Upland farming and wilding

This article explores the relationship between upland farming in Cumbria and wilding. It outlines the Cumbrian upland farming system and its value to wilding processes, and explains the importance of farming upland areas in terms of wider agendas. Finally the article outlines a few of the concerns the farming population have in the development of conservation strategies involving wilding.

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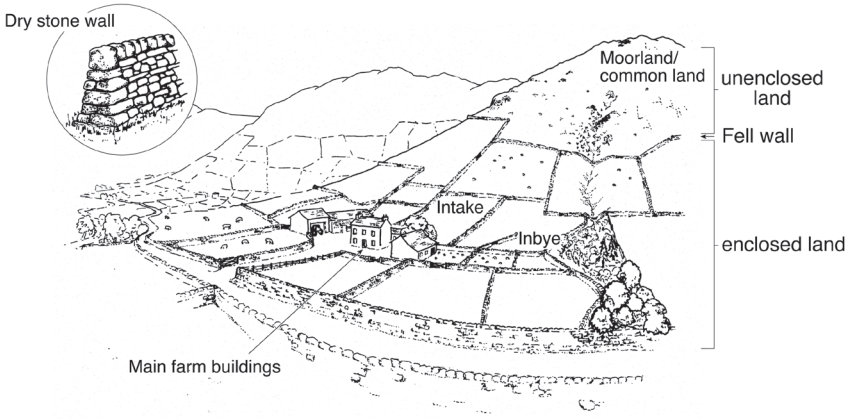
The United Kingdom is almost devoid of true wilderness, much of our High Nature Value landscape is semi–natural, formed by people exploiting the environment, initially at a subsistence level and then a capitalist one over many thousands of years, to produce a cultural palimpsest.[1] Core tracts of wild land are found in our uplands (land roughly over 240m asl) due to low input - low output farming systems that have evolved within the constraints of the natural environment.[2] These are obvious areas of choice to introduce as Peter Taylor suggests, "the restoration of the natural processes of wild nature", where habitats are closer to their more wild predecessors of the past and, in some cases, re-introduction of some of our currently extinct large mammals might be considered. [3] It is to these areas that proponents of re-wilding or wilding have turned to experiment in the UK, with projects such as Wild Ennerdale in western Cumbria[4], and Alladale in Scotland. [5]

The upland farming system – a Cumbrian example

Upland farms in Cumbria comprise: the farmyard, inbye, open fell and intake. These operate as a management system to provide farmers with flexibility to overcome the poor physical conditions of the environment. The inbye land is made up of grass meadows and some occasional arable fields to produce forage crops. Changes in farming practice since the 1960s replaced hay with silage, the latter of which has little wildlife value. The second type of land is unenclosed open fell lying above the fell wall. The land here can be common land[6], owned by a single landlord or shared through common rights by the farms which graze livestock upon it, populating an area of land referred to as a heft or heaf. The fell itself is a mosaic of poor agricultural potential, but high conservation value, semi-natural habitats, usually rough grassland, heather moorland and bogs. It is this zone which has suffered most from increased grazing in terms of its wildlife because those managers with grazing rights can graze as many livestock as their common rights allow, which can exceed ecological or even agricultural carrying capacity. The third type of land is intake lying between inbye and open fell, made up of pieces of common or other land which has been enclosed from the open fell. It produces a semi-improved pasture of rush beds and some nutritious grasses.

These land types form three distinctive farm systems within upland agriculture:

Upland farms: a mix of all three farmland types. Most farms in the uplands can be classified this way, and run sheep and beef cattle (known as suckler cows).



A typical Cumbrian upland farm.

Reproduced with permission from Mansfield L (2011) 'Upland Agriculture & the Environment.' Badger Press: Bowness

Hill farms: comprising of mainly open fell, none or only one field of inbye and some semi-improved intake, thus constraining operations to sheep enterprises only.

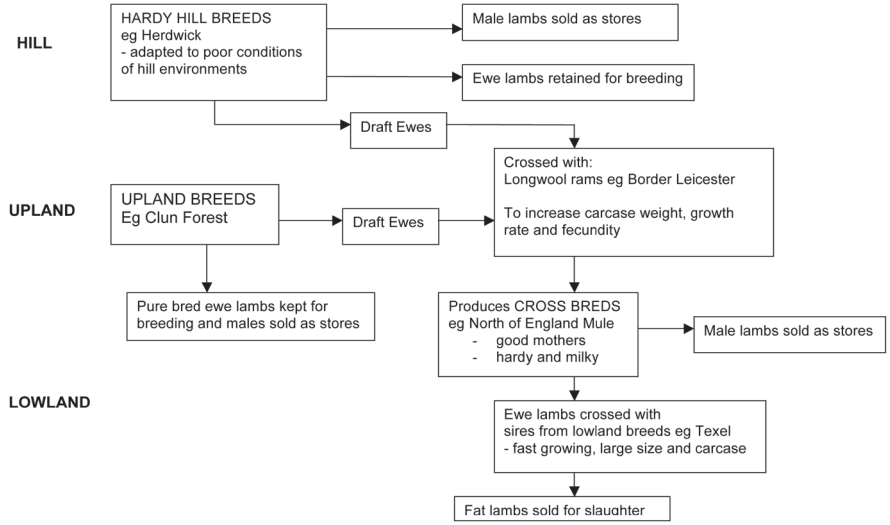
Dairy farms: confined to upland margins (200 to 300m asl), where precipitation encourages high grass yields, but the environment is mild enough to allow dairy cows to flourish. These farms contain mainly inbye and intake and may be used for overwintering.

