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# ***Upland Farming Systems and Wilding Landscapes: A Cumbrian example***

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## **Abstract**

Cultural landscapes in the United Kingdom are derived from mainly agricultural activity of the last five thousand years. Wilding projects are a recent phenomenon which have received attention in both the academic and public domains. As a result a tension is emerging between those that perceive these areas as ideal for wilding experimentation and the environmental, economic and social benefits already provided by upland farming systems. The purpose of this paper, therefore, is to explore some of the experiences of farmers involved a re-wilding project to emphasise the importance of fully appreciating, collaborating and recognising how upland farming systems operate and their wider socio-economic benefits.

It is evident that intrinsic characteristics of UK upland farming systems such as its relationship with the physical environment, indigenous livestock breeds, stratification, hefting, social capital and cultural heritage play important roles in wider political and social agendas which must not be brushed aside in our pursuit of wilding. Second, there are practicalities of wilding or part wilding landscapes that are currently managed for extensive livestock production, particularly with respect to grazing management which require a deeper appreciation of how hill farming operates. It is unlikely, due to broader agendas such as biodiversity production, food security, rural sustainable development, ecosystem services and cultural heritage, that wilding and upland farming will develop in mutual exclusivity; either they will share the same land or they will be geographically contiguous and thus one will affect the management of the other. By actively learning from pilot projects like Wild Ennerdale (WE), we can develop fully collaborative multifunctional land use of which wilding is one facet.

*Keywords: upland farming systems, wilding, Lake District, socio-economic benefits.*

## **Introduction**

The British landscape is a cultural palimpsest of thousands of years of manipulation of our environment for subsistence and then capitalistic exploitation for food and fibre (Birks *et al.*, 1988). Little of what we have left is truly untouched and much of what we do have requires some form of management to maintain its ecological interest and keep exotic interlopers at bay (Bonn *et al.*, 2009). Indeed, the iconic Lake District National Park's (North West England) bid to secure World Heritage status is predicated on the recognition that the area is a cultural

landscape. Home to Wordsworth, Beatrix Potter and the birthplace of the National Trust, this cultural landscape relies on a land management system underpinned by the continued existence of upland farming (Lake District National Park Partnership, 2015).

In the far west of the National Park, lies a remote valley, Ennerdale, which has become the home of the Wild Ennerdale project (Figure 1). The overall vision of this partnership is (Wild Ennerdale, 2006: 9): *‘to allow the evolution of Ennerdale as a wild valley for the benefit of people, relying more on natural processes to shape its landscape and ecology’*. Thus the Wild Ennerdale project represents small test case to understand and appreciate the complex inter-relationships between a cultural landscape and a wilding experiment. In the context of wilding, it is important to appreciate from the outset that the Wild Ennerdale project did not;

*‘set out to replicate past landscapes, as change is a continuous process influenced by environmental conditions and human activity. Natural processes will allow the evolution of new habitats and landscapes rather than being manipulated to create something from the past.’* (Ibid, 2006:30)

Instead, the partnership aimed to enhance the ‘wild’ qualities of Ennerdale by:

*‘Allowing natural processes a greater hand in shaping the landscape and ecology of the valley over the long term,*

*and;*

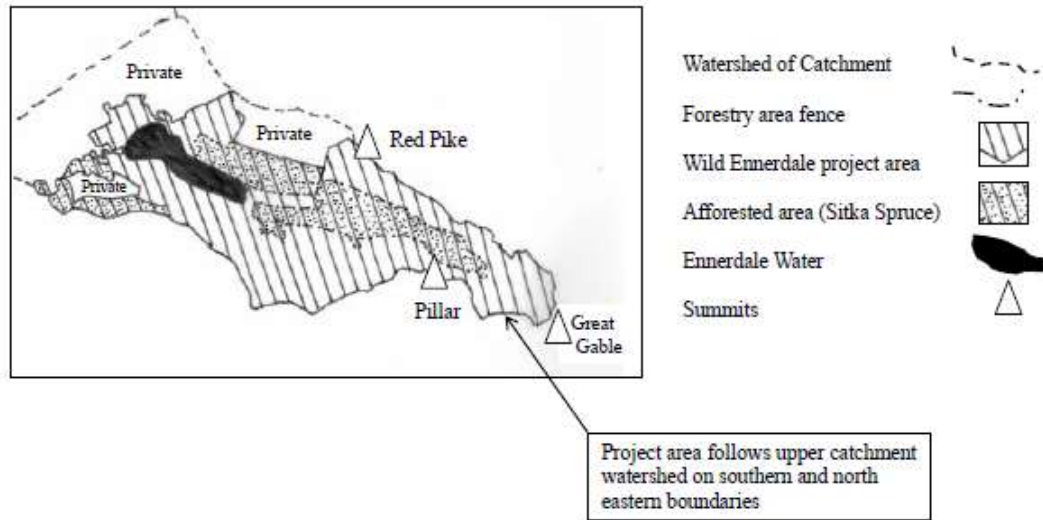
*Reducing detracting features and creating more opportunities for people to experience the sense of wildness of the valley’.* (Ibid, 2006:13)

To achieve these they set up a series of actions to work with each of the main resource users in the valley (Figure 2), and with respect to upland farming, Wild Ennerdale (2006:34) specifically is exploring nine objectives:

