



The development, landscapes and habitats of the village of Allithwaite - a representative of overlooked lowlands of the English Lake District

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Issue number 1
08.09.2023



UK Centre for
Ecology & Hydrology

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The development, landscapes and habitats of the village of Allithwaite - a representative of overlooked lowlands of the English Lake District

1.1 Summary

Allithwaite consisted of only a few farms and cottages from the Seventeenth until the mid-Nineteenth Centuries, and maps of the development through the centuries are given. In the next 40 years, a large hall, church, vicarage and school were built followed by about 20 residences. In the Twentieth Century, over 170 new buildings were added, mainly in small estates but all were contained in the central area of the village because of effective planning control. Apart from the residential area in the centre of the village, the landscapes have therefore remained little changed since the Nineteenth Century and vary from the open tidal margins of Morecambe Bay to a patchwork of small fields, except for one area of open grassland on a low limestone hill. The landscapes are described together with the associated habitats using a standard classification. The field boundaries were mapped and are also shown and consist mainly of hedgerows but with walls on the shallow limestone soils and the habitats vary from small deciduous woodlands to limestone grassland.

This report was carried out under the personal supervision of UKCEH Fellow, Bob Bunce, with support from Claire Wood and David Howard.

1.2 Introduction

This work was initiated at a meeting on small-scale landscapes in Portugal, and then further reading showed that the local area of Allithwaite had been by-passed by descriptions of the well-known landscapes of the English Lake District. We therefore initiated an investigation into the ecological characteristics of the area around the village and found that there was a great deal of interest - hence the present report. We considered two hypotheses - firstly that in the absence of any literature there was little of interest in the village and secondly that the expansion of the urban area was uncontrolled.

Several texts were consulted - thus Aiken et al. (2000) in the book of the English Landscape include a chapter on Morecambe Bay, which, however, only describes the crossing of the sands. More surprisingly Hoskins (1955) in his classic book, *The Making of the English Landscape*, virtually ignores North-West England with only two pictures of the central Lakes, and for example, walls are not even included in the index. Also the map of enclosures is incorrect for the Furness District of Lancashire, although the comment that the ancient roads and hedges have invariably wavy outlines certainly applies in the village, confirmed by the application of Hooper's Rule (Pollard et al., 1974) to the age of the wavy hedges, being up to 100 years old. Many texts on other topics also omit the region. For example, Rackham (1976) in his book on the *History of British Woodlands* has no discussion about the woods of the Southern Lake District. These omissions are due to two factors firstly, the lack of detailed historical records because of the turbulent history of the region but also because most academics studying these topics are from Southern Britain. This paper will show that although the local landscapes are "ordinary" compared with the Lake District mountains there is nevertheless much of interest and value in the area.

The English Character Areas map (Natural England, 2014) has the whole of the Lake District as one unit and only mentions coastal landscapes briefly.

The scientific literature on small scale landscapes is mainly restricted to European examples, as described below, although the countryside of South-West England is well known for the high density of hedges, as described in the *Countryside Survey of Great Britain* (Norton et al., 2012). Hence, the present paper is designed to fill this gap in the literature by examining not only the landscapes and habitats of the village, but also its development since the Seventeenth Century.

The French word '*bocage*' from northern France is widely used to describe such landscapes and especially includes linear features such as hedgerows. The closest to a definition found is in Baudry et al. (2000): "the closed landscapes of the Atlantic fringe". However, as Baudry emphasises, such landscapes occur in many parts of the world beyond the Atlantic fringe. A high density of field boundaries is a generally accepted important feature of small scale landscapes and includes hedges, walls, lines of scrub, ditches and streams. Indeed the best known examples are where there is pastoral agriculture with many hedges and small fields e.g. Northern Ireland, Brittany, South-West England and Western Portugal. All these examples are in highly oceanic Atlantic Europe. Less well known and maybe less extreme examples are in Munster in Northern Germany, the Auvergne in France and parts of northern Spain, as described by Gómez Sal and González García (2007), who include "poly-cultures consisting of *bocage* with a diversity of uses in the Atlantic climate maintains (northern fringe)", as one of the nine agricultural systems in Spain to which a series of multi-dimensional models of different outputs is defined. The polycultural landscapes are seen as systems with strong traditional roots, as compared with, for example, conventional intensive systems. However other landscapes would fit into the small scale description e.g. parts of some landscapes in Belgium, small river valleys in northern France and terraced landscapes in Asia. Many of these landscapes would come within the definition of High Nature Value as described by Lomba et al. (2020) and their distribution in the European Union shown by Paracchini et al. (2008). However Kikas et al. (2018) have shown that this map has major gaps because of the limitations of EU databases, which is likely also to apply to the lowlands of the southern Lake District.

