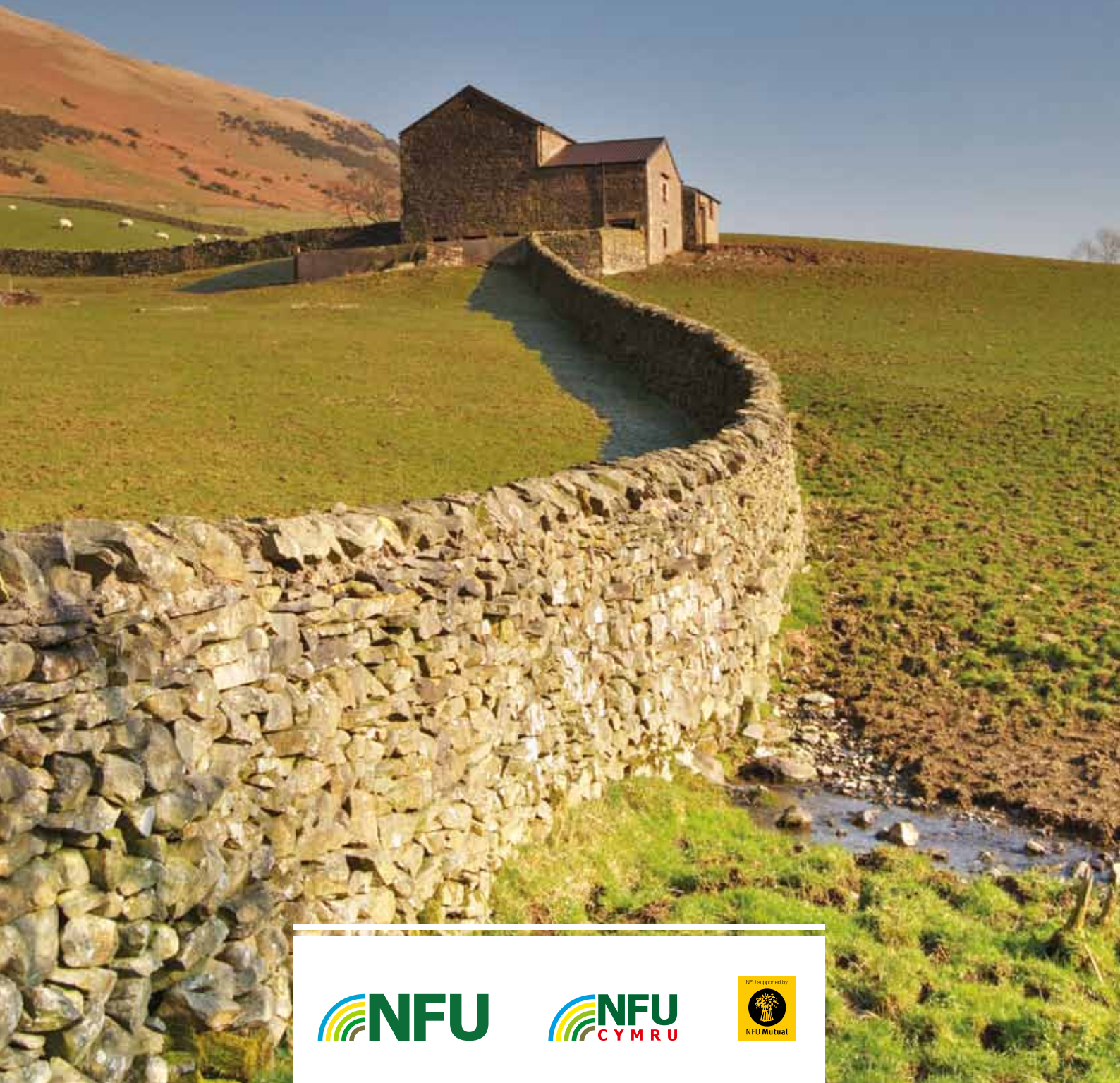




FARMING DELIVERS FOR THE HILLS AND UPLANDS



Contents

- 3** Introduction
- 4** Where are the Hills and Uplands?
- 6** The Hills and Uplands Deliver for Food
- 8** The Hills and Uplands Deliver for the Economy
- 10** The Hills and Uplands Deliver for the Community and Heritage
- 12** The Hills and Uplands Deliver for the Environment
- 13** The Hills and Uplands Deliver for Climate and Energy
- 14** Bibliography

