propose here will:

- highlight the importance of the upland environment to society as a whole;
- provide a common goal that inspires everyone to embrace future change and play their part in achieving this vision;
- stimulate new thinking and action about how to deliver this vision – including funding sources and practical changes on the ground; and
- encourage those who farm and manage upland landscapes to seek out new opportunities for sustainable business ventures that will be central to the Vital Uplands of 2060.

Natural England will use the vision to set the direction for our work across the uplands, nationally and locally. It will inform and shape our delivery of agri-environment schemes, and other plans, projects and research in the uplands; our work with partners and stakeholders; and our advice in support of the upland environment.

OUR EVOLVING UPLANDS



400 million years ago



1

Volcanic eruptions and crumpled rocks generate a new mountain chain across what is now northern England.

360 million years ago (Carboniferous)



2

England on the equator. The uplands were present, with shallow tropical seas and deeper basins.



Why do we need a vision?

Over the coming years, society will face important choices about how we best use and manage our uplands. In recent decades, upland land use, and associated policies and investment, has focused on food production from livestock and moorland management for game shooting. Food is vital for our wellbeing, and we now understand more about the vast importance of the uplands for other critical services and benefits such as water supply and quality, soil carbon stores, and outdoor recreation and learning. By modifying the management of the environment, we can help to deliver more of these services, and improve their quality as well.

21st century challenges and opportunities

We expect significant direct impacts from climate change in the uplands. Summers will be hotter and drier, winters will be warmer and wetter and there will be more extreme weather events. This will affect vegetation growth (eg more grass might be available for livestock grazing), increase erosion rates and

possibly incidence of wildfire, and change the types of wildlife species found in the uplands. Land use decisions will be even more important if we are to get all the vital benefits and services from the uplands that we need.

People and communities in the uplands, as well as those outside them, are facing a number of other challenges and opportunities. The population is changing: the average age of farmers is increasing and new social groups are becoming more established. Land management incomes tend to be low. New technology, such as broadband and renewable energy, is changing the way people live and work. Changes in public policy can drastically affect funding for farming and other land management. Society more widely is changing in its values, aspirations and economic prosperity, affecting in turn how people engage with the natural world.

We hope everyone will use *Vital Uplands* to create opportunities for integrated practical action, policies, business investment and community involvement to support the sustainable use and management of our upland environment. Making the right decisions about land use and management today will help secure a future for our environment and all of us who depend on it.

280 million years ago (Permian)

England in the heart of the supercontinent Pangea. Dominated by rock desert.

3

2 million years ago (Quaternary)



4

Thick glaciers covered much of the upland landscape.

1 million years ago (Interglacial)



5

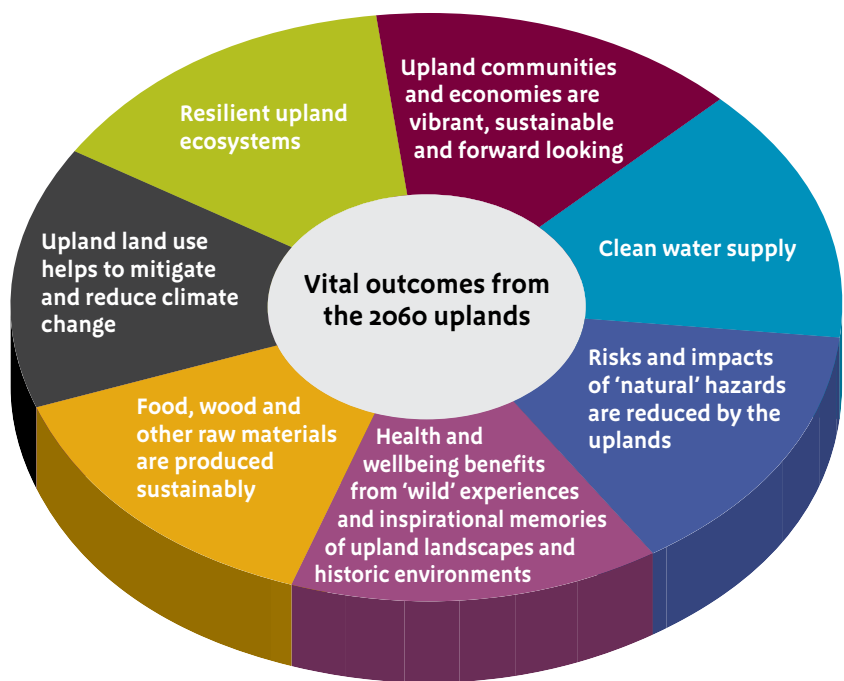
Relatively short warm period when upland woodland was inhabited by hippos, straight-tusked elephant, as well as early humans.