1.3 Background and landscapes of the village

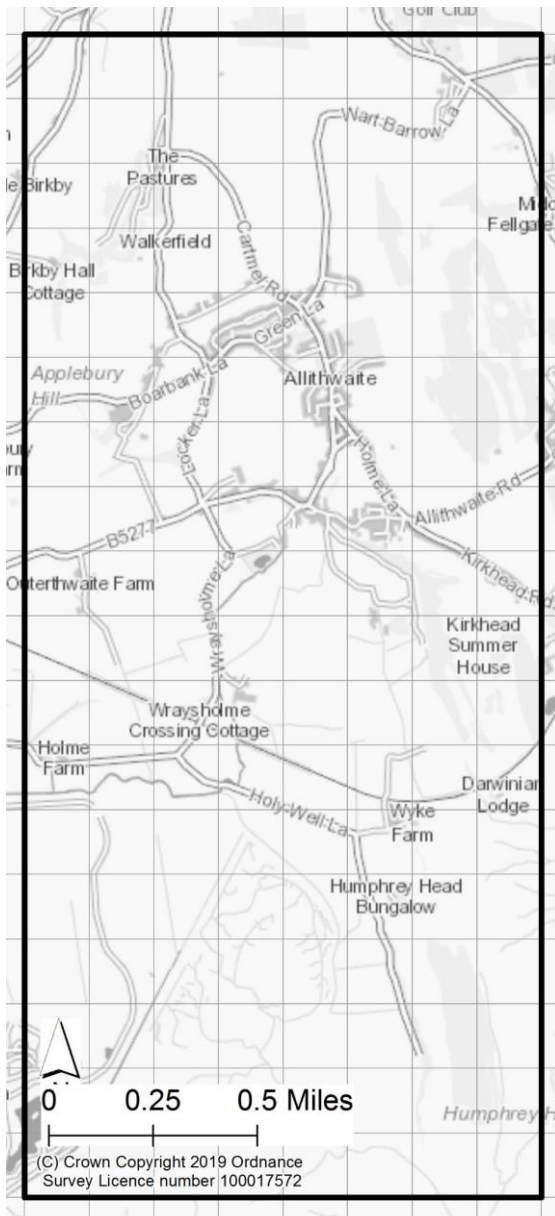
Allithwaite is a small village on the northern margins of Morecambe Bay, in north-west England on the southern edge of the English Lake District. Its location in Great Britain is shown in Figure 1 and its local distribution in Figure 2.

The extent of the village has changed over the centuries with Dickinson (1980) giving a historically wider interpretation than the population of the village would consider today.

Figure 1. The location of Allithwaite in relation to GB



This is because Grange-over-Sands, the adjacent town, has expanded into what was formerly part of Allithwaite. There is also confusion because the administrative unit of Allithwaite Lower extends to a far larger area than the present village centre. Upper Allithwaite is also another district some five kilometres away. Hence the derivation of the name described below probably refers to the general area rather than a specific location.



For the present report, local residents were consulted as to the boundary of the village but there was no agreement. Therefore the land managed by the farms belonging to the village was taken as the boundary, giving an area of about ten square kilometres around the village centre, which corresponds to the description of Dickinson (1980) but does not include Cartmel and Cartmel Fell, the other villages in the Parish Council of Allithwaite.

At the European scale, the entire region, including the mountains of the Lake District, belongs to the Atlantic North 1 stratum of Metzger et al. (2005) which also includes Wales, the Pennines and Western Scotland. However, as described below, there are only some low hills present as well as about two kilometres of coastline.

Figure 2. Allithwaite

In terms of the ITE Land Classification of Great Britain (Bunce et al., 1996), the central 1 km square is in land class 16e, with surrounding squares in the same land class, 13e to the west and 7e to the south east; these classes are all in the landscape type termed Pastoral (Bunce et al., 1996), as most 1 km squares are dominated by fertile grassland used by sheep and cattle. Pastoral landscapes extend from South-West to North -West England and have equivalents in west Wales. This group thus includes the well-known small scale landscapes of western Britain with plains or low hills often dominated by small fields with hedgerows and grasslands, in the *bocage* style.

