



Department  
for Environment  
Food & Rural Affairs

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## **National Upland Outcomes**

**A framework to help develop local partnership  
outcomes**

**December 2013**

The logo for Natural England, consisting of a solid yellow square with the words "NATURAL" and "ENGLAND" stacked vertically in white, uppercase, sans-serif font.

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# Foreword

The profile of the English uplands has never been higher. Increasing awareness of the value of the uplands to society has resulted in a high level debate on the importance of sustainable land use there. Balancing the needs of the wide diversity of interest groups with delivering environmental outcomes is increasingly challenging. Add to that changes to CAP, increasingly severe weather events and predictions of increased market volatility and the challenges facing those seeking to manage the uplands are put into stark relief.

Defra and Natural England are working to support upland communities through a broad range of policy and delivery mechanisms that support action in the uplands. The Upland Outcomes Framework provides a context for this action and describes the range of outcomes that might contribute to delivering a sustainable environment, economy and society. It is deliberately non-technical and makes no attempt to categorise the importance of any one aspect of upland character over another. Its value is in identifying the key components that might characterise any area and suggesting an integrated approach to their delivery relevant to local circumstances. It recognises the value of local skills and knowledge in determining the priorities at the local scale and adopts the ecosystem approach, which puts people at the heart of the environment.

The uplands offer much to society and have the potential to offer much more. They are one of the country's biggest carbon stores and supply the majority of our drinking water. They are living landscapes created through human activities aimed at creating a sustainable local economy including farming; mineral extraction and grouse moor management, all of which have helped to create a local distinctiveness to each upland area. There is recognition that, in developing integrated outcomes, we need to take account of the uniqueness of each upland area, its cultural inheritance the people who make a living from the landscape and the wider benefits to society.

We recognise in this approach, that stakeholders are integral to successful delivery of outcomes and have sought an inclusive approach when preparing the Outcomes Framework. This has been supported through Defra's Upland Stakeholder Forum and has been a major theme in Natural England's Upland Delivery Review. We have been greatly encouraged by the level of understanding and the willingness to share experiences that help address complex and sometimes emotive issues.

We hope stakeholders will see the Framework as one of a number of ways to help develop local partnerships deliver more and better outcomes for the uplands and that land managers who have generations of experience and knowledge will embrace the challenge of working in partnerships to secure a sustainable future for the uplands.

Robin Mortimer, Defra

Guy Thompson, Natural England

# 1. Purpose of National Outcomes Framework

The Framework provides a summary of the context of the English uplands and a national checklist of the outcomes that are important across the English uplands. It will assist new partnerships to facilitate discussions on the range of benefits it is possible to deliver from the uplands and for existing partnerships, a simple tool to review against existing outcomes, to ensure delivery is maximising outcomes.

It will help deliver an integrated approach which takes account of the range of outcomes (environmental, social and economic) that may be delivered in any upland area. It will help translate policy for integrated delivery of outcomes, as set out in various policy drivers, including the Natural Environment White Paper and Upland Policy Review into practical delivery on the ground.

The guidance implies the adoption of an ecosystems approach which has 3 core principles:

- Managing the wider landscape and natural ecosystems as dynamic systems – managing the whole not just the sum of the parts
- Recognising the value for people of the local environment, and how the services it can provide (including food production) are essential for their lives and prosperity
- The importance of putting people at the centre of decisions

Whilst the Framework is set out in a national context it is intended to be used at a local level to deliver local outcomes that are consistent with the local interests and needs, and taking account of the local landscape and local partnerships. This is not a rigid process. 'Local' means at whatever scale it is appropriate to deliver outcomes. 'Partnerships' can be large (for example a Nature Improvement Area) or small (for example Natural England and a land manager) depending on the mechanisms required to deliver the outcomes. Land managers are critical to delivery and in most partnerships, a key component. Implicit in this approach is that land managers need to understand and have ownership of the outcomes and are able to deliver both their own contributions and accommodate others' interests. Annex 1 sets out some simple guidance on how the outcomes framework might be used by partnerships to realise delivery of multiple, integrated outcomes.

## 2. Why are the uplands important

Our uplands are special places - unique cultural landscapes shaped by centuries of human activity and pastoral farming systems. Sustainability is the key to the future of upland areas with the 3 key aspects, environmental, social and economic being interdependent. The uplands are a national asset prized by people for their tranquillity, for quiet enjoyment, inspirational nature and for recreation. They are also a vital source for goods and services, for example food and drinking water, and make a vital contribution to overall livestock production in the UK.

Central to the provision of services and assets the uplands provide such as landscapes, biodiversity, food, water, timber and access is the active management of the land by farmers, landowners and land managers. Successful upland policy is dependent on upland

communities, particularly farmers and land managers, whose rural businesses are fundamental to the rural economy and whose role in managing the land in the longer term, will ultimately determine the value of environmental outcomes.

Each upland area is distinctive in its own way, partly reflecting the underlying geology and history of land use. Farming in particular has shaped the different landscapes we see today across the uplands from the characteristic dry stone walls in the Yorkshire Dales to large areas of open common in Cumbria. Sustainable farming is vital to maintaining these valued landscapes. More locally, and more recently grouse moor management has added its unique blend of management which supports the large areas of heather dominated moorland seen from the Peak District north to the Scottish Borders.

Nearly two thirds of the uplands are designated landscapes, either National Parks or Areas of Outstanding Natural Beauty, valued for their scenery, their sense of remoteness, scale and wealth of cultural and natural heritage. This is reflected in the fact that the uplands are a major national recreational asset which brings significant economic benefits. Studies have shown that this recreational asset can considerably improve our health and well-being. 86% of Open Access land is in the uplands. The uplands also contain 500km of some of the most special National Trails, as well as thousands of kms of rights of way enjoyed by walkers, cyclists and horse riders.

In addition over 40% (410,000 hectares) of England's Sites of Special Scientific Interest (SSSIs), sites which have been designated for their outstanding wildlife habitats, species or geology are found in the uplands. 88% of these upland SSSIs form part of the Natura 2000 series; sites regarded as having special significance<sup>1</sup> in a European context. Upland areas are critical to delivering national SSSI targets – 60% of all the SSSI land in 'Unfavourable Recovering' condition is in the uplands - 335,000 hectares. Which means 85% of upland SSSI land needs ongoing recovery.

The largest remaining tracts of 'semi-natural' habitats in England are found in the uplands'. They are home to threatened wildlife eg black grouse once present in every English county is now largely restricted to the North Pennines. The uplands also contain a high proportion of undesignated UK Biodiversity Action Plan priority habitats<sup>2</sup>, for example 32% of upland blanket bog is not protected as a statutory nature conservation site.

Although covering only 12% of England<sup>3</sup>, the uplands provide an extensive range of important services. There is a very strong overlap between a healthy natural environment, sustainable land management and wider public benefits, for example 70% of UK drinking

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<sup>1</sup> Special Areas of Conservation and Special Protection Areas for birds are designated under the European Habitats and Species Directive and are afforded higher protection in law than other nature conservation designations.

<sup>2</sup> Biodiversity Action Plans have been prepared for habitats considered threatened within the UK and include many upland habitats such as upland hay meadow, blanket bog upland, oakwood, limestone pavement and upland Calcareous grassland

<sup>3</sup> Upland areas in England are defined as Defra's Uplands Policy Review document – Northumberland and North Pennines; Lake District; Yorkshire Dales and Bowland; North York Moors; South Pennines; Peak District; Welsh Borders; Exmoor, Dartmoor and Bodmin Moor; South West Disadvantaged LFA Area.

water is collected from upland catchments and upland soils have significant carbon stores holding 138 million tonnes of carbon<sup>4</sup>.