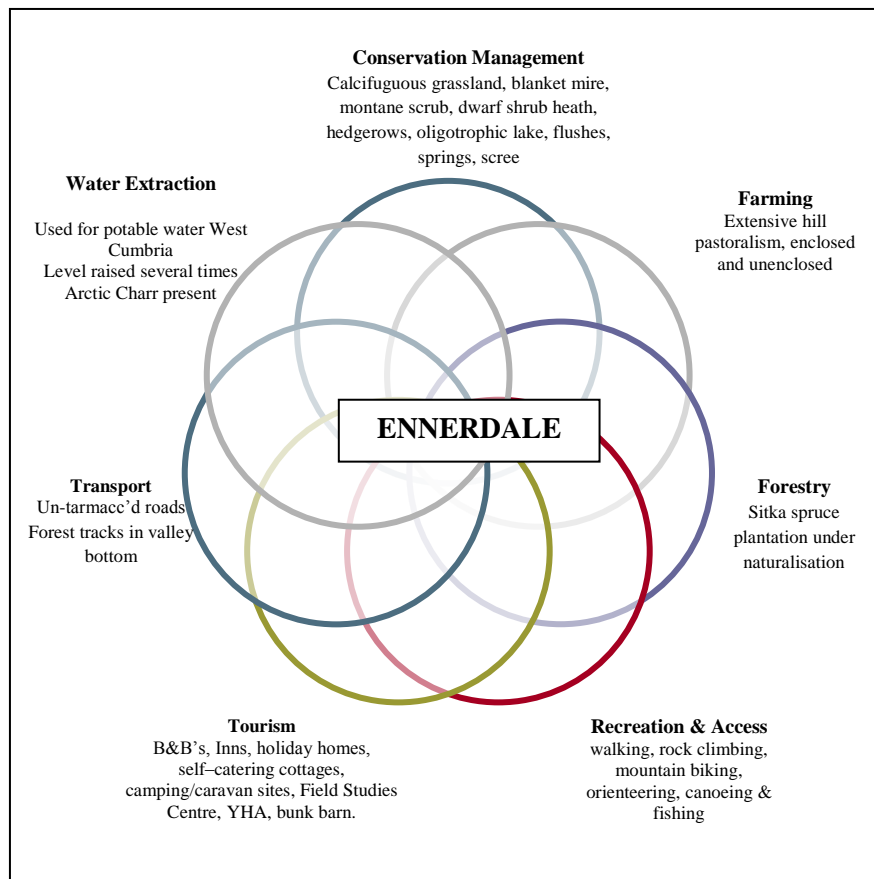
- Develop a better understanding of farming, its significance and impacts in Ennerdale.
- Remove redundant boundary fencing to move towards extensive grazing regimes within the existing forest boundary.
- Work with farmers to review boundary fencing
- Address the issue of stock encroachment on the Pillar & Ennerdale SSSI
- Introduce cattle for extensive naturalistic grazing.
- Ensure opportunities are maximised to benefit from farm support.
- Support the development of new business opportunities for farmers that build on and respect the special qualities of the valley.
- Identify a long-term sustainable grazing regime for the whole valley.
- Explore impacts of changing grazing regimes on current management practices, such as lower stocking numbers of hefted flocks on unfenced fell.

The WE partnership acknowledged early on that to gain support for a project such as this, they needed to demonstrate that wilding the valley would not result in land abandonment or loss of livelihoods. Their 2006 Countryside Stewardship application to Natural England goes on to impress that they were not proposing to abandon land, exclude people or recreate a past landscape;

*‘On the contrary, human activity is a crucial part of the process, along with the need to provide quantifiable economic, social and environmental benefits which are sustainable over the long term.’* (Ibid, 2006: 13).



**Figure 1: The Wild Ennerdale Project Area**



**Figure 2: Land Use in Ennerdale 2015**

Rhetoric is all very well, but the realities and practicalities of introducing and operating a wilding project within a wider cultural upland landscape is not as easy as this. The purpose of this paper, therefore, is to use the experiences of farmers from the WE partnership locale to emphasise the importance of fully appreciating, collaborating and recognising how upland farming systems operate. By doing this, we can apply the lessons learnt to create appropriate space in the British countryside for wilding projects where multifunctional land use is paramount in the provision of a wide range of ecosystem services for a society with a limited resource base.

This paper is split into two main parts. We will discuss how upland farming systems operate in Cumbria in order to begin to appreciate the landscape into which wilding has been introduced. Then we will explore the blending of upland farming and wilding in relation to broader agendas and operational management, and what this means for other wilding projects in uplands. For those of you unfamiliar with the Wild Ennerdale Project, Box 1 provides some further details.

## The Upland Farming System in Cumbria

Upland farms in Cumbria comprise of: the farmyard, inbye, open fell and intake (Figure 3), a pattern which is roughly replicated throughout other upland areas in Britain. These operate as a management system to provide farmers with flexibility to overcome the poor inherent physical conditions. These landscapes whilst recognised as producing High Nature Value (Figure 4; Osterman, 1998) do however pose many practical challenges with regard to terrain and thus are mainly managed by ‘stick and dog farming’ – essentially on foot rather than relying on mechanised equipment, unless feasible.

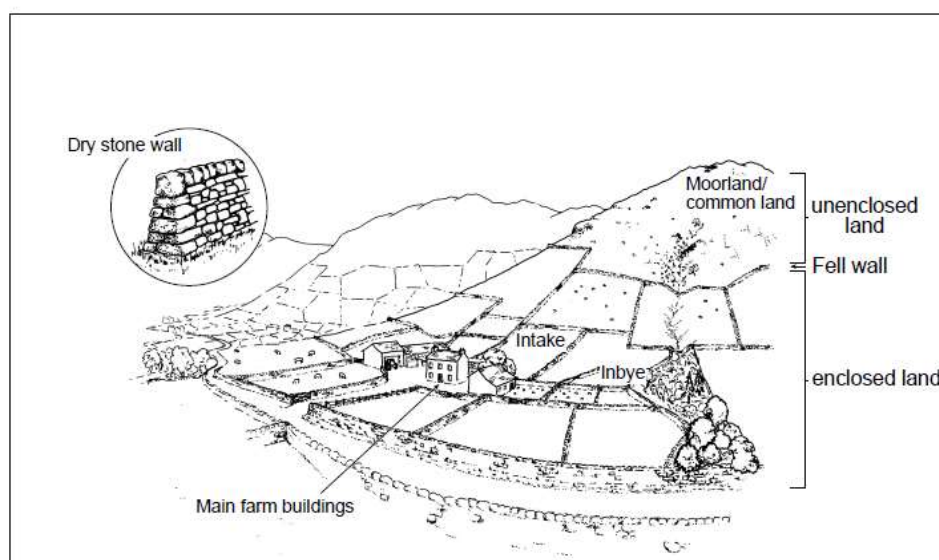


Figure 3: A typical Cumbrian Upland Farm (Mansfield, 2011)