Introduction



Hill farming lies at the heart of the uplands of England and Wales. Hill sheep and cattle shape iconic upland landscapes and habitats with internationally important wildlife. Farmers' craftsmanship ensures stone walls and buildings withstand the buffeting of gales and winter storms. A longstanding tradition of livestock farming also retains open moorlands fit for walking and grazing and helps to protect over 60 per cent of the nation's soil carbon. And this alongside delivering high quality beef and lamb for consumers and breeding stock for many lowland farms – hill farming delivers.

This short publication drawn up by the National Farmers Union's hill farming groups offers a glimpse of how 'Farming Delivers for the Hills and Uplands'. It reflects the pride that farmers take in the job they do and in the stewardship of their animals and these treasured landscapes. It also contains several case studies of hill farmers telling their own story, of hard work, enterprise and novel approaches. Hill farming respects its environment and is prepared to change and grow, delivering the landscapes of this century as well as those of the last.

We hope that on reading this report you will learn more about the role of hill farmers, but also that you will do more to support these important farming communities, perhaps by visiting these areas or buying traditionally raised beef, lamb and dairy products from Britain's hills and uplands.

Peter Kendall and Ed Bailey

NFU President and NFU Cymru President



Group members are active hill farmers from hill and upland regions throughout England. Together they have substantial collective experience in hill farming and land management and actively embrace the opportunity to help secure and enhance the future of hill farming.

A fair deal for hill farmers is necessary if dramatic changes to Britain's food production and landscapes are to be avoided. This can only be achieved through appropriate reward for food production, environmental management and public goods delivered.

Recognition of the constraints of hill farming and our pivotal role in land management are the first steps in securing sustainable and thriving farmed landscapes across the whole of England's hills and uplands.

Robin Milton

NFU Hill and Upland Farming Group
Chairman



While food production and the protection and enhancement of the environment are the key roles of a hill farmer, it must not be forgotten that a viable and profitable upland farming sector also delivers a wide range of social, economic and cultural activities, as outlined in this report.

Farmers and their families are at the heart of all the activities that take place in these fragile and remote areas of the country. Our role as a board is to ensure that the voice of upland farming businesses is heard whenever and wherever decisions that affect upland farming are made.

John Owen

NFU Cymru LFA Board Chairman

Where are the Hills and Uplands?

The English and Welsh hills and uplands are elevated areas of less favoured agricultural land. Less Favoured Areas (LFAs) are suitable for extensive livestock production because of their geography and their climate: they contain the highest, wettest and most windy areas in the whole of England and Wales. The English uplands cover 2.2 million hectares (17 per cent) [1] of England's farmland but 80 per cent of Wales', around 1.1 million hectares [2].

The English uplands are home to two million people. More than 800,000 of these live in the rural uplands, with the rest living in close-by urban areas [3]. Over 1.5 million people live in the LFAs of Wales, with most of these living in rural areas.

Each of the different upland regions of England and Wales has a distinct character but farming, in particular livestock farming, is core to each. Grazing livestock is an intrinsic part of the upland landscape that is not only a major source of sheep and cattle but the backdrop to significant tourism, a home to a rich diversity of wildlife and an area that contains a wealth of history and culture. The uplands also act as regulators of water and climate.

