

wildwaterforestmountains ennerdale



Galloway Cattle – Gareth Browning April 2011

Wild Cattle, Wilder Valley March 2012



Introduction

The Ennerdale valley presents a dramatic picture in a remote position on the western fringe of the Lake District National Park. Extending to fourteen kilometres long and almost five kilometres wide, at its widest it encloses an area of around 5000 ha. The valley narrows from west to east and is surrounded by dramatic mountain ridges which include some of Lakeland's highest summits such as Great Gable and Pillar both over 890 metres high. The large scale and diversity of its landscapes, incorporating farming, mixed forest, rivers, lake, open fell and mountains, combined with the significant lack of roads, traffic and buildings all contribute to enhance the sense of Ennerdale as a wild, tranquil and spiritually refreshing place. Over 40% of the area is designated as 'Site of Special Scientific Interest' (SSSI) and Special Area of Conservation (SAC). The River Liza is a major feature, falling wild and unchecked down the valley and is one of few rivers in England to show such uncontrolled dynamism.

The whole valley is highly significant for its rich legacy of archaeological remains and diverse habitats for flora and fauna, all with features which range from regional to international importance. Over a thousand years of human activity, stretching from the Bronze Age to present day, are etched into the landscape.

At the western end of the valley lies Ennerdale Water which supplies over 60,000 customers with drinking water. The network of footpaths, tracks and open access both in the forest and on the open fells provides a wealth of opportunity for people to explore the valley with a sense of freedom, adventure and challenge.

Ennerdale is a place, where people can feel humbled by their surroundings, where signs of human influence are less and where nature remains, to varying degrees, the dominating force.

The Wild Ennerdale Partnership

Wild Ennerdale is a partnership between people and organisations led by The National Trust (NT), The Forestry Commission (FC) and United Utilities (UU) being the primary land owners in The Ennerdale Valley and Natural England, the Government's advisor on the environment.

The Partnership has a vision to "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" (Wild Ennerdale Partnership 2006)

Our Approach

Wild land is a relatively new concept in the UK and involves giving natural processes greater freedom to develop our future landscapes. Nature conservation in England is generally focused on small-scale interventions where in Ennerdale more weight is given to the landscape scale leaving the detail to natural processes. Wild Ennerdale is one of the UK's longest running and largest wild land projects allowing ecosystems throughout the valley to evolve with greater freedom. Its experience in managing land through minimal human intervention is already widely recognised and shared by others.

In the UK, all our landscapes and ecosystems have to some degree been impacted by human influences and in Ennerdale (as elsewhere) any future landscapes and ecosystems will continue to be affected by past management along with influences, such as climate change and airborne pollution, which show no respect for boundaries. As a result using the words 'wild' and 'natural' can be contentious.

The Wild Ennerdale approach involves reducing the scale and altering the nature of human intervention in the valley, so that human processes (whether they be farming, forestry or recreation) do not come to dominate the wide variety of other processes that operate. Put simply, we are trying to place constraints on the way in which people operate in the valley so that they become part of a 'natural system'. This is an attempt to allow a 'wild' place to evolve in which people are and continue to be an important part. In the context of Wild Ennerdale, the words 'natural' and 'natural system' are not used in an ecologically pure way. We are not attempting to re-create a set of landscapes and ecosystems which might once have existed at a particular point in time. Rather, by acknowledging that natural systems are dynamic and constantly changing, we are using the present as a starting point – a starting point which includes three millennia of human activity and a variety of species which man has both eliminated (or at least seriously constrained) and introduced, of which Sitka Spruce *Picea sitchensis* is perhaps the most obvious. Our concession to the 'un-naturalness' of this starting point is the management approach we have been undertaking over the last five few years and will continue into the near future. This involves introducing some of the more obvious and significant missing processes, such as extensive grazing by large herbivores and broadleaf tree planting, and providing some control on processes we have introduced in the past such as sitka spruce *Picea sitchensis* regeneration. The intention is to create a more balanced starting point in which a broader array of processes have the opportunity to operate and influence the valley.

As the valley develops, it is hoped that there will be a series of naturally evolving and interacting ecosystems across the valley that are far more robust in the face of stresses such as climate change and that farming and

forestry will maximise ecology and landscape value. It cannot be predicted exactly how biodiversity may develop as natural processes are given greater freedom. However, being able to observe these processes at work, over generations, will be one of the marvels of change in Ennerdale, and ensure that the lessons learnt will have a resonance far beyond the boundaries of the valley.