### ***Box 1 – Overview of Ennerdale & the Wild Ennerdale Partnership***

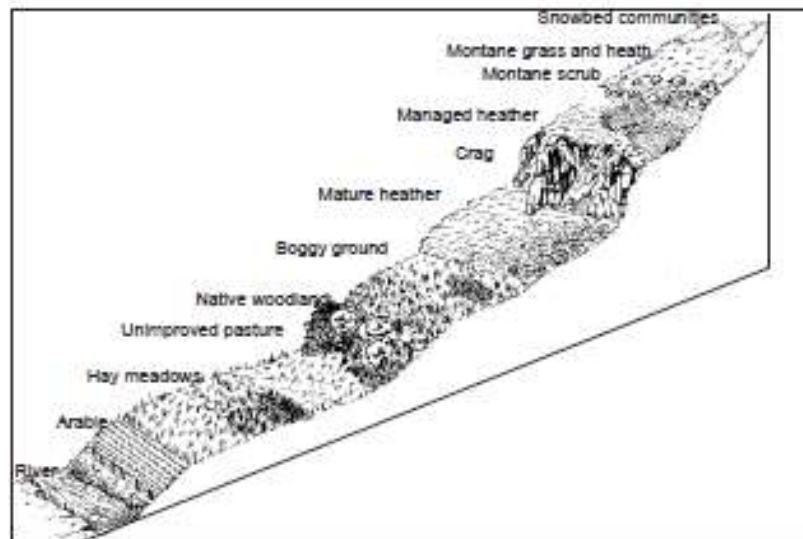
Ennerdale is one of a number of classic glacial troughs radiating out from highest point of the English Lake District. Facing the North Atlantic, the climate is inclement, precipitation is around 3200mm per annum limiting economic activity to upland farming and plantation forestry. It lies on the remote western edge, off the main tourist routes of the central and southern areas of the Lake District National Park. To the west lies a coastal strip supporting a network of urban areas which were built on the industries of coal mining, iron smelting and ship building, and now supports a nuclear power station. Transport links are poor, particularly for movements from valley to neighbouring valley, requiring long drives to collect errant straying livestock (see below). Ennerdale is 14.5 km long and about 6km at its widest tapering to the mountain summits of Great and Green Gable at the western end with the famous ‘Pillar’ on its southern watershed. The Wild Ennerdale project area covers 4300ha, nearly the entire upland catchment area (4711ha), affecting the quality of the Rivers Ehen and Liza, and its population of Freshwater Pearl Mussels (*Margaritifera margaritifera*) beyond the valley mouth, where the full catchment extends onto the surrounding coastal plain (an extra 2600 ha).

The upper valley has a long history of habitation dating back well over 4000 years and has been cleared gradually of the pre-existing northern deciduous woodland by successive cultures. There is archaeological evidence of sedentary settlements and charcoal bloomeries near the southern shore of the lake dating back to the Iron Age (800BC, 2800bp), suggesting an indigenous pastoral society based on the transhumance of sheep and cattle (Oxford Archaeology North, 2003). Over time the population of the valley floor increased so that by the post Medieval Period much of the valley floor was improved and enclosed. Into this landscape developed a mining industry focused on the extraction of iron ore and the surrounding fells were partially enclosed as intakes (see below) in order to feed the expanding resident industrial population, and then enclosed later again in the Nineteenth Century through Parliamentary Enclosure. The impacts of post 1914-18 war agricultural change were curbed through the acquisition of the valley floor by the Forestry Commission (the state agency) for timber production in 1920. The surrounding unwallled and fenced slopes (fells) have continued to be farmed until the present influenced by economic and political policies, which have inappropriately encouraged over-exploitation by sheep farming. Recent shifts through decoupling and modulation<sup>1</sup> in agricultural policy have allowed those farmers grazing the fells to reduce stocking densities with varying degrees of success in relation to ecological improvement and decline, and socio economic effects as seen in many upland areas in Britain (Mansfield, 2011).

Ennerdale includes a wide range of ecological habitats ranging from coniferous plantation up through the sweep of classic habitats produced through extensive agricultural activity (Figure 2) including some montane heaths and cliff-based montane scrub fragments. There are a number of nature conservation designations including SACs, SSSIs and over 500 archaeological sites. The current human population is limited to the local settlement of 270 at the mouth of the valley and a number of farms west of the lake. Visitor numbers are low in comparison to many other Lake District valleys as a result of its isolation, restricted vehicle access and low key tourism.

The Wild Ennerdale Partnership comprises United Utilities, the National Trust and the Forestry Commission who, between them, own the majority of the land in upper Ennerdale (4300ha) (Figure 1). This land forms the project area. The enclosed pastoral land in the project area is tenant farmed as is the majority of the open moorland running up the valley sides, which is a series of unfenced/fenced hefts (see below). The organisations are supported with advice and guidance by Natural England, the government organisation responsible for nature conservation in England. The partnership also liaises with an advisory group made up of partner organisations and key academics with a range of specialist backgrounds including hydrology, ecology, forest management, grazing and recreation. A wider liaison network also exists, which includes key organisations (e.g. Lake District National Park Authority), representatives from the local community and user groups (e.g. ramblers and anglers). There is also a separate farm tenants group.

The farmyard is usually comprised of the farmhouse, sheep dipping area and several barns. The barns are used for storing equipment and machinery, and/or housing livestock at certain times of year. Directly adjacent to this is the *inbye* land made up of grass meadows and some occasional arable fields to produce forage crops. This land is the farm's most productive and is improved through drainage, addition of fertilisers and other products. These fields are either grazed by livestock or cut for hay, silage or haylage for winter feed. However, changes in farming practice since the 1960s has seen the replacement of hay with silage, the latter of which has significantly less biodiversity value.



**Figure 4: the Range of Habitats developed through Upland Farming Systems**  
(adapted with permission from Dodds *et al.*, 1996 'A Management Guide to Bids of Upland Farmland' RSPB: Sandy)

The second type of land that occurs on an upland farm is unenclosed open fell (hill land) and lies above what is known as the fell wall or moorland wall. The land here can be common land<sup>1</sup>, owned by a single landlord and/or shared through common rights by the farms which graze livestock upon it. The stock introduced onto common grazing, populate 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 (Figure 4). It is this zone which has suffered most from increased grazing in terms of its degrading biodiversity, because managers can graze as many livestock as their common rights allow, which can be beyond its ecological or even agricultural carrying capacity. Whilst some commentators like to suggest farmers are directly at fault here (Monbiot, 2013), the situation is more complex, driven by political and economic policies such as the European Union's Less Favoured Areas Directive, designed to improve the socio-economic conditions of this agricultural sector, but physically manifesting itself in the UK with undesirable overgrazing (Mowle & Evans, 1990; Winter *et al.*, 1998).