Our vision

Imagine what our uplands could be like! It is England, in 2060...

Our healthy upland environment, with its outstanding wealth of wildlife habitats and cultural landscapes, is crucial to everyone’s wellbeing. Millions now depend on the uplands for vital benefits that sustain life and

living. The uplands are a rewarding place to live, work and enjoy. They play a crucial role in helping us adapt to a changing climate. People are motivated to protect and look after the environment for their own sake, and to provide an enduring legacy for future generations.



- **Upland communities and economies are vibrant, sustainable and forward looking**, their success is intricately linked with a healthy natural environment. There are abundant new opportunities for businesses which deliver the vital outcomes.
- **Clean water supply** from upland rivers and lakes is more important than ever before, as our lowlands are now hotter and drier.
- **Risks and impacts of 'natural' hazards are reduced by the uplands**. The risk of downstream flooding is minimised, and wildfires are prevented. This helps save homes and countryside from the more frequent storms and unpredictable weather patterns of 2060.
- **Health and wellbeing benefits from 'wild' experiences and inspirational memories of upland landscapes and historic environments** are valued, shared and celebrated in our largely urbanised world.
- **Food, wood and other raw materials are produced sustainably**, conserving soils, reducing carbon emissions, and providing local employment.
- **Upland land use helps to mitigate and reduce climate change** by storing and capturing carbon in soils and woodland; and by delivering renewable energy from a variety of sources.
- **Resilient upland ecosystems**, where natural processes adapt to large-scale change, provide a haven for wildlife under pressure.



6
The uplands are covered in dense woodland. By 10,000 BC hunter-gatherers were present.



7
4000 BC – 2200 BC (Neolithic)
Introduction of farming. Woodlands cleared for crops and grazing land. Burial cairns and henges constructed.



8
1000 BC (Bronze Age)
Cooler and wetter weather causes water-logging and peat growth.

Bringing the vision to life

People are central to achieving a healthy upland environment – those who directly manage it, and those who use or benefit from it. By 2060, people have extended the success of previous good practice in land and resource use and management. They have effectively integrated the vision outcomes, to achieve resilient, stimulating and valued upland landscapes which demonstrate sustainable living.

Innovative land owners and managers are vital in the 2060 uplands – including farmers, foresters, sporting and recreation managers, as well as those who manage catchments, common land and nature reserves. They are flexible and responsive to the new demands and opportunities of the mid 21st century. They have found new markets for goods like water and carbon, and they work together to deliver a wide range of valuable market produce alongside vital public benefits.

Thriving upland livelihoods and communities in 2060 have a more economically secure future supported by a broad mix of businesses like food and raw materials, tourism, recreation and sporting game management, education, health, water, the arts, green energy and transport, and conservation. Such businesses thrive in the uplands because they are underpinned by a healthy environment.

Sustainable consumers. The millions of people who benefit from the upland environment – those living there and people further afield – recognise and value these benefits, and reduce any negative impacts on the environment, through their choices about food, travel, energy, leisure and education.

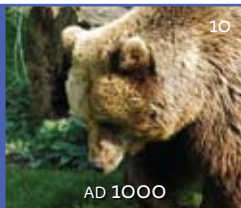


Many businesses in the Lake District benefit from the high quality environment and want to put something back. The Cumbria Tourism and Conservation Partnership recruits tourism business members to raise money for conservation work. One example is the “Miles without stiles” project which promotes better countryside access for those with limited mobility.

AD 200 (Romans)

Uplands crossed by roads and dotted with forts to act as ‘police’ posts. Exploitation of mineral resources such as lead and silver.

9



10

AD 1000

European brown bear extinct in England.



11

1200 Medieval

Foundation of monasteries in remote areas – running large scale sheep farms. Designation of large areas as hunting forests to preserve game.

2009



Area of artificially drained peat bog with large eroding gullies and bare peat.

Footpath erosion, made worse by increasingly intense rainfall events.



Rotational burning of vegetation patches and predator control for grouse moor management. This can prevent growth of scrub and squeeze out some upland species whilst benefitting others.