Operating an upland farm system and wilding

Historically sheep and cattle were bred to fit in with the local environment; able to survive cold harsh environments, graze on poor quality swards and utilise the subsequent lower nutrition more efficiently. It makes them ideal today for grazing of semi-natural habitats managed for high conservation value and Galloway cattle are used, for example, to graze in Wild Ennerdale. The utilisation of these native breeds is, however, a double edged sword; putting on weight more slowly delaying sale and having a low meat to carcase ratio makes them expensive to produce. Whilst the farmer who manages these stock in Ennerdale can benefit from premium prices, he is the only one within the valley who can do this, because if all his neighbours switched to this system then he would struggle to maintain his profit margins as the local market would become swamped. This is not unusual for many forms of upland farm diversification, where a single valley can only support one farm specialising in a particular way.

Central to hill and upland farm systems is the hefting or heafing of sheep on to unenclosed land. The process ensures that sheep stay on a certain piece of land either owned or managed through bestowed common rights to the farm unit. A fell with common rights may therefore be made up of a number of hefts, which are shared between the farms surrounding the fell base. This is known as intercommoning. Initially, a shepherd and dogs show sheep the invisible boundary by herding them

Figure 1. **Stratification of the Sheep Industry in Britain**



to the heft. In time the sheep develop an instinct to remain within their virtual geographical boundary, and through contiguous heft pressure, do not wander. Ewes show their lambs the heft and thus knowledge of heft extent is passed on from one generation of stock to the next. It is therefore important that the farmer maintains within the flock enough sheep to show the new generation the heft boundaries. The corollary is that if we introduced wilding on an intercommon, which makes complete management sense, we would be undermining dozens of farm businesses which would have a larger ripple effect not only for the locality but wider still into the national food supply chain.

National food supply and wilding

If we reduce stocking densities or introduce full destocking, and thus the size of the upland flock or herd, there could be implications further across British food supply chains. A clear national example of this is the stratification system. Lowland livestock farms rely on the purchase and sale of upland stock, as well as overwintering revenues to operate their own farms. Hill sheep enterprises are made up of a flock containing a range of ewes of various ages, which act as the breeding stock to help with hefting. Lambs can be brought on to replace ewes that get too old to breed or are sold on for fattening up to lowland farmers. Suckler production follows a similar, if more simplified, system. Sheep and beef enterprises are managed through the planned movement of stock from one type of land to the next, fitting the needs of the two stock round one another depending on time of year, so stratification is crucial to farm operations.

A full or partial collapse in the upland system will affect the lowland one, this has happened before during the agricultural depression on the 1880s and 1890s.[7] Lowland farmers responded by diversifying into other agricultural enterprises

given their superior land quality, but this would mean a move away from red meat production. One could argue this is good as we have too much red meat in our diets[8], or it could be bad as it reduces our self-sufficiency.