Upland regions in England

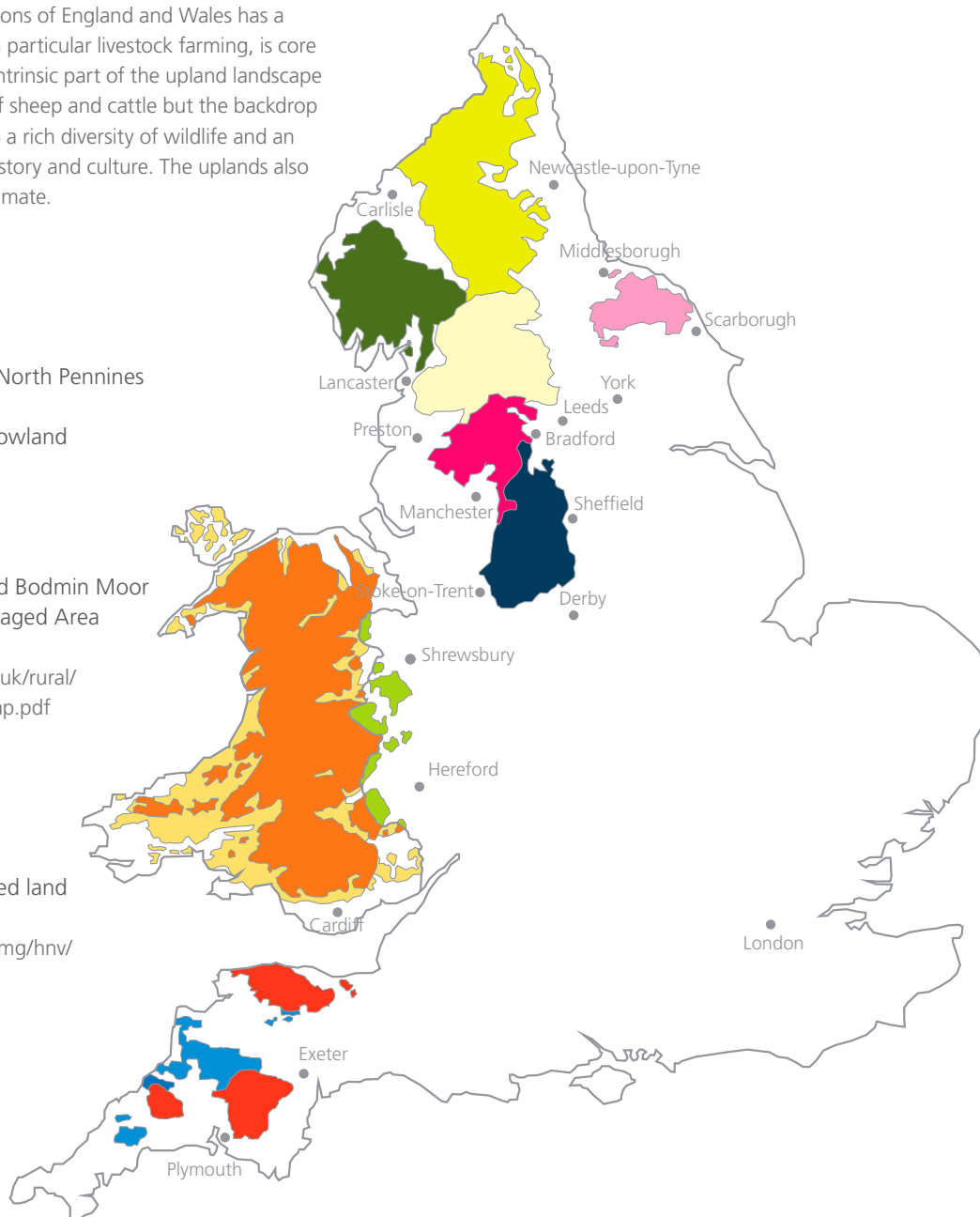
- 1. Northumberland and North Pennines
- 2. Lake District
- 3. Yorkshire Dales and Bowland
- 4. North York Moors
- 5. South Pennines
- 6. Peak District
- 7. Welsh Borders
- 8. Exmoor, Dartmoor and Bodmin Moor
- 9. South West Disadvantaged Area

Source: <http://archive.defra.gov.uk/rural/documents/interim2/uplands-map.pdf>

LFA Status in Wales

- 1. Disadvantaged land
- 2. Severely, Disadvantaged land

Source: <http://www.efncp.org/img/hnv/south-wales/facts1.gif>





The Hills and Uplands Deliver for Food

Livestock farming is the dominant enterprise of the uplands using 70 per cent of the land and underpinning rural economies [4]. The uplands are home to 44 per cent of breeding ewes and 40 per cent of beef cows in England, 85 per cent of beef cows and 75 per cent of breeding ewes in Wales and produce a quarter of England's and Wales' milk [5, 6, 7].