The uplands are working landscapes, 16% of the uplands are managed as grouse moor and upland hill farmers are a key part of the rural economy, with 3 million, or 45%, of England's total breeding ewes and 40% of beef cows based in the uplands or upland fringes. There are a number of challenges in balancing land managers aspirations with wider outcomes. Natural England's Upland Delivery Review Programme and evidence reviews will provide information to inform our understanding of some of the issues. 73% of upland farmers are in an agri-environment scheme with 870,000 ha in the Uplands Entry Level Scheme.

Tourism also plays a vital role in upland economies with an estimated 60 million day visits a year made to mountain, hill and moorland<sup>5</sup>. There is no doubt that, with growing energy demands and fluctuating commodity prices, increasing development pressure will be placed on the uplands, particularly for their minerals, food and renewable energy potential<sup>6</sup>.

Land ownership is often complex in the uplands. Over half of upland farms are owner occupied, with the majority of the rest farmed under tenancies or short-term licences<sup>7</sup>. Of the 2.2 million ha of upland there are a significant number of very large upland estates, some of which are in private ownership and others owned by a range of organisations such as the MoD; non-governmental organisations such as the National Trust; utility companies; and investment companies. For example the 200 members of the Moorland Association manage 340,000 ha of upland. Common land is mainly in the uplands. 20% of the uplands is registered Common land with Cumbria having 30% of all English commons. Commons and the commoners that manage them are a vital component of the upland culture and landscape. Common land<sup>8</sup> has statutory protection and under Sections 26 and 46 of the Commons Act. Natural England has a statutory duty to protect the interests of Commoners and the public on Common land<sup>9</sup>. Common land delivers a wide range of our outcomes – food production, biodiversity, access, landscape, carbon storage. 78% of England's common land is in a National Park or AONB, and 57% is SSSI.

Upland landscapes provide many opportunities to develop innovative delivery through strong partnerships. There are many existing partnerships, for example peat and carbon management via Moors for the Future, Yorkshire Peat Project and the North Pennines

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<sup>4</sup> England's peatlands – carbon storage and greenhouse gases. NE257, Natural England, 2010.

<sup>5</sup> Monitor of Engagement with the Natural Environment (MENE) survey 2011

<sup>6</sup> Statistics drawn from Natural England's Mapping Values: the vital nature of our uplands (November 2009). <http://publications.naturalengland.org.uk/publication/47001?category=38019>

<sup>7</sup> Farming in the English Uplands (may 2010) Defra Agricultural Change and Environmental Observatory

<sup>8</sup> A 'common' and 'common under the Commons Registration Act 1965 or the Commons Act 2006 (or commons specifically exempted land' mean any land included on the statutory registers of common land held by commons registration authorities from registration under these Acts). '**Shared grazing**' means communal pasture where graziers have a legal entitlement to graze (for example, a pasture used jointly by tenants) but where the land is not registered as common land.

<sup>9</sup> 'A Common Purpose'

<http://naturalengland.etraderstores.com/NaturalEnglandShop/product.aspx?ProductID=fb58d973-e68c-4aef-833a-e34fc48f69a0>

AONB's Peatscapes Project; land management via 'Dartmoor Farming Futures'. There is scope for many more including, climate change adaptation and mitigation work, habitat improvement and restoration and land management.

The development of an Uplands Strategic Standard<sup>10</sup> by Natural England emphasises the importance of the uplands and sets the approach Natural England will take to working in the uplands, reflecting both the Government's policy and Defra's wider priorities for the Natural Environment.

There are a significant number of policy and delivery drivers that provide a context and framework for delivery of environmental outcomes and public benefits in the uplands. These are summarised in Annex 2.

### **3. Key upland outcomes**

Annex 2 describes the key policy and delivery drivers that provide the context for working in the uplands. Using these drivers it is possible to define a range of key outcomes that are important in securing a sustainable future for the uplands. This section provides a short summary of each key outcome and describes their importance in the context of the uplands. It is not an exhaustive list but describes those which can generally be applied to most upland areas.

#### **3.1 Environmental outcomes**

##### **Water quality (soil, rivers and lakes)**

Many upland catchments have largely intact functioning river systems, with good habitat connectivity from the highest land (often blanket bog and upland heath) through to the river corridor. Freshwater lakes and tarns are an important part of these systems.

Acidification and sulphur deposition from air borne pollution, following the industrial revolution, were causing water quality issues but have improved significantly recently. Current issues include water from peaty soils being high in both particulate and dissolved organic carbon (DOC). DOC concentrations have increased significantly over the past 20 years in many catchments. Where these soils have been damaged there are also increased sediment loads. There is a cost to society from removing sediment and colour to provide clean drinking water and to aquatic ecosystems. The nutrient poor waters from the uplands can also be sensitive to pollutants from agriculture.

Upland catchments provide many benefits, from providing drinking water to being sites for water-borne recreation and tourism. Many of these benefits extend beyond the uplands – for example, being relatively unpolluted, water draining from upland catchments play an

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<sup>10</sup> Natural England's Upland strategic Standard 2012  
<http://publications.naturalengland.org.uk/file/5984936>



important buffering function by diluting pollution that drains into the river system downstream in lowland areas.

## **Air quality**

Air quality across the uplands is generally high, with low pollution levels due to few industrial sources and relatively low intensity farming practices. Acidification and sulphur deposition from air borne pollution was a major issue in the uplands up to the 1980s – from sources beyond the uplands. Recent reductions in air borne pollution has improved air quality and so reduced these impacts. However, many upland habitats have a slow recovery rate, and in the worse affected areas habitat condition is still poor and recovering slowly from the impacts of this historic pollution.

High air quality benefits recreation and enjoyment of upland landscapes, and provides opportunities for healthy recreation. Visitors recognise that upland areas have better air quality than urban areas, and this adds to their enjoyment.

## **Climate change resilience**

Upland areas have good potential to help adaptation to climate change, and increase resilience to the changes this will bring to natural and systems and land use. With large areas of semi-natural habitat that is well connected in a network, the uplands has the capacity to assist with climate change adaptation. Ensuring that landscapes are robust and resilient can help nature adapt to the uncertain impacts of climate change. This can also help secure the ecosystem services that these systems provide for people.

Increasing resilience can be achieved by ensuring that natural systems are in good condition and able to function effectively, and by connecting habitats so that species are able to shift. This can be achieved through improving habitat condition and developing landscapes that are robust and varied through habitat creation that strengthens connectivity and networks and by adapting land management to support such changes.

Improving the condition of habitats and increasing connectivity can have knock-on benefits for people, such as increasing carbon storage/reducing carbon loss and improving water quality.

## **Soil quality and nutrient cycling**

The uplands have some of England's more natural soils although upland peat soils have been particularly affected by historical drainage and in some areas by burning and intensive grazing management. Farming is generally less intensive than in the lowlands and largely of a pastoral nature which has helped maintain high organic matter contents. There is generally good vegetation cover which prevents erosion and oxidation of carbon-rich soils and healthy soil invertebrate populations which help maintain natural soil fertility and support high bird populations in some areas.

## Provision of drinking water

Due to high rainfall and natural storage capacity upland catchments supply approximately 70% of drinking water needs in England. The combination of naturally low nutrient levels from upland soils and generally lower intensity land management means that water quality in the uplands is higher and requires less treatment than water in lowland catchments. The most extensive upland habitats, blanket bog and upland heath, are not good water stores; and the steep topography means runoff is rapid. Therefore water storage in upland reservoirs is widespread. Increasing vegetative cover, particularly Sphagnum mosses, can help retain water.