The underlying geology is mainly Carboniferous Limestone which outcrops in several places and forms low hills up to 130 metres in altitude. The outstanding geomorphological feature is the promontory and cliffs of Humphrey Head which extends out into Morecambe Bay, as shown in Figure 4. There is also one exposure of Permian Conglomerate 500 m to the east of Humphrey Head. However, the limestone is mainly overlaid by various depths of glacial deposits of varying depths.



R.G.H.B. Kirbhead. Humphrey Head. Morecambe Bay, Wray, Holm, The Coastal Plain.

Figure 4. Humphrey Head

The moraine field of Applebury Hill, as shown in Figure 5, is a well developed example of its type and consists of a series of mounds extending east to west in a line for almost a kilometre.



Figure 5. Applebury Hill/Boarbank

The margins of the coast are flat (Figure 4) and are covered by marine deposits which were tidal until a combination of the Enclosure Acts at the end of the Eighteenth Century and the construction of the railway in 1857 closed off the sea. Accretion is still taking place in some parts of the Bay, especially to the east of Humphrey Head where there are over one hundred hectares of new salt marsh which has built up over the last 30 years.



Figure 6. Wartbarrow

Figure 6 shows the low limestone hill of Wartbarrow together with its open limestone grassland and fields below.

1.4 History

The earliest evidence of human occupation has been found in the limestone cave on Kirkhead where evidence has been obtained of use by man in the Upper Paleolithic Age. The site is a Scheduled Ancient Monument. The most recent excavation has been that by Ashmead (1974) who confirmed that the site was of late Neolithic age and found various flints in association with animal bones dated at 10,700 BP. An extensive superficial search was also carried out by Oxford Archaeology North in 2008 for the Caravan Park to the north of Allithwaite. The results were given in a report to Richard Whitton, available on the internet (<https://doi.org/10.5284/1026758>). Some other prehistoric sites were identified but the cave was the most significant and there was not sufficient other evidence to halt the construction of the Park.

There could have been other prehistoric settlements, but none have been definitely identified. There have also been some Bronze Age finds in the village. Very little is known about Roman times, although coins have been found in Cartmel. The main colonisers were however in Viking times – hence the name of the village which is derived, according to Dickinson (1980), from the Norse settler *Eilifr* who may have settled there in the Eleventh Century and could have been near the current nucleus of the village. Thwaite, was probably applied to land which had been a clearing in the forest for meadowland and is common in village names throughout Cumbria. 'Twit' is also a Norwegian word for the same landscape element. There is also the road called Locker Lane, derived from the Norse god *Lockie*.

The hamlet of Templand is said to have been taken from T'Hempland (Stockdale, 1872) because of the growing of hemp. However, it seems more likely there was a temple site because of the presence of a very old yew (*Taxus baccata*) tree of over 1.5 metres diameter at breast height (dbh) beside a barn, now converted into a residence. Yew was often planted for winter greenery in southern Scandinavia and is present by many old houses in South Cumbria as well as its common association with churchyards.

Stockdale (1872) and Dickinson (1980) give abundant details of the village in the Medieval period and the fortified farm, called locally a Pele Tower, of Wraysholme played an important role in the history of the period. Allithwaite was also on the route

from the crossing of Morecambe Bay to the Priory in Cartmel and therefore had some strategic significance in the period.

The biggest change to the local landscape was caused by the Enclosure Acts which started in 1796 and led to the village being divided up into fields owned by relatively few people, compared with the medieval commons with grazing rights and strip cultivation-still shown on Wartbarrow on the first Ordnance Survey map of 1858. Thus the whole structure and appearance of the landscape changed from a largely open appearance to an enclosed one of small fields. Much land was drained, bridges and roads were also built as described by Stockdale (1872). The full cost of these operations was considerable, with full details being given by Stockdale (1872) and the extent of the work was remarkable.

The old roads and hedges, often dating from medieval times are usually winding as described by Hoskins (1955) but those built after the Enclosure Acts are usually straight because of improved surveying methods. The age of these new hedges is confirmed by the application of Hooper's Rule because they have only one or two woody species and are therefore likely to be under 200 years old and date from the Victorian period.