Cattle breeds chosen by hill farmers are usually less selective grazers than others and are particularly good at converting low quality forage into high protein human food [8]. The way these breeds graze allows them to cope with diverse foliage, and because they eat a wide range of semi-natural vegetation they can help reduce the dominance of invasive species, such as purple-moor grass [5] and bracken, which may otherwise smother heather moorland. Cattle are well suited to coarse grass removal as they use their tongues to pull at tufts, leaving the leaf base behind and forming a micro-environment that favours many invertebrates and small plants [5].

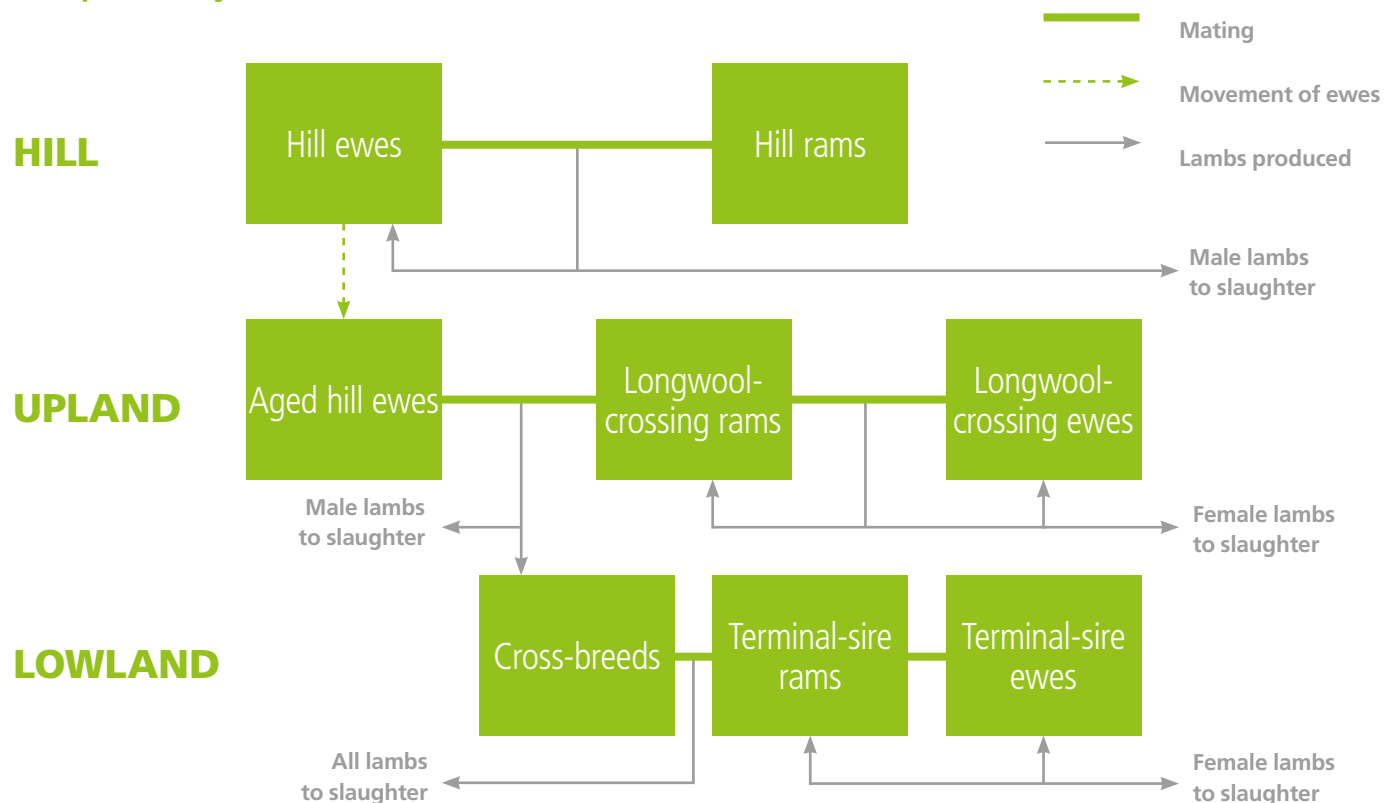
The words 'hill' and 'upland' often mean similar things when talking about farming; however, they have different connotations when referring to Britain's sheep and beef industries. Britain's sheep industry contains three interdependent levels: hill, upland and lowland. Hill flocks produce breeding and store stock with the majority of ewe