There are a number of water quality challenges, despite quality being generally good: water from peaty soils is high in dissolved organic carbon (DOC), with concentrations increasing over the past 20 plus years. Where these soils have been damaged there are also increased sediment loads and water colour issues. These problems, partly linked to land management practices, increase the costs of water treatment.

## Active peatlands sequestering carbon

Upland peatland and peaty soils are the largest carbon stores in England, storing an estimated 138 million tonnes of carbon. Their capacity to be a carbon sink, storing and sequestering carbon, or to be a carbon source, and release it, is directly linked to the condition of peatland habitats, and longer term, to changes that may be associated with climate change.

Carbon dioxide and other greenhouse gas emissions have increased significantly from human activities. Active peatland, with peat-forming plants, particularly Sphagnum, can help reduce the impacts of these gases by locking up carbon in perpetuity.

Upland peatland offers one of the largest opportunities for natural carbon sequestration in England. Improving the condition of existing peatland may lead to significant carbon reduction benefits; though recovery can be slow. Achieving this requires management of degraded peatland to increase peat formation and retain existing peat. Historic drainage by gipping and damage through managed burning and wildfire are key issues.

Future changes in climate, particularly temperature and rainfall, are predicted to affect the capacity of upland systems to sequester carbon and may result in carbon loss<sup>11</sup>. It is vital then that we make these habitats as resilient to change as possible through improved management which promotes active peat formation.

## Flood risk management

High rainfall, steep slopes and habitats that have low water storage capacity mean that upland catchments are often naturally 'flashy', experiencing rapid runoff during storms. This can lead to flood impacts downstream, often affecting communities beyond the uplands.

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<sup>11</sup> <http://quest.bris.ac.uk/research/wkg-gps/soil/briefingnote.pdf>

Natural England's Evidence Review on the Restoration of degraded blanket bog<sup>12</sup> suggests that runoff travels more slowly across Sphagnum dominated vegetation, than some other moorland vegetation types or bare peat. It also showed there is mixed evidence that blocking drains reduces the flashiness of flood hydrographs. Blanket peat has very high water content, and is often described as a sponge. However, it cannot significantly 'soak up' and hold extra water during storms.

Improving the condition of upland habitats may help to ameliorate water flows during storms, as more, rough vegetation cover reduces water flow speeds, erosion impacts and sediment levels. Where there are bare soils or actively eroding systems restoration management has the potential to help reduce flood impacts<sup>13</sup>.

## **Better quality semi-natural habitats and SSSIs in favourable condition**

Improving the condition of semi-natural habitats can have significant benefits for people through improved provision of ecosystem services. The uplands has the largest area of semi-natural habitats in England, and together these provide many services.

The quality of these extensive habitats directly influences the supply of many of these services – eg water quality, carbon storage, and drinking water. Action and investment to improve the condition of habitats can have direct benefits for the supply of these services.

However, upland habitats are usually nutrient poor and sit on low nutrient soils and geology. The weather conditions they experience are harsh and have more extremes than lowland habitats. This means that improving the quality of habitats can take many years, and for some habitats, decades dependent on the degree of land management change. This leads to lags between improving habitat condition and securing the improvement in the ecosystem service.

Recent action to improve the condition of SSSI habitats has successfully secured changes to land management (for example blocking active moor drains) that have led to improving condition of England's best wildlife sites and their contribution to many ecosystem services.

These improvements, to habitat and services, will be gradual. The major peatland restoration partnerships have demonstrated considerable success in facilitating improvements to condition.

## **Increase in extent of priority habitats**

Upland landscapes have the largest area of semi-natural habitat in England. However, this does not always form a well-connected habitat network. There are often 'habitat gaps' between the extensive areas of moorland and the more intensively managed upland valleys.

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<sup>12</sup> <http://publications.naturalengland.org.uk/file/10510011>

<sup>13</sup> [http://www.moorsforthefuture.org.uk/sites/default/files/Runoff%20and%20the%20uplands%20-%20Feb%202012\\_0.pdf](http://www.moorsforthefuture.org.uk/sites/default/files/Runoff%20and%20the%20uplands%20-%20Feb%202012_0.pdf)

Increasing Priority Habitats is a key outcome of the Biodiversity 2020 strategy. In the uplands whilst there is less of a need for landscape scale habitat creation there is a need for linking up habitats across the landscape into a more connected network. Planning to achieve these needs to take account of the integrity of existing valued moorland landscapes.

This has benefits for nature, particularly by providing corridors allowing species to move, and can help with adaptation to climate change. The starting point for effective adaptation is to promote the natural resilience of ecosystems<sup>14</sup>. This includes increasing the number, size and condition of protected sites and improving the linkages between them. A more connected network also benefit people through improving natural systems ability to provide services, such as clean drinking water; and securing assets, such as reducing soil erosion by slowing water flows.

Targeting of habitat creation can help with specific issues in upland landscapes that affect ecosystem services. For example, woodland and upland scrub creation on steeper slopes may help reduce speed of runoff, soil erosion and sediment levels, which can help improve water quality, drinking water provision as well as biodiversity and broader riparian interests.

## **Healthy populations of species**

The extensive moorland habitats of the uplands are naturally species-poor, but they do support iconic species that are of cultural importance, for example red grouse and merlin, and represent 'refugia' for certain wading bird species<sup>15</sup>. The major declines in black grouse witnessed over the last century have now been halted due to positive interventions whilst other species notably the hen harrier have all but been lost as upland breeding species. In upland valleys the more species-rich upland meadows support colourful assemblage of flowers and are an important part of the cultural landscape.

Pollination for food production is not a major service in the uplands, where farming is livestock dominated. However, pollination is important for the continuation of the wide range of upland flowering plants and the habitats they are part of.

## **Landscape context, character and wider functional links**

The uplands landscape is made up of physical, natural and cultural attributes all interacting to make it a distinctive place. It is this combination which helps to link people to their local area whilst also offering a spatial reference for ecosystem services and biodiversity. Whilst recognition of the 'local' is important so too is an understanding of the bigger picture - the connectivity to the wider landscape both functionally and culturally. Natural England's National Character Areas (NCAs) describe these relationships. For example the Cumbria High Fells NCA highlights the importance of views in and out of the area, road, rail and water corridors as physical linkages and that "upland farming has been developed in close

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<sup>14</sup> Morecroft, M. and Speakman, L (eds.) (2013). Terrestrial Biodiversity Climate Change Impacts Summary Report. Living With Environmental Change.

<sup>15</sup> [http://www.gwct.org.uk/documents/waders\\_on\\_the\\_fringe2.pdf](http://www.gwct.org.uk/documents/waders_on_the_fringe2.pdf)

historical association with the surrounding lowlands, with large tracts of common land used extensively for seasonal (summer) grazing”.

## **Geodiversity**

The uplands contain some of the most iconic landforms in the country and its geology is particularly rich in rare minerals. The landforms and geological exposures are valued both directly for their educational value and as defining features in the landscape but also indirectly as underpinning the overall landscape character and for their economic value in terms of mineral extraction. For example the whin sill exposures in the north east of England provide cherished features such as High Force waterfall and, provides the context to the cultural setting of Hadrians Wall and is an important mineral resource.

Geodiversity in the uplands is also a significant factor in the provision of ecosystem services for example provision of minerals and aggregates, supporting soil processes and regulating erosion regulation and water quality.