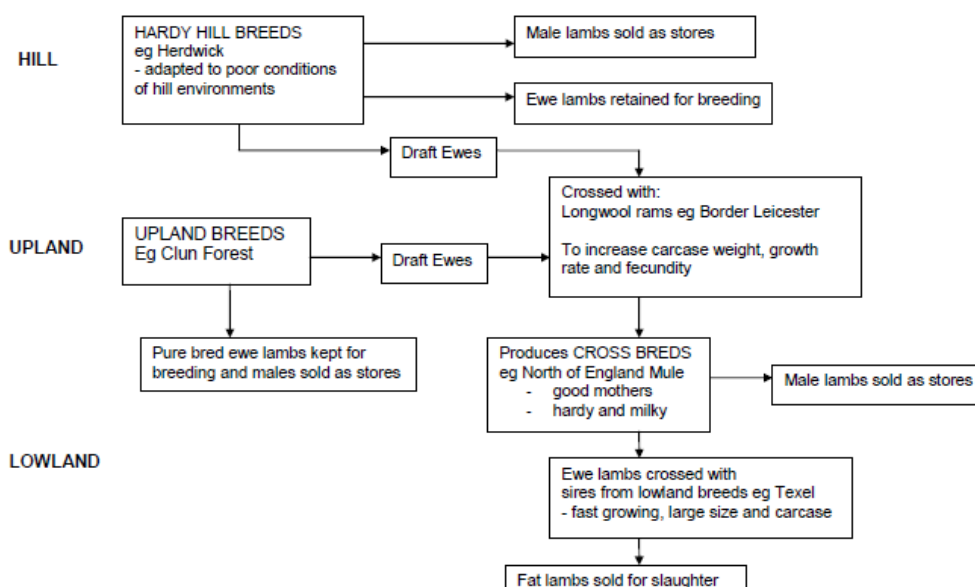
The third type of land is intake which lies between the inbye and open fell, and is made up of pieces of common or other land which has been enclosed from the open fell, literally taken in. Its agricultural quality lies somewhere between inbye and open fell, and often partially improved through the construction of tile drains, it produces a semi-improved pasture of rush beds and some nutritious grasses.

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

1. *Upland farms* – typical of that shown in Figure 3 with a mix of all three types of farmland. Most farms in uplands can be classified this way and run sheep and beef cattle (known as suckler cows).
2. *Hill farms* – comprising of mainly open fell, none or only one field of inbye and some intake improved as best as possible and thus constraining operations to sheep enterprises only. These farms are confined to the higher upland areas, such as the heads of valleys or far up on valley sides just below the open fell.
3. *Dairy farms* – confined to the upland margins around the 200 to 300m altitude, where precipitation is enough to encourage 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 (see below).

## Operating an Upland Farming System

Sheep and beef enterprises are managed through planned movement of stock from one type of land to the next, fitting the needs of cattle and sheep round one another depending on time of year. So loss of land in any part of the system has a cascade effect affecting the profitability of the business. A proviso on this is that if upland farms do not have enough inbye land or sheds/barns, the size of the cattle herd will be substantially reduced, or even non-existent. The sheep enterprise is made up of a flock containing a range of ewes of various ages, which act as the breeding stock. Lambs can be brought on to replace ewes that get too old to breed or are sold on for fattening up in lowland Britain, a process known as stratification (Figure 5).



**Figure 5 – Sheep Stratification in the United Kingdom (Mansfield, 2011)**

Suckler production for beef follows a similar, if more simplified, system. This process drives the entire UK livestock industry; thus, if there are not enough livestock brought on in the hills and uplands this can directly affect lowland sheep farm businesses negatively. Another



example of the importance of hill breeds, such as the Cumbrian Herdwick has recently come to light through DNA analysis, where it has been found that the widespread Texel sheep of lowland Europe have key Herdwick genetic traits (Pers. Comm., W Rawling, MBE, 28/5/15).

Historically sheep and cattle were bred to fit in with the local environment. The stock were adapted 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, such as Hebridean sheep (Braithwaite *et al.*, 1997) and Galloway cattle as part of the Wild Ennerdale project. The utilisation of these native breeds is however a double-edged economic sword for the farmer. They put on weight more slowly which delays sale and have a low meat to carcass ratio, making them expensive to produce, but may add value through an organic premium, only if all shared fell farmers buy in.