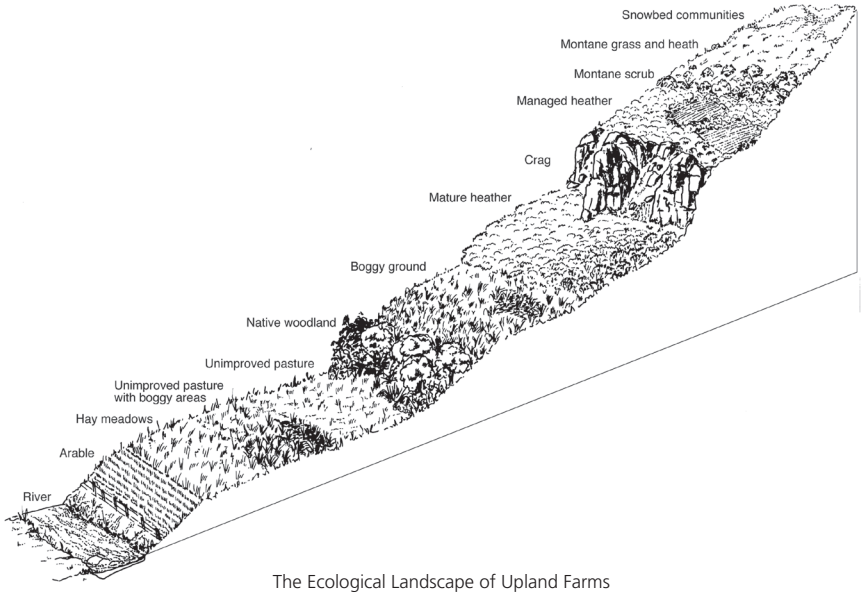
Copious economic analysis suggests that upland farming systems provide only small amounts to the national GVA in comparison to other agricultural sectors. However, the UK is only 60% self-sufficient in food production, an ever downwards trend.[9] Whether this is a good or bad thing is open to debate. Defra suggests that "having a greater reliance on other countries and sourcing food from a diverse range of stable countries, in addition to domestically, enhances food security".[10] This argument is underpinned if we consider that the optimum population for the UK based on our domestic food production is 30 million; by 2027, it's projected to reach 70 million.[11] However, we can counter this as prices of imported food are rising affected by poor harvests, more pests and diseases, unfavourable climate change and declines in inset pollinators to name but a few. Rising prices affect the poorest households who spend 15% of their budget on food compared to 7% in the richest[9].

Governments have responded to food security and social equity by introducing mechanisms to guarantee farm incomes to encourage production and hill farming has been no exception. It is often used as a reason to stop supporting the industry because guaranteed financial support encourages them to increase the stocking rates; particularly the case until 2000[12] leading to problems of overgrazing, soil erosion and wildlife loss. Governments react by introducing grants, quotas and changes to the subsidy regime, which distort the economic market. With a farming system geared up to higher stocking densities, the swift reduction of stock numbers has led to undesirable ecological results; problems of selective grazing (leaving the unpalatable low conservation value plants) and rapid bracken encroachment across fells have been reported in Cumbria.[13] There have also been undesirable economic issues as heft management has become more complex, costly and time consuming; which might suggest wilding is feasible where hefting systems have started to collapse on certain fells.

Provision of wildlife and wilding

Whilst wilder landscapes produce different floral and faunal compositions, it is farming operations in Britain which led to a wide range of habitat types evolving. Upland farming environments produce a wide diversity of managed habitats. For example, the inbye is renowned for its hay meadows, the intake for a variety wet grasslands, springs and flushes, and the open fell for mosaics of blanket bog, all types of grassland and dwarf shrub heath.[14] It is the actual farming systems along with the related subsistence economy over the centuries that have allowed these plagioclimaxes to evolve. Cumbria is no exception, and has the greatest diversity of ecological habitats of any English upland.[15]

However, whilst appropriate grazing pressure is responsible for the ecological diversity, any change can result in overgrazing or undergrazing, which can reduce wildlife and agricultural value. Consequently, various agri-environment initiatives have been introduced to contain the worst excesses of inappropriate farming



The Ecological Landscape of Upland Farms

Adapted with permission from Dodds et al. (1996) A Management Guide to Management to Birds on Upland Farmland RSPB, Sandy.

practices, whilst maintaining or even improving wildlife value. The Environmentally Sensitive Areas scheme running from 1986 to 2014, merely achieved the *status quo* between biodiversity, landscape and heritage, and farming practices.[16] This is driven in part by nature conservation policy in Britain focused on the maintenance of cultural landscapes of the last few thousand years and not those of the earlier Atlantic period (9000 to 5000bp) as shown in the UK Biodiversity Action Plan.[17]

Whilst wildlife provision in the uplands is perhaps at the forefront of conservationists' minds with regard to wilding, upland farming systems also provide a wider package of services and public goods for society. A recent uplands policy review by Defra stated that "hill farming is common to the successful management of many of these [ecosystem services] and is therefore integral to the future sustainability of the uplands".[18] It went on specifically to identify the need to support and encourage hill farmers to become more efficient and effective in their core agricultural businesses, and second, to promote the substantial benefits that upland farming can bring to the wider community and the natural environment. It did however, acknowledge that the key challenge was to ensure hill farmers are properly rewarded for the public goods they provide. Thus when developing wilding projects we need to consider inadvertent repercussions to the full range of ecosystem services provided by hill farming, not just wildlife change, and to ensure fair recompense for those businesses affected.