Soil erosion resulting in streams with high sediment loads and peat stained water. Further downstream water will pick up nitrates from fertilised (deep green) pastures.

Bracken, grassland and moor grazed by sheep providing food and wool. Intensive grazing can cause soil erosion and compaction, and prevent regeneration of scrub and trees. Thus speeding water run-off.



How might the uplands look in 2060?

These pages show an upland landscape in 2009, and how the same place might look by 2060, if some of the vision outcomes are achieved. Although the image is based on real landscape terrain, the features in the photographic drape are modelled.

- The intention of these images is to provide a tool for discussion only. They show one possible view of the future in this type of landscape.
- Through target notes and photographs, we have highlighted some of the key features from 2009 which we would want to see modified by 2060.

Restored blanket bog with pools, *Sphagnum* moss and cotton grass. Carbon losses are avoided and downstream water quality improved. Rotational moor burning for grouse continues, but away from blanket bog habitats.



Blanket bog and upland heath with wider range of species including raptors like hen harrier.



Woodland and scrub developing on bracken covered slopes – preventing soil erosion, filtering water, storing carbon and providing wildlife habitat.



Single large grazing unit of rushy pasture, woodland and scrub. Allows more natural processes to operate, helping adaptation to climate change and still producing food.



Small scale hydro power installation on stream, providing power for youth hostel. Water is clear (not peat stained) and free from nitrates, as it flows into the drinking water reservoir below.



Hay meadows restored and managed with annual cutting and aftermath grazing. Livestock from these fields often taste better and their environmental impact is less because no artificial fertilisers are used (paler green fields).



Farm has expanded with eco-buildings running on renewable energy. In addition to livestock buildings, it now includes a small sawmill to process timber, an interpretation centre for visitors and an expanded campsite.



What is needed to achieve the 2060 vision?

Distinctive places

We recognise that each upland valley, mountain top or catchment has a different starting point on the journey to 2060, based on its geography, history, ownership and purpose. The detail of what we collectively do, and where we do it, will need to build on these distinctive differences in order to

strengthen landscape character, protect the historic environment and allow sensitive landscape evolution. We set out the 'Top 10' changes which we think are needed to secure our vision outcomes by 2060. Each change will usually contribute to a number of the vision's outcomes.



Grazing by native cattle breeds, such as this Blue-grey in the Yorkshire Dales, benefits the limestone grassland and produces high quality meat



1680
Grey wolf extinct in England.



18th century
Development of steam power allows deep mining for minerals such as tin, copper and lead.



1780
European beaver extinct in England.

The Top 10 changes for a better uplands (not in any order of priority)

Changes on the ground by 2060

1 Stabilised soils

All eroding peat soils and blanket bog have been stabilised, wetted-up and vegetated, and are actively absorbing carbon from the atmosphere. All other soils are managed so that compaction and erosion are minimised, and they can accumulate organic matter, and therefore carbon.

Grouse moor managers, as owners of the majority of northern England's upland peat resource and heather moorland, have embraced the challenge of managing soil carbon resources sustainably. They have taken account of research outputs and modified their management where appropriate.

2 Diverse open uplands

Open upland heaths, bogs and grasslands are a major part of what makes our upland landscapes distinctive, supporting a wider range of associated wildlife. Grouse moor management remains an important component of our open uplands – shaping landscapes with sustainable grazing and burning practices. Such practices, now well-integrated with other vital outcomes, support a greater diversity of vegetation structure and habitat mosaics, including scrub and trees. They also reduce soil erosion and limit wildfire. In places, some areas such as blanket bog or high altitude heath, are ungrazed and unburnt.

3 Grazing systems that produce food and much more

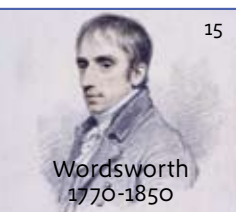
Grazing, at different scales and intensities, is still part of the character of many of our

upland landscapes. Domestic herbivores – cattle, sheep and ponies – as well as wild ones, such as deer, are managed within a wider spectrum of grazing systems, including those that are “closer to nature”. On the ground, grazing is matched to each place to achieve the best outcomes. For example, from food production with higher stocking levels; to water quality improvement with lower, or sometimes zero, grazing. Across the uplands as a whole, food production from livestock is now fully integrated with producing other vital outcomes. This has improved the long-term assurance of food supplies, clean water, carbon stores, landscape and wildlife.