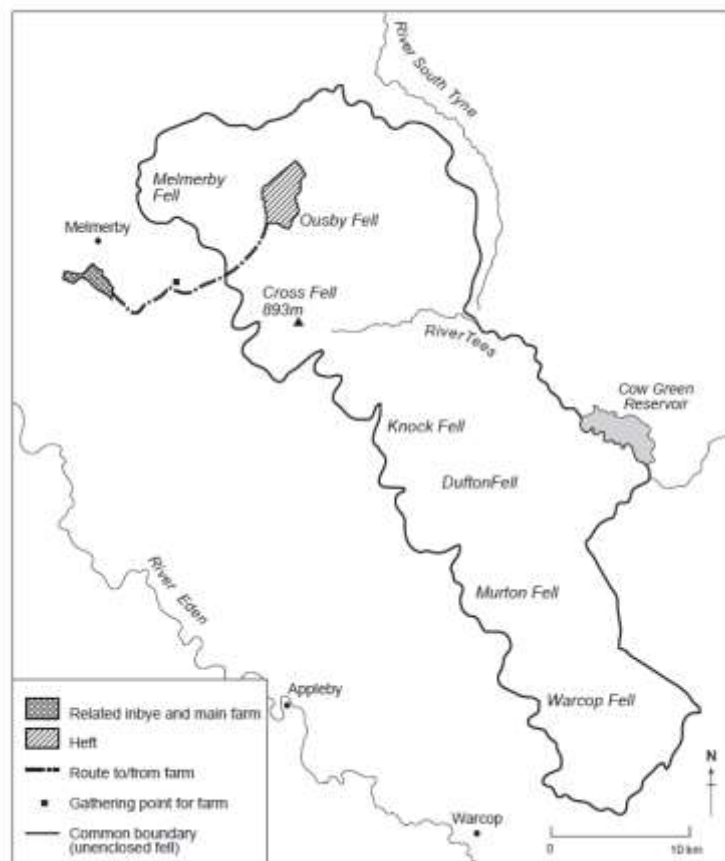
Central to hill and upland farm systems is the *hefting* or *heafing* of sheep on to unenclosed land. The process ensures that sheep stay on a certain piece of land either owned or managed through bestowed common rights to the farm unit. Initially, a shepherd and dogs show sheep the invisible boundary by herding them to the heft. There are no fences or walls dividing the hefts from each other. As time goes by the sheep develop a behavioural 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. Some concern about loss of flocks during the Foot & Mouth disease outbreak did arise in this regard (DEFRA, 2001). 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* (Figure 6). Several times a year the stock are *gathered* off the fell for animal welfare purposes, sale or overwintering (see below), a process that relies on teams of people working together to draw flocks from a number of hefts down to a single point for sorting. Because there are no physical boundaries stock may wander from one heft to another, thus historically *Shepherds Meets* used to take place to swap stock back between farmers. Gathers and Meets became focal points of the year, when families and communities would convene to enjoy social activities developing a unique social culture. Whilst *Shepherds Meets* are really only social events now, heft operation is still central to effective farm management and thus any wilding project has to fully appreciate the intricacies of this system, the practicalities of which we will return to below.

Based on these few unique characteristics, operating an upland farm management system is more complicated than lowland pastoralism for five main reasons:

- They are controlled by the area of each land type available because inbye, intake and open fell are used for different activities in the farming year as an integrated system.
- The poor nutritional value of the land limits grazing potential, particularly with respect to seasonal growth and related exploitation
- The proportion of enterprise mix between sheep and suckler cows can affect land utilisation patterns and variable inputs.

Hill farm businesses are particularly at risk from these three with just open fell and intake.

Thus they have to sell stock every year, supplementary feed or send it away temporarily (*overwinter*) the latter two of which costs a lot of money. If a farm runs sheep and suckler cows it gets more complicated as resource pinch points can occur particularly in May/June and from mid September to October when stock need similar land types.



**Figure 6 – Intercommoning and single heft, Ousby Common, 2006**

- The erratic upland climate and weather patterns throughout the year and year-on-year mean stocking rates may have to vary, leading to excess stock or underutilised land. By being too snowy, wet or dry at certain times, stock movement can be delayed from one part of the farm to another, creating a domino effect elsewhere. Pastures that should have been vacated weeks ago can develop problems such as poaching or overgrazing as stock remain where they are; this happened during the Foot and Mouth crisis of 2001.
- The impact of economic and political environments outside the farm can create imbalance between stock and land resource. The fluctuating price of meat or fleece can lead to huge swings in farm profits. Fifty years ago the June clip from sheep flocks would pay the land rent and wage bills for the year, now farmers are lucky to get £1 per fleece (£1.20 to shear).

The contemporary hill farming system is therefore derived from the developing relationship between farmers and the upland environment. Physical, historical, economic, political and social factors have all played a role in producing the cultural hill farming landscape we now see. Furthermore the farm system operates on the physical and economic margins of cultivation and as markets have become more global and cheaper meat production has developed elsewhere, hill farming has come under increasing economic stress leading to an external cost-price squeeze<sup>2</sup>. Gross profit margins have sunk to an average of £5000 per year in some years, that's 'take home' pay to you and I. The response to these circumstances has been a restructuring of the industry (Lobley *et al.*, 2002). Typically, hill farm businesses have shed labour (one of the few variable costs they have) or intensified production to save money. Another option is to diversify income streams both on and off farm, or *in extremis*, leave

farming altogether. Whilst some of these options have allowed the business to continue, it has led to undesirable secondary consequences – overgrazing, undergrazing, a huge contraction of the industry in terms of number of businesses, outmigration from rural areas, loss of social capital, and contraction of community & related services (Mansfield, 2011).

Governments have responded to these socio-economic issues in the past by introducing mechanisms to support farm incomes. However, if upland farmers are guaranteed financial support it encourages them to increase the stocking of animals on their farms; particularly the case until 2000 leading to problems of overgrazing, soil erosion and biodiversity loss. Governments then counter-respond to this predicament by introducing grants, quotas and changes to the subsidy regime, which distort the economic market<sup>3</sup>. With a farming system geared up to higher stocking densities, the swift reduction of stock numbers has led to undesirable biodiversity results; problems of selective grazing (sheep will eat the tasty stuff and leave the unpalatable low conservation value plants) and, in Cumbria, the increased encroachment of bracken across fells previously devoid of it, have been reported anecdotally. There have also been practical management issues as stock drift off heft as inter-heft grazing pressure reduces and increasing gathering costs to find drifted sheep, leading increased financial hardship.

## **Blending Hill Farming with Wilding Projects**

We can see from this brief overview of the operational management of hill farming that there are several areas of note, worthy of further consideration, if we are to effectively introduce wilding into UK and other European uplands. We can analyse this from two perspectives. First, the value of hill farming intrinsically with respect to broader agendas such as biodiversity production, food security, rural sustainable development, ecosystem services and cultural heritage, and second, with respect to the practicalities of wilding or part wilding landscapes that are currently under the management of upland farming systems. These two are not mutually exclusive, because either they will share the same land or they will be geographically contiguous and thus one will affect the management of the other, as follows.

### **The intrinsic value of hill farming**

We have investigated several unique characteristics of UK upland farming systems which include the physical manifestation of the farming system, indigenous livestock breeds, stratification, hefting, social capital and cultural heritage.

Evidence shows how the inbye-intake-open fell grazing regime produces biodiverse environments underpinned by indigenous breeds. 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. Cumbria is no exception, it has the greatest diversity of ecological habitats of any English upland (Drewitt & Manley, 1997). Nevertheless inappropriate grazing pressure can result in overgrazing or undergrazing, which can reduce biodiversity and agricultural value. Consequently, various agri-environment initiatives have been introduced to contain the worst excesses of inappropriate farming practices, whilst maintaining or even improving biodiversity, although the effectiveness of these is a matter of debate. The now famous Environmentally Sensitive Areas scheme running

from 1986 to 2014, merely achieved the *status quo* between biodiversity, landscape and heritage (for a summary see Mansfield, 2011).