## **Historic environment**

The historic record and cultural artifacts in upland landscapes have been much better preserved than in the lowlands because uplands have been less cultivated, and are far less developed with roads and housing. The historic environment is a source of identity, culture and learning. It helps us better understand past human relationships with the environment and responses to climate change. It provides evidence for the origins of modern ecosystems, and man’s role in their development. The historic environment of the uplands records the activities, culture and economies of past communities at a landscape scale, and is a significant part of the tourism offer for many upland landscapes. For example the Bronze Age ritual landscapes of standing stones and stone circles are a significant reason for people to visit Dartmoor and Bodmin Moor. The historic environment is rich and varied and includes spectacular monuments (such as Hadrian’s Wall), evidence of previous agricultural systems, old mineral workings and other upland industry, and the pollen record held in peat soils. In spite of the manifest richness of the upland historic environment, it is under-researched compared to the lowlands. New techniques, such as LIDAR, which make it more economical to undertake large scale landscape survey are facilitating a much better understanding of the upland historic environment resource.

## **Genetic diversity**

Whilst biodiversity is relatively less diverse in the uplands there are many species for which the uplands are a refuge or where they find themselves on the edge of their ranges in this country. For some species the uplands provide the only place in the country where they survive, for example assemblages of arctic-alpine plants in Teesdale.

It is not just our native flora and fauna that is important. Sustaining ‘native’ breeds of cattle is also vital as they play an important role in managing upland landscapes. They are hardy, can be left outside all year round in many areas and will feed on nutrient poor grassland and hence manage some habitats that other breeds will not.

## 3.2 Economic outcomes

### Employment

The uplands are working landscapes with strong communities. Manufacturing and the wholesale and retail trade are the dominant employers in the uplands (34%). Agriculture and forestry employ relatively few people (5.2%). However, agricultural businesses are the second most common, accounting for 16% of all businesses in the uplands and include feed companies, vets, fertiliser and machinery suppliers, contractors auction markets, abattoirs, hauliers and food processors.

Where grouse shooting occurs it may be the primary economic land use. Moorland Association members spend £52.5 million every year to manage their moors, benefiting the local rural economy. Furthermore, during the shooting season, people who come to shoot wild red grouse can inject upwards of £15 million into the rural economies of the uplands. Shooting guests occupy over 6,500 hotel bed nights. 350 gamekeepers are employed. In addition grouse moors create 42,500 days of work for contractors and local people on shoot days. Over 1500 jobs are supported by the industry.

### Tourism

There are 40 million visitors to England's upland National Parks each year spending £1.78 billion. At least 86% of open access land in England is in the uplands. With their purple vistas in August and September heather moorlands are ranked highly by tourists as places to enjoy and are a treasured jewel in the British countryside. Although the uplands are managed, to the general visitor they are often considered as 'Britain's last wilderness'.

Whilst visitors make an important contribution to the local economy there are impacts which require managing including for example, consideration of wild fires, most of which start close to access points, footpath erosion, parking and blocking access for other legitimate users (most visitors to the uplands travel by car).

### Farming/maintaining breeding livestock

The open moorlands and enclosed upland farmland was established by extensive sheep and cattle grazing over hundreds of years. Each of the different upland regions has a distinct character. Livestock farming has been central to shaping these landscapes and ongoing sustainable farming is critical to their maintenance. 44% of total breeding ewes and 40% of beef cows in England are in the uplands<sup>16</sup>.

Resilient and productive farm businesses are central to the success of the uplands. Farming provides an important contribution to local communities. In addition it plays an important role in delivering a range of other outcomes in the uplands including cultural and built heritage, the environment and biodiversity, carbon management and renewable energy and not least food production<sup>17</sup>. Recent declines in numbers of upland livestock

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<sup>16</sup> The NFU Hill and Farming Group – our commitment to the hills and uplands.

<sup>17</sup> Farming Delivers for the Hills and Uplands. [www.farmingdelivers.co.uk](http://www.farmingdelivers.co.uk)

have been reported in some areas and the potential impact this has on delivering biodiversity and ecosystem service outcomes is recognised<sup>18</sup>.

The principle commercial value of hill sheep is to produce breeding ewes often crossed with lowland breeds to produce meat for the table and export. As such, hardy upland sheep form an important part of the sheep farming industry.

## **Food production**

The main food outputs from the uplands are products derived from beef cattle and sheep. Venison, red grouse and other game products command a premium at butchers and restaurants. There are a range of other niche food products that come from the uplands and are highly valued. These include honey from heather and specialised cheeses from cow, sheep and goats milk.

## **Fibre**

Upland sheep in England produce over 5 million kilos of wool annually. This is used to make carpets, clothing, furnishings and insulation materials.

## **Timber/wood production**

The UK imports about 69% of the timber we use, largely from Europe. The extensive conifer plantations of the Cumbria and Northumberland uplands and the North Yorkshire Moors are important UK sources of timber. The uplands offer considerable potential for establishing new woodland and regenerating existing woodland ecosystems. Smaller, local markets may hold the key to bringing neglected upland broadleaved woodland into more active management; for example, using the wood in local biomass boilers. In addition to wood production new woodland offers the potential to contribute to a range of other outcomes including water quality, renewable energy, flood and soil protection, carbon sequestration and biodiversity.

## **Fuel**

In the past peat has been cut, dried and burned and many woodlands were managed at a local level to provide fuel. This management declined rapidly over the last century, principally as a result of increasing use of fossil fuels. Encouraging the planting of new woodland and better management of existing woodlands offers considerable potential for increasing local fuel supplies as does maximising the use of waste timber products from existing commercial forests.

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<sup>18</sup> [http://www.rspb.org.uk/Images/Final\\_Report\\_tcm9-340975.pdf](http://www.rspb.org.uk/Images/Final_Report_tcm9-340975.pdf)

## **Renewable energy/biomass**

The uplands have the potential to be energy self-sufficient as they have ample supplies of water and wind and important biomass resources. However the special nature of the upland landscape and poor infrastructure may make securing these resources on a large scale quite challenging. There are a few small scale hydro-electric schemes harnessing the potential energy of water. Major wind farm development is largely restricted to the areas away from protected landscapes. There is however considerable potential for increasing low impact renewable energy generation in appropriate upland locations. This might include wind, solar, biomass from wood or micro hydro, to supply local populations and perhaps those further afield.

## **Shooting and fishing**

16% of the uplands are managed as grouse moors. Grouse shooting is unique to Britain, red grouse occurs nowhere else in the world, meaning that there will always be global competition to secure the limited amount of grouse shooting available. Where undertaken it creates a unique landscape which contrasts with other upland areas.

The reservoirs of the uplands are an important recreational fishing resource, particularly for trout whilst the relatively pure upland rivers and streams provide game fishing for brown trout and salmon.

## **Rock and aggregate extraction**

Quarrying and mining have been instrumental in shaping the uplands and in the past, alongside farming, provided the main economic outputs from the uplands. The exploitation of the variety of minerals that occur in the uplands has resulted in some very distinctive landscapes (for example china clay extraction in Cornwall, limestone quarrying in the Peak District, lead mining in the North Pennines). Whilst the outputs from mineral production have declined the extraction industry still makes an important contribution to local economies and is still shaping the upland landscape.

# **3.3 Social Outcomes**

## **Recreation**

The uplands offer opportunities for a wide range of outdoor recreation – from hill walking and climbing to water borne recreation on lakes and upland rivers. The uplands uniquely offer these in spectacular landscapes that add to people's enjoyment, and also offer quiet, physical challenge and space from other people. This combination makes the uplands a major recreation resource for lowland communities. Many of these outdoor activities provide valuable employment opportunities and support local upland communities.