Why Cattle

When the Wild Ennerdale partners started to share their new vision with others the feedback from ecologists was unanimous in encouraging the Partnership to introduce a large herbivore into the valley. This was said to be a key missing natural process from many of our modern day forests. The partnership looked around for inspiration and discovered the nature reserve of Oostvaardersplassen in the Netherlands “where cattle and horses in the Oostvaardersplassen had a completely free life with a natural social order and graze extensively without tending” (Vera, 2009)

The Partnership also visited a grazing scheme in South Cumbria where cattle *B. taurus* were rotated across a number of extensive sites.



Figure 1 The Ennerdale Middle Valley

As we found out more we realised that perhaps cattle could help us achieve our aspiration to see the blurring of the traditional functional management of the valley and the removal of boundaries to natural processes. In the past forestry and farming have been kept separate, often divided by a fence or a wall leading to the development of a stark boundary where landscape texture, colour, look and feel change suddenly. Our vision for the valley challenges us to facilitate the development of more blurred boundaries

where the extent of one habitat merging with another is difficult to define and perhaps new habitats develop which challenge our stereotypical understanding of habitat types such as forest and fell.

The introduction of cattle is principally about enabling a number of opportunistic processes where cattle disturb ground creating niches into which the seed from different species can germinate and grow. Whether they make it to full height depends on the availability of nutrients, light and water and grazing by deer *cervidae*, sheep *ovis aries* and the very cattle that provide the seedbed in the first place.

Large herbivores in Ennerdale – an Historic Context

As the often quoted verse from Ecclesiastes 1:9 says 'there is nothing new under the sun' so it is with cattle in Ennerdale. Research by Oxford Archaeology North (Wild Ennerdale Partnership, 2003) identified two vaccary (cattle farms) in Ennerdale in 1334 and these great walled enclosures can still be explored today. Indeed one of the vaccary, near Woundell Beck, was catalysis for the area known as Silvercove to be identified as the first extensive area for reintroducing cattle. The vaccary however has been given some additional protection with internal fences ensuring the historic walls are not damaged by modern relatives of the original medieval users.

Wild Cattle - a brief timeline of introduction

The introduction of cattle to the valley become reality in early 2006 when the first herd of animals was introduced to around 140 ha of recently clear felled conifer forest, ancient woodland and heath at Silvercove. Silvercove was chosen as the first area because it had no recent history of grazing and no existing tenancies so was relatively easy to establish.

In 2008 the renewal of a farm business tenancy provided the opportunity to introduce a second herd into the middle valley extending to around 250ha. This herd were initially excluded from an area of previously intensively sheep grazed inbye fields so that these would become rougher. The concern was that the cattle may decide to spend the whole time in the fields and not explore the valley bottom and forest if the field grazing was too good. This herd's area was to undergo an unplanned expansion in late 2009 when attempts to maintain a fence boundary across the River Liza failed following two successive years of significant flood events. Abandoning this boundary allowed the herd to wander freely up to 550ha of the middle valley.

In 2009 the tenant farmer managing the Silvercove herd suggested reducing his sheep flock at the eastern end of the valley under Great Gable and introducing a third herd into an area of 240ha known as Blacksail. This was

partly driven by and made possible by the expansion of the Silvercove herd through breeding. The latter herd was now at the capacity for the site and the farmer suggested splitting this herd taking some animals to the eastern end of the valley.

So by 2012 we have free roaming cattle grazing nearly 1000ha of Ennerdale.

Wild cattle – wilder people

As with the concept of wildness itself the introduction of wild roaming cattle challenged the cultural and traditional values we have of farm animals being regularly tended and managed to a defined end point, the production of meat. Their introduction required a change of philosophy, a standing back and waiting rather than being in control. There are three principal communities that were affected by the introduction of cattle, the farming community, visitors to the valley and the Wild Ennerdale Partners as land managers.

To capture the farming communities experience three of the valleys farmers were interviewed. Two of those interviewed now look after herds of extensive grazing cattle and whilst the third does not, they have been involved in sharing cattle grazing with one of the other two. When the introduction of extensive grazed cattle was first discussed with the farming community there were a number of common responses from existing farmers in the valley. The interviews explored these concerns and also how farmers felt now. These are summarised below

Welfare was the area that solicited the strongest concerns including *'how would they get enough to eat'*, *'would they maintain condition in winter'*, *'would they roam much or just stand at the gate waiting to be fed'* and *'how would they cope'*. Thinking about the situation in 2011 those interviewed expressed pleasure and some surprise with how well the animals coped making comments such as *'they've done everything asked of them'*, *'no bother at all'*, *'they make allot of decisions'* and *'Galloway cattle know what they are doing next'*.