Rowland, in several locally published papers (Rowland, 2023), has carried out a detailed historical study of the hamlet called Templand. This collection of houses was formerly separate from the main part of Allithwaite until the mid to late 20th Century, but as Figure 7 shows, it has now become joined to the main part of the village by the construction of new bungalows. These meticulous and detailed studies follow the progress of the Enclosure Acts from the late 18th to early 19th Centuries. At that time there were many small fields which had been formed during the Medieval period but were progressively allocated to different owners by an incredibly complicated and detailed legal procedures recorded in archives held in Kendal. Most of these detailed patterns have now disappeared and replaced by fewer and larger fields but consultation to the Rowland papers reveals that some small distinctive field boundary structures produced as a result of the Enclosure Act process still remain. These no longer have any function and are therefore landscape ghosts, as defined by Rackham (1976). Anyone interested in details of the process is strongly recommended to consult these papers because otherwise it is hard to appreciate the complexity of what went on. Stockdale (1872) provides valuable comments and was

in strong support of the process as it led to a more efficient the road system, better field drainage and improvement of agriculture, which, before the end of the 18th Century was very primitive. For example corn was reaped with a sickle and threshed with a flail. The main staple crops were barley and oats and there were some sheep and cattle. Around the beginning of the 19th Century liming was introduced as well as crop rotation and as stated above the Enclosures greatly speeded up this process. However, people who could not afford the large capital sums involved lost any land holding and often had to move into the new cities that were developing industries.

1.5 Development of the village

Figure 7 shows the pattern of expansion of the village from the 18th until the beginning of the 21st Centuries.

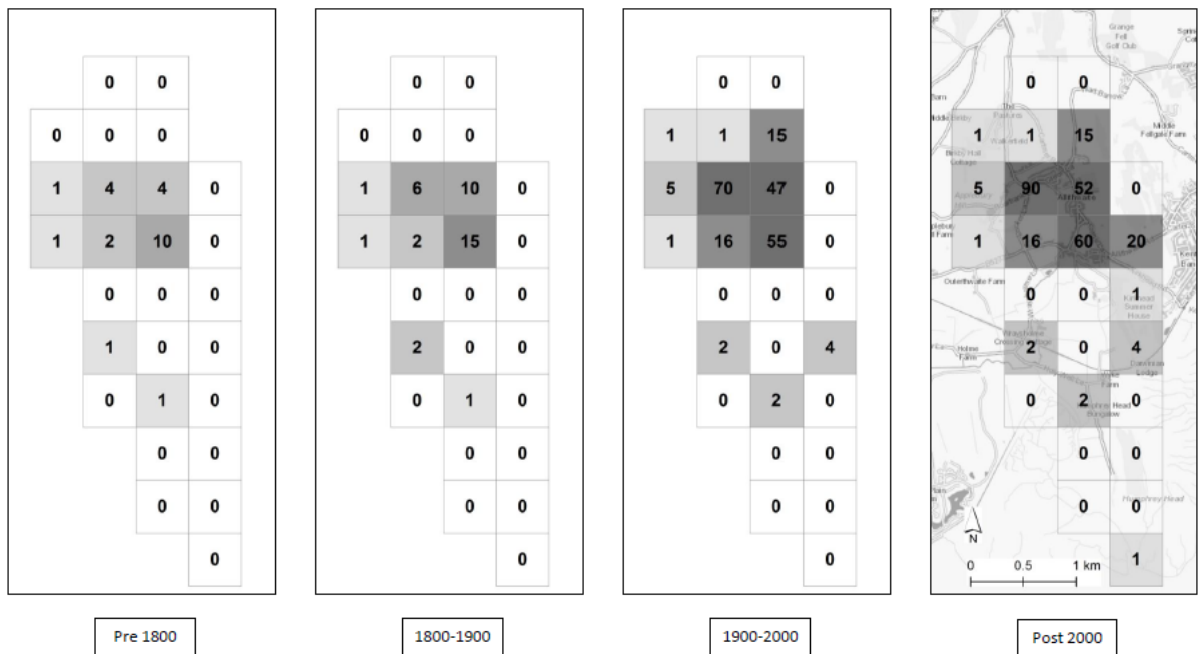


Figure 7. Expansion of the village

Figure 7 shows that by 1800 there were about 20 houses in the village, which should then have been considered as only a hamlet at that time as it did not have a church or school. By the end of the 19th Century, as shown in Figure 7, both church and school had been built and the village had expanded to about 40 residences and buildings. All these buildings had been built around the initial nucleus of the village