## **Access**

Moorlands are criss-crossed by a network of hundreds of miles of rights of way, bridleways and byways used by walkers, horse riders and mountain bikers and many moor owners also offer additional tracks for permissive use. All heather moorland became open access between 2003 and 2005 under the Countryside and Rights of Way (CRoW) Act 2000 offering walkers even greater freedom to explore it without the need to follow designated routes.

The upland has the vast majority of Open Access land, circa 86%, and many National Trails, as well as an extensive footpath and bridleway network. These provide recreation, support economic benefit through tourism visits from lowland communities, and provide physical and mental health benefits.

## **Health and well being**

The uplands provide both physical challenge and space for relaxation, enjoyment and recharge. There is evidence of the importance of this combination for physical and increasingly mental health. The benefits of green space to health have been recognised with potential savings the National Health Service<sup>19</sup>. The mental health benefits do not require a visit to the uplands; recent studies highlight the importance of knowing that the tranquillity and enjoyment of the uplands is there and available is important to people's well-being in busy cities.

## **Tranquillity**

The uplands provide a place for people to experience quiet enjoyment and to escape from their day to day lives. Parts of the uplands are remote and people can experience a sense of calm and being alone without any obvious man-made intrusions.

## **Vibrant communities**

Whilst the uplands are sparsely populated their communities have a strong sense of belonging. They comprise a mixture of people who work directly in the uplands and those that work elsewhere. Together they share a common appreciation of the environment around them and the need to work in harmony with the landscape. These communities and the fabric they manage and maintain are valued by visitors and residents alike. Farming provides the backbone to the communities and the communities directly support farming through the provision of support services, demonstrating a strong interdependency.

## **Sense of place/inspiration**

Many people value the "sense of place" that is associated with the uplands. This also includes the inspiration provided by upland landscapes and the natural world. Upland

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<sup>19</sup> [http://www.fph.org.uk/uploads/r\\_great\\_outdoors.pdf](http://www.fph.org.uk/uploads/r_great_outdoors.pdf)

landscapes and the natural world provide a rich source of inspiration directly to people through its physical characteristics as well as through art, folklore, national symbols, architecture, and advertising.

## **Biodiversity**

Biodiversity fits readily under environmental, economic or social outcomes and cuts across all three. It provides many direct benefits to people in the form of recreation and aesthetic values. The English uplands are nationally and internationally important for a range of natural and semi-natural habitats which support a wealth of wildlife. These have developed through centuries of management by enclosure, grazing, cutting, burning and drainage. Over the last 50-100 years there have been some significant changes (major losses of species-rich hay meadows, large scale drainage of peat bogs, loss of heather moorland to grass and forest). A major challenge will be to reverse some of these changes and restore significant areas of priority habitats.

## 4. Upland outcomes framework matrix

This table sets out the key outcomes under the headings of environment, economic and social and links them to the key drivers where they are a significant contributor. A key principle is that outcomes are integrated across the drivers. Annex 2 summarises briefly how integration is described within each of the key drivers.

Outcomes		Upland Policy Review	Upland Communities Inquiry	Biodiversity 2020	NEWP – Natural Choice: securing the value of nature	Water Framework Directive	Wildlife legislation:	European Landscape Convention	National Ecosystem Assessment	Ecosystem Services	Climate Change Act, 2008
<b>Environmental</b>	Water quality (soil, rivers and lakes)	X	X	X	X	X	X	X	X	X	
	Air quality	X		X	X	X	X	X	X	X	X
	Climate change resilience	X	X	X	X	X	X	X	X	X	X
	Soil quality and nutrient cycling	X	X	X	X	X	X	X	X	X	X
	Provision of drinking water	X	X	X	X	X			X	X	
	Active peatlands storing and sequestering carbon	X	X	X	X	X	X		X	X	X
	Flood risk management	X	X	X	X	X	X		X	X	
	Better quality semi-natural habitats and SSSIs in favourable condition	X	X	X	X	X	X	X	X	X	X
	Increase in extent of BAP habitats	X	X	X	X	X	X		X	X	X
	Stable populations of species	X	X	X	X		X	X	X	X	X
	Landscape context, character and	X	X	X	X	X	X	X	X	X	

	wider functional links										
	Geodiversity			x	x		x	x	x	x	
	Historic environment							x	x	x	
	Genetic diversity			x	x		x		x	x	
<b>Economic</b>	Employment	x	x	x	x		x	x	x	x	
	Tourism	x	x	x	x		x	x	x	x	
	Farming/maintaining breeding livestock	x	x	x	x	x	x	x	x	x	x
	Food production	x	x	x	x		x		x	x	x
	Fibre	x		x	x				x	x	
	Timber/wood production	x	x	x	x		x	x	x	x	x
	Fuel	x	x	x	x				x	x	
	Renewable energy/ biomass	x	x	x	x		x		x	x	x
	Shooting and fishing	x	x	x	x				x	x	
	Rock and aggregate extraction	x		x	x		x		x	x	
<b>Social</b>	Recreation	x	x	x	x		x	x	x	x	
	Access	x	x	x	x			x	x	x	
	Health and well being	x	x	x	x		x	x	x	x	
	Tranquillity	x		x	x		x	x	x	x	
	Vibrant communities	x	x	x	x		x	x	x	x	
	Sense of place /inspiration	x		x	x		x	x	x	x	
	Biodiversity	x	x	x	x	x	x	x	x	x	x

**Note:** Many individual outcomes will contribute to delivering under all three headings (environmental, social and economic).  
Their position in the matrix table does not reflect any particular priority

# Annex 1

## Guidance note to accompany National Outcomes Framework

### 1. Audience for the framework

The framework is intended to be used by all parties involved in delivering outcomes in the uplands. This will include:

- Government and their agencies
- National stakeholders
- Local stakeholders
- Existing or new landscape scale or area based delivery partnerships or projects, including National Parks and Areas of Outstanding Natural Beauty (AONBs), Nature Improvement Areas (NIAs), Local Nature Partnerships (LNPs) etc.
- Groups of, or individual land managers and Natural England delivery staff when for example developing new agri-environment agreements or considering SSSI notices

### 2. Using the framework

The Framework is just one of a number of tools available to help 'local partnerships' develop their own outcome statements and delivery actions. It should be used in conjunction with a range of other information including National Park and AONB plans. Natural England's National Character Area (NCA) profiles can assist local partnerships to identify local environmental assets and the key ecosystem services they provide at the landscape scale. They also can help partnerships start to identify key opportunities and issues and actions to address them.

The framework includes a large number of potential outcomes. Not all will be applicable in any area. Its key use is in providing a checklist to help identify the range of possible outcomes in the delivery of multiple benefits in an integrated way. 'Local partnerships' will agree which outcomes are important in the area and prioritise delivery to reflect these. In developing integrated outcomes, partnerships will need to take account of legal responsibilities, for example SSSI requirements or agri-environment scheme rules. If in doubt please discuss with Natural England.

As mentioned above the guidance implies the adoption of an ecosystems type approach. The ecosystem approach makes explicit our interdependent relationship with the natural environment. It advocates working across the whole ecosystem, recognises that the natural environment is valuable to people and society, and that people are involved in shaping future land use decisions. It can be applied in many contexts and at different scales.