There was concern that the size of the area that they could roam would make them difficult to manage. This can be seen in comments such as *'How far would they move'* and *'how would you find them'*. The answer to the first question has been that they move quite allot often some distance in a day. Finding them can occasionally be difficult but they have learnt to recognise the sound of their farmers vehicle and one farmer uses a loud 'yodel' like call which they respond to with their own bellow and rapidly make their way to where the farmer is.

The valley's farmers clearly saw that this was a change to their previous way of management. Comments such as '*hadn't done anything like this before*', '*frightened of it failing*' and '*having cattle out all the time was a new concept*' sum up a wider range of comments. By comparison farmers expressed different feelings now that the cattle were established one saying positively '*The cattle at Silvercove have changed the way we farm cattle at home*'. Other comments included '*the experiments worked*' and '*Dad was quite surprised it worked but pleased*'.



Figure 2 Farmer explains extensive grazing system to University students

In terms of members of the public there have been many who have supported and welcomed the new beasts. The choice of Galloways with their thick curly hair has won them regular comparison with bears. There is even a Youtube video published in 2008 which documents the finding of the '*rarely sighted bears in the Lake District*'. For many visitors the animals do often go unseen as the area they roam is significant. A search of comments left by visitors in the Ennerdale YHA diary revealed no comments about the cattle.

When it was first suggested that they be introduced there was concern that dog owners would be chased and people regularly frightened by cows with calves especially given the number of visitors, estimated at around 60,000, and many kilometres of rights of way which crisscross the valley. Five years on from their introduction there have been no formal complaints from members of the public. The worst criticism we have had informally is that the cows '*pooh on the footpaths*'. One of the Wild Ennerdale partners did meet a couple on mountain bikes with a pair of pet wolves on leads who had

turned back from riding up the valley because the cattle were encamped on the forest road. However they were not complaining, they accepted that their wolves and the cattle would be wary of each other. Encouraged to follow the Wild Ennerdale partner's vehicle along the road, the bikers and their wolves made it through the herd who moved aside for the vehicle and whilst interested in the wolves were not agitated or threatening.

Whilst the introduction of cattle to the valley was instigated by the Wild Ennerdale partners and therefore it is safe to assume that the Partnership had already decided to allow natural processes more self will, the experience of there introduction has at times challenged the Partnership. Initially the partners were keen to see Highland Cattle introduced as they had been farmed in the valley in the 1930's and were the iconic wild cattle breed. For a time we were quite focussed on this iconic species. However concerns over handling horned cattle and the risk they posed to visitors along with the farmers experience with Galloways suggested they would be a more suitable breed. It was when we returned to our Vision and Guiding Principals that we realised that we were being drawn by the Iconic nature of Highland Cattle when in fact introducing Galloways would deliver the same benefits and importantly would reward the enthusiasm of the farmer who was to take on the Silvercove tenancy.

One incident that has reminded us all of our vision and principals was our attempt to maintain a stock fenced boundary across the River Liza. This was aimed at keeping the Middle Valley herd from roaming across the eastern valley where native broadleaves were being planted. Whilst we fully expected to have to maintain this boundary we did not expect to have to completely change our thinking within barely 6 months of the introduction of the Middle Valley herd. In late October 2008 the River Liza experienced a significant flood event, one that made the National headlines when the Original Mountain Marathon (OMM), held to the east of the valley, was cancelled for the first time in its long history. The river smashed its way through the fence across its path burying it under significant amounts of woody debris and gravel. The Wild Ennerdale partners spent much of the following year discussing whether to reinstate the boundary only to be shown by another headline grabbing flood event in October 2009, this time focussed on Cockermouth and Workington. The River Liza moved 20m or more in places across the valley bottom again, bringing more debris into the river system. It was after this event that we realised that we should celebrate the power of natural forces and accepted that the boundary was not sustainable. The Middle Valley herd's area of roaming increased 100% and has stayed the same since.

Wild cattle – wilder animals

The question we often get asked is '*Are they wild*' referring to the cattle themselves. Whilst legally they are still domestic stock a number of episodes have given us an insight into the development of a perhaps a more self-willed animal.