4 More, and better managed, woodlands

There has been a substantial increase in woodland cover, and more existing woods have been brought into management. Trees and woodlands now cover up to 25 per cent of the uplands. This includes the full spectrum of woodland types – single trees, grazed wood pasture and parkland, high altitude scrub, native woodland and plantations. Often this is located along stream and gully sides, on former bracken-covered land and in mosaics with other habitats.

Large working mixed and conifer forests are well integrated with other land uses. The future of 2010's remnant native woods is much more certain as grazing levels allow more natural regeneration. Improved connectivity between woods is helping woodland plants and animals adapt to the impacts of climate change.



15

“Romantic” movement makes upland areas a destination for painters and poets, seeking inspiration.



1850

16

“Scientific” farming, developing the use of lime fertilizers. Enclosure of moors and former hunting forests.



19th century

17

Driven grouse shoots develop with breech loading shotguns. First use of uplands as military training areas.

5 Green energy

Renewable wood-fuel, water power, ground source heat, solar and wind technologies produce energy for residents, visitors, and supply power outside the uplands. Power infrastructure is sited to minimise irreversible or unacceptable impacts on the environment and landscape.

6 Low-carbon growth

Upland business, industry, built development and transport are focused on low-carbon growth. A low-carbon recreation and tourism industry is booming. Visitors use highly efficient transport to get to the heart of the uplands, where they can enjoy an exciting range of outdoor recreation activities that use the environment sustainably. New-built development, and restoration of buildings, bridges and walls, involves innovative, carbon-neutral architecture that takes inspiration from, and reinforces, the local landscape character. Upland farming, forestry and other land management no longer relies on fossil fuels – the use of external inputs, such as oil-based fuel and greenhouse gas-intensive fertiliser and feed, has been minimised, and produce processing is more efficient.



Peak District National Park's Moorland Centre reflects its upland setting. It has a living turf roof for insulation and is heated by a ground source heat pump

Changing perceptions and approaches

7 Better understanding

People across England understand more about the role of a healthy upland environment in supplying their life needs including water, food, energy and space for recreation. Upland education programmes and activities enthuse and challenge participants and help many more people across society to maintain a life-long relationship with these special places. People are motivated to do whatever they can to value, support, protect and improve the upland environment.

8 Professional knowledge

Farmers and other land managers have the right skills, knowledge and resources to manage the environment for the range of benefits it provides, and take pride in doing so. They work with nature and natural processes to maximise sustainable production and achieve their business objectives, using diverse land management systems.

9 Reward and recognition

Upland farmers and other land managers are rewarded for providing a range of vital environmental goods and services, primarily by the people and places that benefit. Innovative new markets and other support encourage practices that achieve the vision's outcomes. This has revolutionised the way upland land managers generate their income.

10 Co-operation

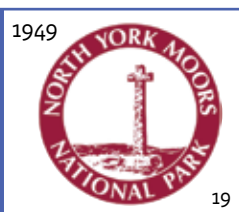
By co-operating across ownership and administrative boundaries people achieve the landscape-wide results needed for many of the vision's outcomes. Joined-up thinking and collaboration between different interest groups leads to lasting solutions and widespread support.



1932

The Kinder Scout mass trespass action was the first in England to try and get mass access to the moors from the cities.

18



1949

19

National Parks and Access to the Countryside Act. Site of Special Scientific Interest designation gets underway.



1950s

Drainage of peat driven by desire for self-sufficiency in food.

20



Acknowledgements

Natural England would like to thank the many organisations and individuals for their challenging responses, comments and questions which have helped refine our thinking and presentation of this vision. We know that they will be working hard over the coming years to help achieve many of the outcomes described here. We look forward to working with them.

For more information go to:

www.naturalengland.org.uk/ourwork/securefuture/default.aspx

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21

Common Agricultural Policy pays production subsidies, intensifying grazing and agricultural 'improvement' in the uplands.



1986

22

Agriculture Act enables creation of first Environmentally Sensitive areas, beginning a change in grant aid, from production subsidy to payment for environmental benefit.



Lone climber on Ingleborough, Yorkshire Dales.

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Natural England is here to conserve and enhance the natural environment, for its intrinsic value, the wellbeing and enjoyment of people and the economic prosperity that it brings.

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