**Key steps** to help partnerships to consider and begin to apply a multi-outcome approach

1. **Review** your partnership and stakeholder engagement
2. **Identify** the main issues and assets in the partnership area (establishing a baseline)
3. **Plan** for integrated action
4. **Deliver, monitor and adjust** the actions

### **Step 1 - REVIEW your partnership and stakeholder engagement**

The extent of the project area, its environmental, social and economic context and wider relationship to adjoining areas will influence the way in which an outcomes focussed approach is applied and the range of stakeholder engagement.

With the emphasis on smaller government that enables communities to deliver change (a key message in the Natural Environment White Paper, Biodiversity 2020 and the Localism Act 2011) local partnerships have been empowered to take ownership of local decision making. Within this context Natural England's role is one of providing evidence, support and advocacy.

Many existing partnerships are driven from a particular perspective or objective, for example delivering peatland restoration. An outcomes focussed approach builds on the integration of a range of environmental, social and economic objectives that delivers a holistic approach reflecting the key issues and assets of the local area.

It is useful to review the scope and membership of the partnership to ensure that its membership or engagement spans both the range of environment, social and economic interests required and demonstrates a strong cohesive group who can work together effectively and have real stake in the delivery of the identified outcomes.

The Natural Environment White Paper places a strong emphasis on working to deliver for the natural environment at a larger-scale through local integrated partnerships that involve local communities and different business sectors – for example through Local Nature Partnerships and developing links with Local Enterprise Partnerships.

It will be important to have a cross-section of partners, particularly those that have a direct stake in the future of the area. These may include:

- direct and indirect beneficiaries
- representatives of the wider public and/or local community
- those that have a direct influence or control over the way land is used, planned or managed that helps secure and sustain the agreed outcomes, long-term

**Checklist of possible partners (accepting many of those listed do not sit neatly under particular headings). It is implied that land managers deliver under all 3 headings.**

Environmental	Social	Economic
Natural England	Local Authorities	Local Enterprise Partnerships
Environment Agency	Recreation User groups	Water Companies
Forestry Commission	Local Access Forum	NFU
County Wildlife Trusts	Town & Parish Councils	CLA
RSPB	Housing	Internal Drainage Boards
National Trust	Association/Residents	Landowner/Farming Groups
AONB Partnerships	Groups	Tourism businesses
National Park Authorities	Community organisations	Visit England
CPRE Local Branch	Youth Groups	Other key private sector
Local Nature Partnerships	Schools	businesses eg local mineral
Woodland Trust	Health and Wellbeing Boards	companies, shooting
Archaeological Officers in	Local specialist interest	interests etc.
Local Authorities	groups (eg local history,	Local businesses
English Heritage	wildlife groups)	
GWCT		
Heather Trust		
Moorland Association		
LAND MANAGERS	→	

**Step 2 - IDENTIFY the main issues and assets of the partnership area (establishing a baseline)**

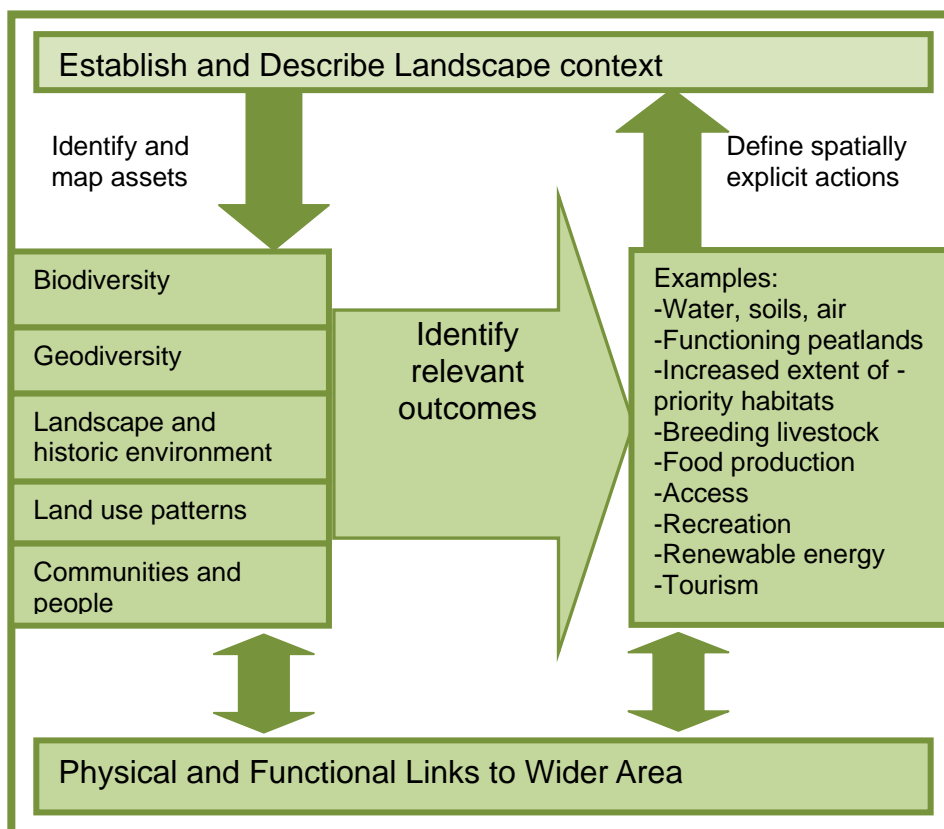
Research the evidence base to:

- Identify the range of issues affecting the area, including any historical impacts
- Identify the main land uses, major biodiversity, ecological, geodiversity, development and historic assets and the area’s overall landscape character and recognising the presence, and role of any statutory designations (for example SSSIs, European Sites, National Parks, AONBS, Scheduled Ancient Monuments)
- Identify key social, economic and environmental drivers of change which are going to influence the area in the future?

A variety of information sources exist to help capture the main issues and assets including NCA profiles, AONB and National Park management plans.

## Linking environmental assets to outcomes

The diagram below may help to prompt the use of different context information, mapped baseline data about the natural and cultural assets of the area, and using this to help identify outcomes. It shows that there are likely to be a range of interests, both within, and adjacent to the project area, that should be considered in the development of a range of integrated outcomes and delivery actions.



## Who are the beneficiaries of your partnership outcomes?

Once the partnership has defined the key outcomes for the area, it is important to think about who may be additional beneficiaries of the outcomes being delivered. Linking outcomes to beneficiaries can help develop support for managing the local landscapes to improve them, by sharing public benefits. It could be through carbon storage in peat bogs, or recreational opportunities that the land provides for neighbouring communities. Key beneficiaries will include the people, communities and society that live within and adjoining the partnership area; as well as more distant communities who use or benefit – eg water consumers downstream.



### **Step 3 - Plan for integrated action**

#### **Develop integrated outcomes**

Each partner will have their own ideas on key actions to achieve their organisations objectives; these may be set out in their own strategy or plan. Often their involvement in the partnership relies upon them being able to clearly link and demonstrate that the partnerships' actions deliver their objectives and strategy/plan.

It is important to test, challenge and amend the partnerships' outcomes to see if they are integrated and encompass the key assets and interests in the area. Be alert to simply reusing existing objectives and going straight to the specific actions – being integrated requires a shared vision for the partnership with some clear joint outcomes.

#### **Develop shared integrated actions**

This activity ensures that the partnership's actions are fully integrated. That means that the actions are linked to delivering benefits for a range of outcomes. This involves partners identifying actions that deliver for the partnerships integrated outcomes, rather than just proposing actions that only meet their own individual targets and strategies.