lambs retained as flock replacements for older ewes. Upland flocks produce mule ewe lambs which are sought after by lowland breeders to cross with meat breed 'terminal sires'. Lowland flocks produce quality prime lamb. This stratified system allows flock replacements and meat lambs to be produced in an efficient way and it creates offspring with 'hybrid vigour'. Lambs retain valued characteristics such as good mothering instincts and hardiness and gain wanted characteristics such as prolificacy and increased wool clip. Stratified sheep farming, and the benefits it provides, could be lost if hill farming declines.

Hill breeds are predominantly hefted. Hefting is a method of managing flocks and herds on predominantly unfenced fell and moor; a hefted flock will stick to and graze its own area [9, 10]. This behaviour is passed on to each new generation as is knowledge of where shelter and good grazing can be found throughout the year [5]. A hefted flock will evenly graze an area making the most of nutrient-poor scrub and vegetation. Hefting is a skill that is at risk of disappearing from the hills as the trait is lost if sheep are frequently moved off the hills.

Upland sheep also produce wool; the uplands produce nine million kilos of wool in Wales every year and five million kilos in England [11], which is used to make carpets, clothing furnishings and insulation [12].

Sheep Industry Stratification (9)





CASE STUDY



For five generations Elwyn Maddy's family have been farming the land around

Llanrosser, Herefordshire, on the Welsh borders. Elwyn himself has been there since 1981. His farm stands 335m above sea level and consists of 55 hectares that he owns himself and a further hundred that he rents.

Elwyn has 600 Lleyn cross ewes in a closed flock; he breeds his own replacement ewes. He runs a split flock, keeping between 120-150 lambs for breeding. The Lleyn ewe is renowned for her tremendous mothering ability, ease of lambing, longevity and prolificacy. Elwyn also has a closed herd of 50 Simmental cross suckler cattle.

New technology and animal health plans have enabled Elwyn to be more efficient in his farming practises. However, the profitability of hill farming is highly variable and dependent on market conditions and occurrences of devastating diseases. Even when market prices are high, production costs often impact profitability and income. Hill farmers are at the end of the livestock production chain and are very vulnerable to price fluctuations as there is nowhere to pass on any increases to their costs.

In recent years Elwyn has participated in agri-environmental schemes such as the countryside stewardship scheme. Although he completed this initiative, Elwyn did not take up the ten-year Higher Level Stewardship (HLS) scheme, but did take on the new five-year Upland Entry Level Scheme (ELS), which allows more flexibility – other stewardship schemes would be too restrictive and limit the productivity of his enterprise. Like most hill farmers Elwyn believes that profitable farming is the basis for an economically stable upland and that other enterprises should work alongside the farm business.

The Hills and Uplands Deliver for the Economy

Hill farming is the driving force behind the uplands' economy; it contributes through purchases of inputs such as feed and machinery as well as the distribution and marketing of food and processing of outputs through abattoirs [7]. Upland agriculture has an employment multiplier effect. In the South West, each livestock farming job supports an extra 0.5 jobs elsewhere in the economy. These jobs can be found in feed companies, vets, fertiliser and machinery suppliers and contractors and where farmers sell their stock such as auction marts, abattoirs, hauliers and food processors.