Our first herd of cattle arrived in the valley in 2006 and we had an inkling that one of them, the oldest matriarch, was already pregnant. She was and gave birth unaided in the late spring. She wasn't unaided out of the desire of the farmer it was clear she didn't want help. Like many a wild animal she took herself away from the herd and gave birth in an area of scrub and bracken. We were all surprised and the farmer was very concerned when one day she went missing from the herd and could not be found. However this has now become the norm and like it or not we have all had to get used to absent mothers at calving time. Most cows are away for just a few days but the longest absence has been more than a week. Normally the cow rejoins the herd after a few days returning regularly to suckle the calve which is left hidden in scrub as if being sheltered from some predator. Another story shows how the herd has become a close family unit just like with many wild animals. One of our Middle Valley herd injured its foot to the point where it couldn't walk during its first year onsite. The Wild Ennerdale Partners and the farm tenant discussed what should be done and as the cow seemed in little pain we decided to see if it would recover and see what happened. For a while the cow did not move far at all, preferring to graze a very small area immediately around itself. During this period the rest of the herd exhibited very protective behaviour. They would graze away from the injured animal during the day but would always rejoin and stay with it during the night. As the injured animal improved and started to walk again members of the herd were often seen helping it by pushing it up steeper slopes. Unfortunately something happened after this point and the animal's health deteriorated again so we decided to remove the animal from the herd.

Lastly a more recent story sheds another angle on the strong bonds that develop between animals in the herd. In late Summer 2010 two herds managed by one farmer were both put to the same bull. The bull was allowed to roam with each herd for a couple of weeks. At the time the farmer and Wild Ennerdale partners noticed that when the bull was with the Blacksail herd roaming under Great Gable the bull was never seen interacting with the cows but instead always seemed to be alone. In spring 2011 when the cows were pregnancy tested none of the Blacksail herd was pregnant yet 4 out of 5 of the suitable cows in the other herd were pregnant. Discussing this incident since, the farmer has surmised that the Blacksail herd included two young bull calves which whilst not sexually active

may have been blocking the new 'interloper' bull from interacting with the females in the herd. The other herd in which the bull was successful was entirely made up of females.

Whilst the cattle have exhibited what might be described as 'self willed' behaviour they have also exhibited more tame domestic characteristics. Both herds have learnt to recognise the sound of their farmers vehicle often responding to its arrival with loud calling and sometimes appearing from a long distance away. Recently one of the Wild Ennerdale partners changed vehicles from a small car to a larger 4WD type and this now attracts similar attention where before the car did not.

One of the farmers uses a very loud call, almost but not quite like a yodel to call the animals when they cannot be seen or found visually. The sound of this call seems to carry long distance as the cattle can be heard only just replying with their own loud call perhaps up to a kilometre away and eventually arrive sometimes five minutes or more after they have been called.

Whilst the animals receive only minimal tending the character of each of the three herds is different yet for the most part tame and far from as wild as a wild animal such as deer are. The Silvercove herd are very sociable and friendly always keen to find out who the latest visiting group are. They are noisy too, bellowing out their recognition for their farmer's arrival. The Middle Valley herd are a more quiet reserved group who are inclined to retreat if you pay them too much attention. The Blacksail herd have yet to establish a different identity. Being only recently made up of cattle from the Silvercove herd they have carried with them the sociable interested character and can often be found standing around walkers staying at the Blacksail YHA.

Wild cattle – wilder treescapes

The process of landscape change across Ennerdale is generally a slow process with tangible, touchable results only becoming visible at the landscape scale after a minimum of ten years. Whilst extensive grazing of the first site at Silvercove is only in its fifth year we are just starting to see the results on the ground. The impact of the Middle Valley and Blacksail herds on the treescapes of the valley are not covered as they have not been active in their areas long enough to show significant results.

Before extensive grazing cattle were introduced into Ennerdale the Wild Ennerdale Partners decided to establish some baseline monitoring of the Silvercove site so that future managers can see the impact of cattle on the landscape. This focussed on four principal methods, photography, exclosures, vegetation quadrats and satellite tracking. The use of data from

a satellite tracking collar fitted to one of the herd provides an estimation for the whole herds activities as it moves around the landscape. Baseline vegetation quadrat surveys were completed before the cattle were introduced but have yet to be repeated so will not be reported on in this document. The use of photography is well known and will be used to illustrate the main changes discussed as will the satellite tracking data, The use of exclosures is maybe less well known and is described below. Exclosures are simply small fenced areas which are aimed at keeping grazing animals out rather than in. Typically the exclosures are no more than 0.015 hectare in size, being constructed from one 50 metre long roll of stock net. They take less than a day to erect and can be easily moved if required. They have been extremely valuable in illustrating the impact of grazing on the developing habitat as they are very easy to visit and provide very tangible ongoing and live feedback.