How the partnership tackles this is up to them, and again depends on how the partnership develops its own plan. It is important that the approach enables overlaps, synergies and potential conflicts to be identified and discussed; which means an interactive approach. If each partner simply proposes the actions in their individual strategies it will not lead to integrated actions and delivery of shared outcomes.

### **Step 4 – DELIVER, MONITOR and ADJUST the actions**

This step acknowledges that working to deliver often complex shared outcomes means partnerships will need to continually monitor and adjust delivery actions. The actions that are established in Step 3 will need to be adjusted and adapted in the light of future knowledge and understanding.

Given we know we will need to monitor and adjust the actions we decide now, planning this activity at the outset will reduce the effort we need to expend in future. It is also important that partnerships can demonstrate to others the progress being made.

Much in the earlier steps has been about understanding what you already have and establishing baseline information from which you can monitor in future. A clear view is required on the intended delivery outcomes and changes (what does success look like!). It is possible to connect the action and the outcomes and monitor these as they progress. This makes the process of reviewing and adjusting these actions in future much more effective.

## Annex 2

### Key national policy and delivery drivers for the uplands

There are a significant number of policy and delivery drivers that provide a context and framework for delivery of environmental outcomes and public benefits in the uplands. The following provides a summary of some of the key drivers and some examples of where the drivers articulate an integrated or multi-outcome approach:

#### Uplands Policy Review (Defra 2011)

This statement sets out the conclusions of the Government's policy review, along with a range of actions which the Government will take, in partnership with others in the public, private and voluntary sectors, to help secure the future sustainable development of the English uplands.

Key extracts from Defra's Upland Policy Review:

*"Our intention is to support and encourage all hill farmers to improve the competitiveness of their core agricultural business. At the same time, it is vital that hill farmers grasp the opportunities to diversify, whether as managers of the natural resources and ecosystems of the uplands, or through other business opportunities"*

*"Our uplands are endowed with natural assets that are important for delivering a range of these valuable "ecosystem services", including food and fibre, water regulation, carbon storage, biodiversity, renewable energy and recreational opportunities for health and wellbeing"*

*"The Government is committed to supporting and promoting rural communities everywhere ensuring that the interests of rural people and places are reflected fairly in all policies and programmes"*

The Executive summary of the Uplands Policy Review highlights some key points around integration including that all involved in the uplands, land managers, hill farmers and other stakeholders should *"explore how they can best work in partnership to deliver the multiple benefits these areas can provide"*. Examples are used to develop this theme such as the need for Natural England to work with the Moorland Association to *"establish the most appropriate moorland management regime needed to deliver multiple policy outcomes"* and to *"encourage National Park Authorities to play a more active role in facilitating local partnerships to create shared plans of action, which can deliver multiple policy outcomes from land management"*.

The Review goes on to say that *"there is growing evidence of the value of the natural environment and the diverse range of benefits that it delivers to society"* and that further

discussion around environmental stewardship in the uplands is needed - all stakeholders need to work together *‘to explore how they can best work in partnership to deliver multiple benefits from uplands areas’*. The National Parks are identified as good examples of this kind of integrated delivery by providing a *“single shop front approach”* to farmer advice and in *“various forms of environmental land management services”*.

The following point emphasises the need for integration - *“where land has more than one function, there is a key challenge to allow for fully integrated policy. This includes breaking down silos between institutions that have responsibility for different land use policy”*.

### **Commission for Rural Communities (2010) report on the *Upland Communities Inquiry*<sup>20</sup>**

This identified how upland communities and economies might realise their full potential and contribute to national prosperity. It recommended a new approach with visible leadership and empowerment at all levels to drive integrated activity. Its summary recommendations are:

- A new integrated strategy for the uplands
- Strengthening leadership and momentum
- Empowering communities in the uplands
- A new approach to funding (a better targeted CAP)
- Developing markets for carbon and water
- Securing the future for hill farmers
- Encouraging enterprise in new green growth areas
- Raising aspirations: supporting the development of communities
- Improving broadband and mobile telephone communications
- Planning to enable sustainable upland communities

### **Biodiversity 2020: A strategy for England’s wildlife and ecosystem services (Defra 2011)**

The uplands have a critical role to play in the delivery of the terrestrial outcomes in this strategy. The uplands has the largest and most connected extent of semi-natural habitats in England; therefore the delivery of Outcome 1A (Priority Habitats in good condition, including SSSIs - 50% in favourable condition by 2020) will hinge on sustainable management of these large scale upland habitats.

Upland habitats will also play a key role in delivery of Outcome 1D (restoring degraded areas for climate change benefits), and in Outcome 3 (species).

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<sup>20</sup> <http://webarchive.nationalarchives.gov.uk/20110303145243/http://ruralcommunities.gov.uk/wp-content/uploads/2010/06/CRC115-uplands-executive.pdf>

With 75% of the uplands designated as National Park, AONB and/or SSSI the many local partnerships that work to deliver sustainable upland land management in the uplands will also contribute to Outcome 1C (taking an ecosystem approach).

Echoing commitments in the Natural Environment White Paper the England Biodiversity Strategy highlights four priority areas including the need for “*a more integrated large scale approach to conservation on land and at sea*”. This, as the Lawton review concluded, requires a move from “*piecemeal conservation actions towards a more effective, more integrated, landscape scale approach*”. This approach requires “*a co-ordinated set of actions many of which will deliver for more than one outcome*”.

Outcome 1 of the Strategy, focusing on habitats and ecosystems, looks to put in place measures “*which deliver multiple benefits for wildlife and people*”. Building on the “Making Space for Nature” review and the need for a more joined up ecological network Biodiversity 2020 wants to “*encourage a more spatially based approach, focused on places, and landscape scale action . . . to achieve multiple benefits for biodiversity and people where possible*”.

Improving outcomes within the agricultural sector is also highlighted as a key priority focusing on more “*integrated, streamlined and efficient approaches*” bringing together many partners to encourage joint working “*to promote multiple benefits from ecological restoration at the landscape scale*”.

## **Natural Environment White Paper, NEWP, (Defra 2011)**

This sets out the Government’s vision for the natural environment over the next 50 years, backed up with practical action to deliver that ambition. It promotes the principal that “*Nature is a complex, interconnected system. A healthy, properly functioning natural environment is the foundation of sustained economic growth, prospering communities and personal wellbeing*”.

Delivery will be enabled by:

- *facilitating greater local action to protect and improve nature;*
- *creating a green economy, in which economic growth and the health of our natural resources sustain each other, and markets, business and Government better reflect the value of nature;*
- *strengthening the connections between people and nature to the benefit of both; and*
- *showing leadership in the European Union and internationally, to protect and enhance natural assets globally.*

This clearly sets out the need for action and investment for biodiversity in the natural environment that is integrated, and recognizes the benefits that action can provide for people through ecosystem services.

The NEWP aims to manage the environment *“in a more integrated fashion to achieve a wider range of services and benefits. This means, for example, linking goals on wildlife, water, soil and landscape and working at a scale that respects natural systems and the natural features supporting such systems”* (1.7). It goes on to say that *“society expects the environment to provide multiple benefits”* (1.10) and that *“integrated action at a landscape scale is often the best way to achieve multiple benefits . . . and is characterised by the pursuit of multiple benefits across a defined area”*(2.11).

The planning system needs a *“more strategic approach . . . for nature within and across local areas, one that guides development to the best locations”* (2.35) and that local authorities should *“promote multi-functional development so that we get the most from our land”* (2.35).

Getting the best value from agricultural land calls for a *“more integrated framework to support farmers to achieve multiple benefits from their land”* (2.46). Multiple benefits are also sought via the protection of forests and woodlands, rivers and water bodies, green infrastructure and the marine seascape.