Upland and hill farming provides the backdrop for profitable outside recreational activities and diversification enterprises, such as accommodation. England's upland National Parks alone receive nearly 70 million day visits every year, with visitors spending £1.78billion [9, 13]. The Welsh uplands receive a further 18 million day visits every year, putting £205million into the Welsh economy [14].

People visit the uplands for its peace and tranquillity as well as activities such as walking, climbing and field sports. 16 per cent of the uplands are managed as grouse moors [15], a long established recreational activity in the northern uplands. Sheep grazing is essential for grouse moor management as sheep maintain extensive stands of heather, a key habitat for the red grouse [8]. More novel is star gazing, rural parts of the uplands have little light pollution, and in 2009 Exmoor National Park was designated the first International Dark Sky Reserve in Europe. Tourism in the uplands is vital to both local and national economy.

In addition to tourism, carbon trading schemes may have the potential to financially benefit many upland areas. The uplands contain large tracts of peatland and bogs which store a massive amount of carbon; this is potentially worth £10.4billion in Wales alone [16]. Habitat banking may also provide a source of income for upland areas in the future. Habitat banking is a way of offsetting environmental damage and works in a similar way to carbon offsetting. There are currently no emissions trading or habitat banking schemes in the uplands, but there may be future scope to establish them.



CASE STUDY

Bernard Llewellyn runs an 80 hectare hill farm in the Welsh Less Favoured Area, rising from 250-300m above sea level, at Carreg Cennen, Near Llandeilo, West Wales with his wife Margaret. The farm is

typical of those in the area with a 20-strong suckler herd and 250 Welsh Mountain ewes. It's typical except for one major thing, towering above the farm is Carreg Cennen Castle, a 13th Century scheduled monument, owned by the family and totally dominating the local landscape as well as attracting 40,000 visitors a year.

It is these visitors that play a dominant role in dictating the farming systems and the diversification vital to the survival of the unit and the development of the business which employs 20 full and part-time staff, all from the immediate locality, including their daughters Nia and Angharad.

Beginning with the obligatory tea room and craft shop 30 years ago, recent investments have leant towards providing a unique, purpose-built wedding venue, for 30 or so ceremonies and wedding breakfasts annually, capitalising on the view of the castle and the pastoral scenes of grazing livestock. To complete the picture, Longhorn cattle are the chosen breed and the years have seen success in both the show ring, winning championships at all the major shows including the three Royals, as well as the sale ring, where five of the top ten Longhorn bulls sold at auction were bred at Carreg Cennen. Most important of all the Longhorn provides excellent beef for the wedding breakfasts.

The ewes are more conventional, grazing the near Black Mountains – one of the largest commons in Wales. Bernard feels particularly passionate about retaining the grazing rights, not only because of their contribution to the habitat value of the mountain but also the landscape retention so much appreciated by visitors from all over the world. The visitors are also appreciative of the few rare breeds around the castle itself, Soays, Hill Radnor and Balwens – a breed particularly close to Bernard's heart.

Bernard was awarded the MBE in 2009 for his services to agriculture and tourism in Wales.



CASE STUDY



Robert Helliwell and his wife Sarah have been tenant farmers at Upper Booth Farm, Edale, in the Derbyshire Peak District since 2000. Owned by the National Trust, Upper Booth Farm covers 380 hectares of permanent grassland and moorland. The dominant enterprise is an extensive flock of Swaledale sheep grazing the hills, with a small suckler herd kept on the in-bye pastures. This herd of Belted Galloway cattle suited to the upland conditions on this farm helps to create a diverse habitat for wading birds while producing top quality beef and breeding stock.