Second, Food Security is one of the three major challenges of the 21<sup>st</sup> Century interrelated to Peak Oil and Climate Change (Shiva, 2009). Any reduction in the size of the national upland flock or herd, will have implications across British food supply chains; the stratification system clearly demonstrates this. We only have to look at the effects of the Agricultural Depression of the 1880s and 1890s to review the impacts (Perren, 1995). Uplands were abandoned causing social depression, lowland farmers diversified into other agricultural enterprises and there was a shift away from red meat production. One could argue this is good as we have too much red meat in our diets (Food Standards Agency, 2014), 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, about 4%, so arguably why support something so small? However, the UK is only 60% self-sufficient in food production, an ever downwards trend (DEFRA, 2010). Whether this is a good or bad thing is open to debate. DEFRA (2014) 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*'. This makes sense 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 (Office of National Statistics, 2014). 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 insect pollinators to name but a few. Rising prices affect the poorest households who spend the largest percentage of their budget on food (as much as 15% compared to 7% in the richest; DEFRA, 2010). Hill red meat production is also the most environmentally sustainable as it is a grass-fed system, leaving the lowlands for cereals, vegetables and milk. It would seem, therefore that the ability to home grow food provides greater social equity, but can expose us to other challenges. It's all a matter of prioritisation for society and the Government in power at the time.

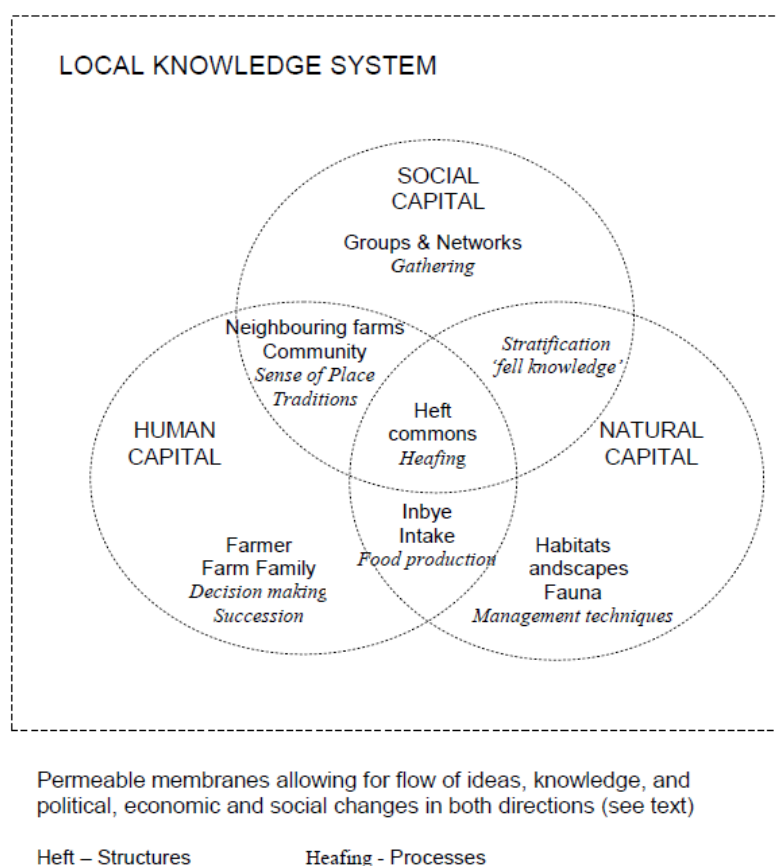
Whilst biodiversity provision in uplands is perhaps at the forefront of conservationists' minds, upland farming systems also provide a wider package of ecosystem services and public goods for society (Table 1). Indeed, a recent uplands policy review by DEFRA stated that '*hill farming is common to the successful management of many of these [ecosystem services] and is therefore integral to the future sustainability of the uplands*' (DEFRA, 2011). It went on specifically 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 wider community and the natural environment. An example of this is the indirect financial worth of the industry demonstrated by the effective closure of the countryside during the Foot & Mouth crisis. During this time rural tourism and recreation is estimated to have lost between £2.7 and £3.2 billion (Anderson, 2002). Indeed the intrinsic cultural farming landscape of the Lake District, so central to the World Heritage Bid (Lake District National Park Partnership, 2015), is one of the attractions underpinning heritage tourism within the local economy. Having said on all this, some attempt has been made by [Navarra and Pereira \(2012\)](#) to qualitatively assess the relative ecosystem services provided by wilding, afforestation, extensive and intensive agriculture. However, how their values have been derived is somewhat misleading, and may be mis-interpreted inappropriately.

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

**Table 1 – Ecosystem Services derived from Upland Farming Systems**

(Adapted from Bonn et al., 2009)

Finally, we can consider the value of upland farming within a socio-cultural context. I posit here that the evolved management system derived from it has created a local knowledge system (Figure 7), no different from those formulated by trial and error of other indigenous populations across the world and transmitted through oral tradition. Fell management relies totally on the experience of heft managers to understand the innate behaviour of a hefted flock and the juxtaposition of multiple hefts. A similar farming system operated in Highland Scotland before the Clearances stripped the landscape of people (Dodgson & Olsson, 2006). Some hill farming families in Cumbria can prove same-land management lineage back five or six hundred years, some to before 1066 (Pers. Comm. G Sedgewick; W Rawlings MBE). Indeed the landscape of Ennerdale has been inhabited for pastoralism since Celtic times (Oxford Archaeology North, 2003) and Cumbrian place name etymology, dialect and various DNA projects have traced Cumbrian families back to Viking settlement (Universities of Nottingham & Leicester). These strands tantalizingly suggest the Cumbrian hill farming community may fulfil the accepted definition of an indigenous people supported by the United Nations (UN, 2004).