## **Water Framework Directive**

The Water Framework Directive (WFD) is designed to improve and integrate the way water bodies are managed throughout Europe. In the UK, much of the implementation work will be undertaken by competent authorities. It came into force on 22 December 2000, and was put into UK law (transposed) in 2003. Member States must aim to reach good chemical and ecological status in inland and coastal waters by 2015 subject to certain limited exceptions. It is designed to:

- enhance the status and prevent further deterioration of aquatic ecosystems and associated wetlands which depend on the aquatic ecosystems
- promote the sustainable use of water
- reduce pollution of water, especially by ‘priority’ and ‘priority hazardous’ substances
- ensure progressive reduction of groundwater pollution

The WFD offers a single system of water management through planning at the river basin scale. The management plan co-ordinates the delivery of a series of objectives (protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing waters) which must be integrated for each river basin.

## **Wildlife legislation including Habitats Directive, Birds Directive, Wildlife and Countryside Act 1981 (as amended) and Countryside and Rights of Way Act 2000**

The Habitats Directive was adopted in 1992. The Directive is the means by which the European Union meets its obligations under the [Bern Convention](#). The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance. It does this partially through the designation of Special Areas for Conservation (SACs). In applying these measures Member States are required to take account of economic, social and cultural requirements, as well as regional and local characteristics. However Natural England in fulfilling its role under Regulation 21 only considers whether a proposal affects the integrity of the site and not wider requirements.

The EC Birds Directive adopted in 2009 replaced Council Directive 79/409/EEC of 1979 on the conservation of wild birds. It aims to protect all European wild birds and the habitats of listed species, in particular through the designation of Special Protection Areas (SPAs). Together with SACs, the SPAs form a network of protected sites across the EU, called Natura 2000. In the UK both SACs and SPAs are underpinned by SSSIs.

The Wildlife and Countryside Act 1981 (as amended) gives protection to native species (especially those at threat), controls the release of non-native species, and provides for the protection of SSSIs. The Countryside and Rights of Way Act 2000 provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases measures for the management and protection for SSSIs and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB).

In the uplands SSSIs can occupy significant areas, often at a landscape scale. They are generally managed by private landowners though voluntary bodies, particularly the National Trust, also have significant land holdings. Delivering SSSI and European site outcomes is dependent on appropriate land management often secured via environmental land management schemes. Because of their scale and position in the landscape SSSIs tend to support the delivery a range of integrated outcomes. They offer the opportunity to demonstrate that environmental, economic and social outcomes can all be achieved on the same land without compromising SSSI outcomes

### **European Landscape Convention (ELC)**

The European Landscape Convention (ELC) is the first international convention to focus specifically on landscape. Created by the Council of Europe, it was adopted by the UK government in 2007. The convention promotes landscape protection, management and planning, and European co-operation on landscape issues.

It adopts a broad definition of landscape – “*landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human*

*factors*". The ELC is forward looking in its approach and recognises the dynamic nature of landscape. It applies to all landscapes, towns and villages, as well as open countryside; the coast and inland areas; and ordinary or even degraded landscapes, as well as those that are afforded protection.

Landscape is the product of all decisions collectively made by society. Any policy, decision or action has the potential to impact on the landscape. ELC implementation aims to encourage a move towards multifunctional landscapes that provide a variety of benefits while protecting and managing those aspects of the landscape that are valued by society and managing change positively in the planning and creation of new landscapes.

The ELC promotes multifunctional landscapes where any area of land should aim to produce multiple benefits for society. Landscape provides the context for spatial integration and interaction of functions in a positive and planned way. In thinking about the future the aim should be to match the functions with objectives or opportunities for landscape character and quality.

## **UK National Ecosystem Assessment (2011)**

The UK National Ecosystem Assessment is the first analysis of the UK natural environment in terms of the benefits it provides to society and the nation's continuing prosperity. It is based on the processes that link human societies and their well-being with the environment and emphasises the role of ecosystems in providing services that bring improvements in well-being to people. This highlights the link between the large scale habitats, their condition, sustainable management and the supply of ecosystem services.

The assessment provides some values for a range of services we gain from nature to help build understanding of the worth of the natural environment and how the benefits to individuals and society as a whole can be better protected and preserved for future generations. It stresses the need for a more collaborative approach to enhancing our environment, with everyone playing their part to capture more of nature's benefits.

The large scale and extensive area of upland habitats means that upland areas have a significant part to play in the supply, management and future security of many ecosystem services. The NEA particularly highlights the importance of the uplands for water supply, water quality, carbon storage and sequestration, recreation and biodiversity. Some of these services are already recognised in local upland management, while others are less central to current land management decisions.

Work underway to follow up the NEA includes the development of tools to help deliver integrated land management for a range of ecosystem services. The experience from upland partnership working is an important contribution to developing these tools for future

integrated management – and recognises that upland delivery partnerships are leading the way on sustainable land management for multiple outcomes.

## Ecosystem Services

The Lawton Review, Defra's Biodiversity 2020 strategy and the National Ecosystem Assessment all highlight the importance of management for healthy semi-natural habitats for the future security of biodiversity and of many ecosystem services – from food production to clean water supplies.

Our health and wellbeing depends upon the services provided by ecosystems and their components: water, soil, nutrients and organisms. Therefore, ecosystem services are the processes by which the environment produces resources utilised by humans such as clean air, water, food and materials. Ecosystem services can be defined in various ways. The Millennium Ecosystem Assessment provided the most comprehensive assessment of the state of the global environment to date; it classified ecosystem services as follows:

- **Supporting services:** *The services that are necessary for the production of all other ecosystem services including soil formation, photosynthesis, primary production, nutrient cycling and water cycling.*
- **Provisioning services:** *The products obtained from ecosystems, including food, fibre, fuel, genetic resources, biochemicals, natural medicines, pharmaceuticals, ornamental resources and fresh water;*
- **Regulating services:** *The benefits obtained from the regulation of ecosystem processes, including air quality regulation, climate regulation, water regulation, erosion regulation, water purification, disease regulation, pest regulation, pollination, natural hazard regulation;*
- **Cultural services:** *The non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences – thereby taking account of landscape values;*

With the largest extent of England's terrestrial semi-natural habitats being in the uplands the role of upland land managers in supplying many of the ecosystem services in the future is critical.

Management for ecosystem services requires integrated land management – rather than managing land for a single outcome. There are many existing good examples of upland land managers combining food and timber management (ie provisioning services) with other ecosystem service benefits, such as clean water supplies, carbon storage and sequestration, and healthy recreation.



The increasing evidence that sustainable land management provides many ecosystem service benefits is demonstrating the importance of the uplands in the supply of ecosystem services for communities both in and 'downstream' of the uplands.

## **Climate Change Act. 2008**

The Climate Change Act, 2008 and the consequential National Adaptation Programme introduce statutory requirements for public bodies in all sectors, including the natural environment, agriculture and forestry, to make adjustments in the way that outcomes are delivered to increase their resilience to climate change. One of the key aims of the act is to improve carbon management, helping the transition to a low carbon economy in the UK.

The main reference in the Climate Change Act affecting the uplands relates to improving the management of carbon. This is particularly relevant to the uplands since the uplands contain the majority of England's carbon-rich soils and there is great potential to increase their resilience through appropriate management including, drain blocking, revegetation of bare and eroding peat surfaces and native woodland planting. Such activities also provide benefits to land managers, biodiversity and water quality.