Since the Helliwells took over the farm they have managed the land in accordance with the North Peak Environmentally Sensitive Area (ESA) without artificial fertilisers and maintained stocking levels at the holdings' natural carrying capacity: hay meadows have been established, dry stone walls rebuilt and hedges replanted. Given that the Edale Valley is also a water catchment area, careful management of watercourses across the farm is considered very important; fencing of ditches protects newly planted hedges, and in addition creates wildlife corridors. The great diversity of species found on the farm could not be achieved without the benefit of grazing livestock.

Like many other hill farms Upper Booth Farm is increasingly reliant on other enterprises such as landscape and environmental projects and tourism to produce a reasonable income. A small campsite on the farm attracts those who want to explore the hills of the Peak District and enjoy the relative peace and quiet of the countryside in this popular area. Open access to the moorland surrounding the farm offers great benefits to the public and lets them escape to an area of tranquillity and semi-wilderness. Upper Booth Farm is located on the Pennine Way, which allows Robert and Sarah to use the flow of people through the farm to promote their campsite, their system of farming and farm produce. Visitors to the area often show a great deal of interest in farm activities such as lambing and shearing. This offers the Helliwells a chance to engage their visitors with farmers' roles in managing the countryside, maintaining the landscape, providing wildlife habitats and continuing to supply quality breeding and store stock, which ultimately adds to the supply and range of quality home produced food demanded by consumers.

The Hills and Uplands Deliver for Community and Heritage

Upland communities are closely linked with hill farming, with many of them involved directly and others involved through related economic and social activities such as local and regional shows. Agricultural shows give the public an opportunity to better understand activity in the countryside around them and give farmers the chance to showcase the quality of their animals and other products of hill farming, helping to cement a strong regional culture. Close ties mean that there are robust and established networks within upland communities allowing many traditional farming techniques to be passed through the generations, preserving important parts of our heritage.

Cultural heritage

The uplands are steeped in a rich heritage of dialect, music, song, prose and verse. Farming skills and knowledge also make up this cultural heritage. The Welsh language is commonly used in the uplands of Wales; it is considered the working language of the Welsh uplands with over 40 per cent of those involved in agriculture and forestry able to speak Welsh.

Changes in farming practices and land tenure have led to a decline in knowledge of craft skills and historic practices such as hefting and the cutting of hay for winter feed [17]. These changes could pose a threat to the conservation of many aspects of the upland historic environment. Training initiatives are important in maintaining these skills but agri-environment and other land management initiatives, together with affordable housing policy, all have a strong role to play in sustaining the skill base which underpins the essential character of upland landscapes [18].

Built heritage

Walls and earthworks are prominent features of the landscape and are one of the many reasons why the uplands are considered beautiful and important. The North West alone has 24,000 kilometres of stonewalls, around a third of the national total [7]. The uplands include 5,624 nationally scheduled ancient monuments (close to one third of the national total), 13,324 listed buildings and parts of three UNESCO World Heritage Sites, including Hadrian's Wall [18]. There are at least 4,644 important archaeological sites known in the uplands of Wales, a number that is constantly increasing as the uplands are better mapped [19].

Stewardship

Livestock farming has shaped the landscape for millennia, with managed grazing balancing the natural progression to thick woodland and so retaining the distinctive characteristics of the uplands. Excessively stringent attempts to prevent over-grazing for nature conservation may lead to the growth of scrub and bracken which can physically damage archaeological remains and reduce the visibility and public appreciation of certain historic landscapes and features [18]. Most of the maintenance of the well-loved upland environment and historical features is done by livestock farmers. Careful farming is essential to conserve natural habitats, ecosystems and biodiversity as well as structures such as stone walls and traditional farm buildings.



The Hills and Uplands Deliver for the Environment



Forestry and woodlands

Approximately one quarter of the total area of English and Welsh woodland is in the uplands [20, 21]. Some upland forests are natural or semi-natural but others are new and managed for timber production [11]. Woodland areas often benefit from managed grazing and livestock can help to create and maintain structural and species diversity within the ground flora, shrub layers and tree canopy through feeding, dunging behaviour and trampling. Deciduous woodland cover in particular contributes significantly to wildlife.