**Figure 7: the Upland Farming Local Knowledge System (Mansfield, 2011)**

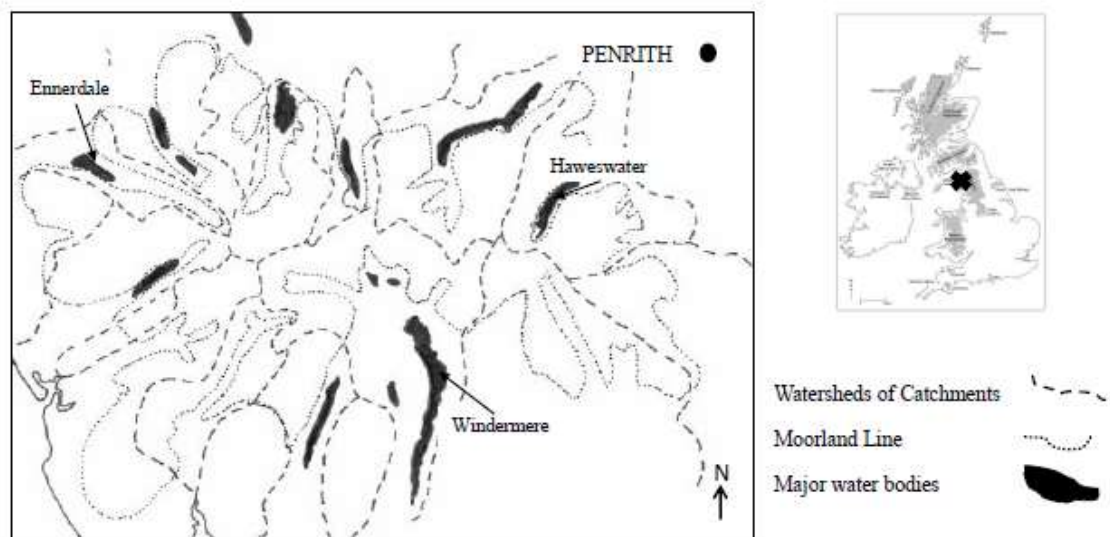
One particular aspect of a local knowledge system worthy of consideration here with respect to wilding is social capital, described by Putnam (1993:67) as ‘*features of social organisation such as trust, norms, and networks that can improve the efficiency of society by facilitating co-ordinated actions.*’ A particularly important aspect of social capital is that it cannot be created instantly, it takes time to form as people learn to respect and trust each other (Roseland, 2000). Heft management is a prime example of this through co-management of the fell resource in terms of ‘right of common’ and as ‘commons’ (Hardin, 1968). This co-management needs to come from all stakeholders managing contiguous activity and it is this which leads us neatly on to the last point in this paper – the practicalities of wilding in an upland used for agricultural production.

### **The practicalities of Wilding in an upland farming landscape**

Using Wild Ennerdale as an example, particular issues raised initially in 2006 by the farming community included animal welfare and the related distance cattle could travel in a day (Convery & Dutson, 2008), 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 (Ibid, 2008). Now in 2015, the Ennerdale farmers are still concerned about the continued breakdown in hefting, stock reductions and boundary fence removal between the

open fell and the coniferous areas, undermining effective farm management and economic viability (Pers. Comm., W Rawling MBE). Whilst some may argue that land ownership within the project has overcome the practicalities of these management concerns the issue is more complex than that, because it is to do with what is known as common property rights instead, not ownership. Property rights refer to the authorised utilisation of resources which may or may not be owned by an individual (Quinn *et al.*, 2010). Thus a piece of land can have a number of people or organisations over which they can exert a range of rights but not necessarily for the same resource.

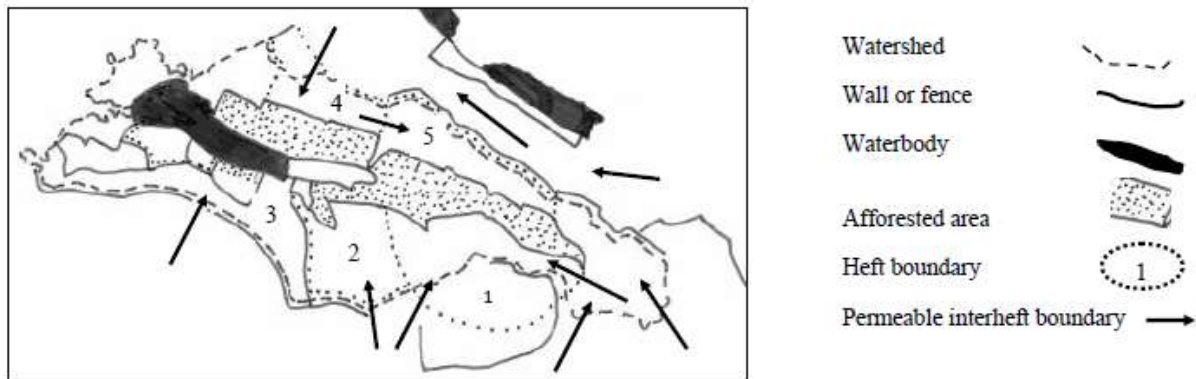
In the context of Wild Ennerdale, we shall consider the most important of these for farmers, not only of Ennerdale but in fact the entire Lake District central massif – the heft, which arguably will be the most contested property right for any wilding project which goes ahead in upland UK. As discussed above, a large part of hill farming relies on grazing common land or sole grazing rights *above the fell wall*. The extent of the fell wall in the central Lake District is shown in Figure A, it roughly co-incides with the what is known as the Moorland Line, an administrative boundary identified in 1992 in order to support a grant scheme devised under the EU Regulation 2078/92 – *on agricultural production methods compatible with the requirements for the protection of the environment and maintenance of the countryside*. This core therefore constitutes many contiguous hefts whose boundaries are virtual, thus from Figure 7, a walker (or a sheep) can traverse the massif continuously without having to cross a physical boundary for nearly 40 kilometres.