Walking around the site, comparing photos and looking at the habitats inside and outside the exclosures it is clear that the cattle grazing is having a positive impact in three key areas, diversifying structure and species and opportunities for change.



Figure 3. Exclosure showing impact of grazing

Inside the enclosures located on the areas where conifers have been clearfelled the habitat is fast developing towards a closed canopy woodland dominated by native broadleaves with a couple of non native pine *Pinus spp*, larch *Larix spp.* and spruce *Picea spp.*. Photos of the exclosures from just before the introduction of cattle show how quickly woodland regeneration

has established and dominated. During the first two to three years of grazing the habitat inside the exclosures looked the more desirable as there was a mosaic of heathland, scrub and native tree species. However in the last two to three years this structure has changed significantly as trees have gained succession over shrub and ground vegetation and are shading the latter out.

Outside the exclosures the habitat is much more diverse both in terms of species and structure. The cattle naturally spend more time in the lower valley bottom where forage is better and this has led to the lower lying areas being significantly grazed. Even so the vegetation is diverse and there are clumps of woodland regeneration and areas of scrub heathland. The upward growth of all species apart from a low stocking of conifer regeneration is being significantly kept in check by grazing. As you walk towards and onto the sloping ground the distinction between open grasses, heathland, grazed scrub and established woodland is blurred and the future development uncertain. The cattle clearly have preferred and regularly used pathways up and across the slope along which they graze. These areas have regenerated with native woodland species notably birch *Betula spp.* but the cattle are keeping most regeneration under a metre high. The grazed access corridors seem to connect to more defined glades where grazing and perhaps soil type are limiting woodland regeneration significantly. These latter areas currently look destined to stay open where as the scrub corridors could develop as woodland if the cattle choose a different route across the site and stop grazing along them.

When the Silvercove herd were first introduced, data from the tracking collar showed that during the first few months they did not roam far at all. This seemed to be a response to ample grazing in the valley bottom brought about by the site not having been grazed before. As time passed the herd have explored further and wider in their search for grazing and perhaps in response to weather and temperature. The tracking collar data shows for example how the herd react to temperature. The set of four maps below shows how during cold periods they tend to stay more in defined areas and don't roam far, presumably to conserve energy. This behaviour will have an impact on the treescape as where the herd spends more time the opportunity for woodland to regenerate is much lower.

Outside of the grazed routes and open glades there are areas of more dense woodland but very few areas that exhibit the same canopy closure as is seen within the exclosures. Leaving alone woodland regeneration the habitats outside the exclosures are developing a much more diverse mix of shrub and heathland species, wetland and wet meadow. In addition to generating a diverse species mix and structure it is clear that the natural process of opportunistic change is still ongoing. The herds patchwork ground disturbance caused by social 'pushing and shoving', 'pathway grazing' and 'hill climbing' all create random and newly appearing opportunities for

seedling germination and vegetation development. Areas of dense bracken under mature pine trees have been broken up by the cattle creating pathways within which you can find patches of disturbed ground containing young seedlings of birch where under the bracken there is no seedling regeneration just grass.

As this is not a scientific report we do not offer a species list which perhaps would capture the diversity and raw detail but the variety of texture, colour and mosaic of flora intermixed with trees and scrub is a joy to walk through and fascinating to watch develop.

Wild Cattle – future natural landscapes

So it is that we now have three roaming herds of cattle covering around 1000 ha of the valley. Whilst they are still considered domestic in the eyes of the law they roam large expanses of landscape, with limited tending, choice in their daily foraging and the freedom to enjoy all that the Cumbrian weather throws at them we would argue that they are some of the wildest animals in England.

The people involved in their introduction have become wilder as they have let go of past concerns and traditions and now have the confidence to stand back and allow the cattle to decide their own routine or seek them out to gain joy from seeing their calves, their teddy bear faces or learn how they survive the winters.

As a Partnership we continue to aspire to remove boundaries and give our cattle as large an area to roam as is possible. The experiment has only just begun, five years of grazing is just showing little glimpses of tangible change and benefit. The treescape of Ennerdale has benefited from these native black animals as they have lived up to the expectations we had for them to blur the boundary between forestry and farming, open and wooded landscape.

We do not know what the valley will look like in the future but one missing natural process is firmly back and helping to make Ennerdale a wilder valley for the benefit of people where nature determines the detail and we, as stewards, can only marvel and be excited by what the future natural landscape may look and feel like.



Figure 4 Cattle crossing the River Liza

References

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- Vera. (2009) Large-scale nature development – the Oostvaardersplassen, British Wildlife, June 2009
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