Biodiversity and natural features

The largest remaining tracts of semi-natural habitats in England and Wales are found in the uplands. Most upland habitats have been subject to centuries of management by grazing, cutting, burning and drainage, changing the landscape from what was once predominately woodland and blanket bog, to the mixture of meadow, heathland, grassland and semi-natural woodland seen today. The uplands contain many rare environments, such as Atlantic oak woodlands and upland hay meadows, and are home to 53 per cent of England's and 14 per cent Wales' sites of special scientific interest (SSSIs) [25, 26]. Farming systems which include moorland management and grazing livestock help to maintain this range of unique habitats.



Wildlife

The uplands are home to uncommon and rare animals. This includes birds like the curlew, golden plover and black grouse [22] and red squirrels. Bell heather, cross-leaved heath, crowberry and sphagnum moss are also found in the uplands [23]. The uplands are increasingly becoming a place of refuge from climate change for lowland species. The Welsh uplands are home to the endangered rainbow leaf beetle which retreated there after the last ice age 12,000 years ago [24, 25].



Water

The uplands are an important source of water with 70 per cent of the UK's drinking water being sourced there [27]. The upland waters of the British Isles consist mainly of clear or brown water lakes and pools, and headwater streams [28]. Blanket bogs and similar habitats also play an important role in the conservation of upland waters.

Protecting the purity of upland water is important both at its source and downstream. Upland streams are key spawning and nursery areas for trout and salmon and other fish as well as a variety of invertebrates [29]. Good upland management can help mitigate the effects of acid rain, help upland areas buffer water quality against the effects of pollution and reduce the risk of flooding.

The Hills and Uplands Deliver for Climate and Energy

The English and Welsh uplands have the potential to be the first area in the UK to be energy self-sufficient because they are the wettest and windiest, they have the fastest flowing rivers and streams and important biomass resources [9]. However, their limited infrastructure and iconic landscapes may make the harnessing of green energy on a large scale challenging.

Much of the uplands lie below the altitudinal limits of trees and in undeveloped areas, therefore parts of uplands may be suitable for reforestation and re-establishment of woodland ecosystems [30]. New woodland provides an opportunity for renewable energy production, water quality and flood protection, soil protection and carbon sequestration.

The uplands store about 40 per cent of England's and around 80 per cent of Wales' soil carbon. Around 200 million tonnes of carbon is stored in the peatlands of England's uplands and 400 million tonnes in Wales' uplands [31, 32]. The release of this carbon could be slowed and carbon storage possibly increased through good management of peatland.

The uplands are uniquely placed to contribute in times of changing climates. They act as a home for special flora and fauna; a store (and potential sink) of carbon in peat and other soils; as a sponge to retain rainwater, delivering safe water supplies in the lowlands; and have the potential to supply green energy.



CASE STUDY

John Taylor and his family have been working the land around Lots House Farm near

Lancaster since 1920. It is an upland stock rearing farm in the lower Lune Valley, rising to 340m above sea level at the top of the moor and, like the surrounding countryside, this area is dominated by sheep farming. John has 500 breeding ewes on his farm which covers 500 acres. His flock is predominantly Lleyn sheep which are a breed from north-west Wales.

The Taylors also participate in agri-environmental schemes; restoring stonewalls and managing moorland. Their farm contains a mixture of environments that includes moorland, pastureland and woodland. The pastureland is favoured by nesting waders, in particular lapwings.

In the late 80's the Taylors started looking into wind turbines and today up on Caton Moor, over 300m above sea level, a wind farm is making use of some of the windiest land in England and Wales with wind speeds of 7-11m/s. The farm initially started with ten 300 kilowatt turbines and today it contains eight two megawatt turbines producing 16 megawatts, the equivalent electricity for several thousand homes.

Since John and his brother started looking into wind generated electricity more than 20 years ago there has been a slow realisation of the potential along the west of the country. Across from the farm in Morecambe Bay there are two large offshore wind farms and to the north of these there is smaller onshore wind farm of six turbines. The uplands have a huge amount of potential for supplying our electricity.



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