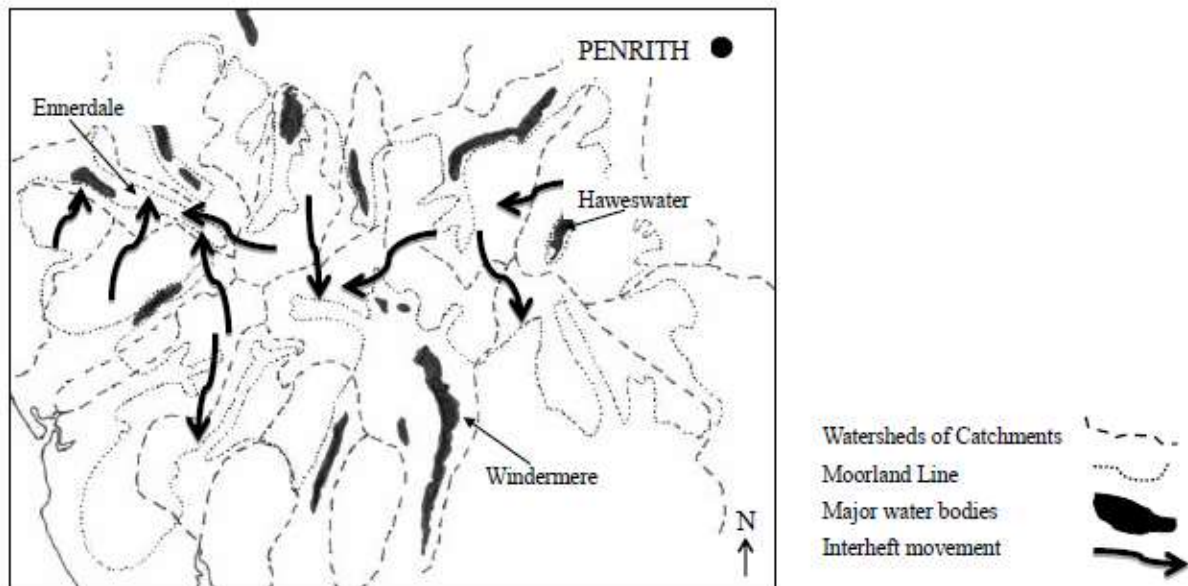
**Figure 7 – the Moorland Line and Catchments of the Central Lake District**

Hefts typically rise up from the valley sides to meet at catchment watersheds and use other topographical features to delineate their boundaries, which is almost the case for those tenant farmers with hefts within the Wild Ennerdale project area (Figure 8). Unfortunately, ownership control of the catchment heft pattern is incomplete, with a privately owned heft operating on the valley's northern side, but more importantly there is no physical boundary along the watershed. This exposes the project area to at least four other catchments and their hefts, possibly more given the top end of Ennerdale rises to the apex of the massif where another four catchments touch. Consequently, if the Wild Ennerdale partners decide to destock their own hefts in line with their 2006 proposals, all that will simply happen is that stock from

neighbouring hefts will expand into those areas now ungrazed (Figure 9) to take advantage of the void. A good analogy is like bailing water out from one end of paddling pool to make it shallower at one end, all it does is make it shallower overall. This effect will ‘domino’ across the entire open fell area possibly affecting every farmer with a heft thereon. The spread of stock will also increase the cost farming for anyone who’s stock wander, as eventually they will need to be gathered for animal welfare, overwintering or sale purposes. The financial issues are compounded by the massif’s road network which does not lend itself to economical collection. Some farmers would need to drive 150 kilometres to collect errant stock two or three times a year, cutting into already tiny profit margins.



**Figure 8: Heft Management in Ennerdale**



**Figure 9: Interheft Drift Across the Lake District**



Unfortunately, the whole physical boundary issue is replicated again between the original Forestry Commission forest and the lower heft and field boundaries within the project area. Whilst fence removal will blur the artificial aesthetic boundary between wood and pasture in a more naturalistic way, there will be issues related to sheep drift into the woodland body itself. There are already problems in relation to poorly maintained sections of fence with sheep being lost, animal welfare issues and vegetation damage, all of which cost in time and money on both sides.

It would seem therefore that in order to create a more naturalistic effect the sheep need to be removed from those hefts the project has control over, but a fence needs to be maintained where the private hefts touch the forest in valley bottom, and at the same time, a fence needs to go around the watershed Wild Ennerdale has property control over to stop sheep drift from the entire massif. However, there are four issues with this, first, its expensive and probably needs to be deer proof too if all the newly planted trees are to be protected (roughly a third of a million pounds); second, the terrain includes extensive scree slopes and bare rock, which will need high level technical fencing skills; third, the land involved is 'Open Access' designated under the Countryside & Rights of Way Act 2006 statutorily granting the public access to it all, which may result in an access backlash, and fourth, it will need approval from the Secretary of State to fence common land, which is rarely given and then only usually of a temporary nature.

## Concluding remarks

Whilst no one is suggesting that the entire British uplands should be switched over to wilding projects, it is important to place any such decisions within the wider context of current land management regimes. Consequently, wilding projects (alongside nature reserves) are one end of a geographical continuum moving through HNV landscapes with productive ones at the other end. Where in the continuum upland landscapes fit, is very much dependently on environmental, economic and social conditions pertinent to the specific geography.

It is evident that upland farming donates towards a number of wider societal agenda beyond just meat production, so any wilding activity will need to carefully assess the losses and gains of change of use within these contexts. Further investigation would seem justified to explore whether a farmed landscape (with low levels of public support) is more valid in the current political and economic climate than a publically supported landscape management project.

At an operational management level, there are concerns amongst the farming community that the practicalities of introducing wilding into part of a hill farming landscape can have detrimental consequences for farm businesses. Farmers are not against wilding as a concept *per se*, but the very character of hill farming means that such activities will need to be fenced or stock excluded by some other means. At the end of the day, the key to ensuring our upland landscapes are multifunctional servicing all our needs, relies on true partnership and collaboration with all parties appreciating fully the points of view of others and the practical challenges created by change.

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<sup>1</sup> Common land: land owned by one person over which others have the ‘right of common’. Common rights in uplands include for example grazing, peat cutting (turbary) and collection of dead wood (estover) (Aitchison *et al.*, 2000).

<sup>2</sup> Cost–price squeeze: as costs of production increase, if sale prices at market decline due to competition the farm business can find itself in a pinch point where production costs exceed sale prices, thus the business moves into negative equity.

<sup>3</sup> The current EU policy regime is decoupling of farm support from production and modulation of funds to support environmental management and rural development.