The individual farm business and wilding

We need to consider the individual farm business if we choose to introduce wilding. There will be a destabilisation of the internal operation, and the economics of the

farm business itself well be changed by destocking. Using Wild Ennerdale (WE) as an example, particular issues which were raised initially in 2006 by the farming community included animal welfare and the related distance cattle could travel in a day[19], the need to be paid appropriately for public goods provision, access to stock movement tracks and removal of boundary fencing between forest and fell. Such concerns engendered a view in the farming community of a lack of empathy in relation to heft management.[20] This is not an isolated case, and in 2011, the Federation of Cumbrian Commoners (FCC) ran training courses, funded by LEADER RDPE, for conservation professionals to bridge such issues. The aim was to raise awareness of how upland farming systems operated on a practical level, leading to better prescription applications of agri-environment schemes.[21] Now in 2014, the Ennerdale farmers are still concerned about the continued breakdown in the hefting system, stock reductions and boundary fence removal between the open fell and the coniferous areas undermining effective farm management.[22] As a result whilst single property ownership and the related land's management provides a more stable back drop for wilding for the Forestry Commission, it impinges on adjacent farm businesses due to the very integrated character of the upland farm system in the rest of the valley.

We could argue that farmers could simply diversify into other activities, and legitimately this has happened on some upland farms. The farmer running the Galloways at Wild Ennerdale is happy with his financial returns of running a very extensive organic system, but accepts that he still relies on subsidy and grant. However farm diversification requires different skills sets and is financially problematic if the business has no capital to draw upon - a legacy of the cost price squeeze over the last 40 years. Much evidence shows that it is harder for upland farmers to diversify than their lowland counterparts[23] particularly in similar ways within the same valley. On the other hand, as we have no wild large herbivores (except deer) roaming the countryside, we need able stockmen to manage domesticated stock, and this has happened successfully within various projects, such as the Ouse Washes in East Anglia and in Wild Ennerdale, but it does not need the same level of intervention and thus fewer stockmen.[19] Consequently if there is reduction in stock numbers, this needs to be offset with well-planned and supported grants for diversification into other viable activity.

We need to also consider the broader social implications of introducing wilding into currently farmed landscapes, however little or much. On an individual level, studies in the 1980s showed that farmers farm for a variety of reasons. A similar study in 2004 found that instrumental (farming is means of obtaining income and financial security) and intrinsic (farming is valued as an activity in its own right) values were mainly the driving forces behind upland farmers.[24] Thus introducing wilding into one intercommoning scenario needs to be handled empathetically. Many farm families may rely solely on meat production for their livelihood. Losing the hefted land, because of the system's integrated nature, may drive these farms out of business completely.

More broadly, farmers and their families provide social capital for the wider community.[25] Internally, hefting is an excellent example of social capital in upland

Table 1 **Ecosystem Services provided by Upland Farms**

Ecosystem Service	Role of Farming
Provisioning	
Food	Continued supply of livestock
Fibre	Sustainable exploitation of quarries and mines
Minerals	Afforestation and woodland maintenance
Energy Provision	Micro energy generation & turbine location
Fresh water	Halt soil erosion and pollution
Regulating	
Carbon storage & sequestration	Maintain active mire complexes
Air quality	Halt soil erosion
Water quality	Appropriate grazing regimes
Flood risk prevention	Retain vegetation
Wildfire risk prevention	
Cultural	
Recreation, tourism and education	Maintain access and egress across land
Field sports and game management	Provide appropriate vegetation through sensitive grazing
Landscape aesthetics	Maintain field structures
Cultural heritage	Continue practice and traditions
Biodiversity	
Health Benefits	
Supporting	
Nutrient cycling	Appropriate grazing and general farm management
Water cycling	Halt soil erosion
Soil formation	Limit pollution of water courses
Habitat provision	

(Adapted from: Bonn *et al.*, 2009)

farming, whereby those grazing livestock on a common seek to work co-operatively to ensure the fell is not overgrazed or stock drift off heft onto to other people's land. Farming communities tend to perceive the communications with external stakeholders as limited at best, something levelled at the Wild Ennerdale partnership[19] as well as the Lake District National Park in general. This decision making relationship is referred to as tokenism[26] and can lead to feelings of disenfranchisement, of being undervalued or even unwanted.[27] Wilding projects may therefore gain from engendering better bottom-up collaboration and co-management training, such as that operated by the FCC[21], in relieving these tensions before they gain purchase.

Concluding remarks and reflection

Whether wilding projects take over some parts of the British uplands is all a matter of priorities. Current government policy supports the continuation of hill farming and we have seen that there are some good reasons for this, beyond the naive view that hill farming is an uneconomic anachronism. Even if you feel that hill farming shouldn't be subsidised to produce food, perhaps we should be thinking more broadly about the full range of ecosystem services it does produce, of which wild landscapes could be just one aspect. Dominated by plagioclimax communities, the uplands continue to pose complex ecological management issues.

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