(as shown in Figure 2), mainly because of access to work in Boarbank Hall, the inns or on the local farms. The buildings in the countryside were farms with the exception of a railway cottage near Wraysholme. The map of the first Ordnance Survey, about 1850, shows the most notable difference from today; the large number of orchards, almost all of which have since disappeared being mainly converted into housing. The railway was built in the southern fringe of the village in about 1857 and improved communication, as the station of Kents Bank is two kilometres from the village centre. It also led to the expansion of the village later in the 19th Century as shown in Figure 7, as building stone could be brought from the Old Red Sandstone quarries in Furness about 20 kilometres away. Before that period all the houses were built of limestone from small quarries in the village. In 1900, Templand, in the north of the village, was still a separate hamlet. However, in the 20th Century, more houses were built, eventually totalling about 170, joining it to the main part of Allithwaite, which had become a true village in the 19th Century with the building of the church and school.

In the 21st Century, around 40 more houses are being built, as shown, but as in the previous century all these buildings were infillings to the core of the village.

It is therefore concluded that although the village has expanded greatly from the 19th Century, the rural landscapes around the centre of the village have remained almost unchanged, showing that at first the urbanisation was in response to local demand but later in the 20th Century due to control of building by local planners,

1.6 Description of the village geomorphology

The village can be conveniently divided into the following Zones whose distribution is shown in Figure 8.

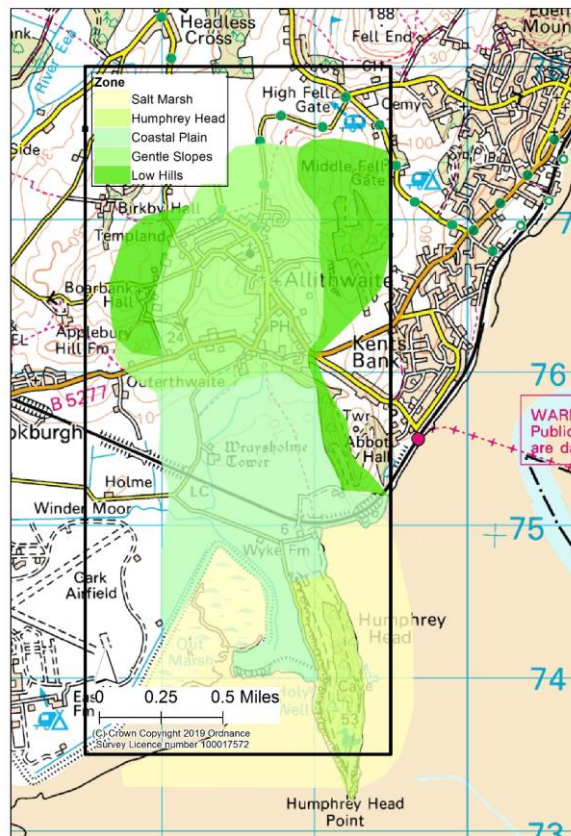


Figure 8. Geomorphologic zones

1. Saltmarsh - the estuary, as illustrated in Figure 4. Much of this zone is covered by the sea to varying degrees through the year, with the highest tides being in spring and autumn reaching a maximum of about 14 metres - one of the highest in Britain. Much of the area is bare mud and sand, the channels are always shifting and there are dangerous patches of quick sands. At the level of the highest tides there are extensive salt marshes, as described below.
2. Humphrey Head - the promontory of Humphrey Head, again illustrated in Figure 4. This zone is an outcrop of Carboniferous Limestone about 1.5 km in length and 0.5 km wide aligned north to south. The western face is a scarp with cliffs eroded by the sea of about 30 m in height. The dip slope extends to the east.
3. Coastal plain - The coastal plain between 0 and 20 metres. This zone was mainly formerly tidal until cut off from the sea in Victorian times. Wraysholme Tower and farm are built on land slightly raised above the general level of the plain.

4. Gentle slopes - the land in the centre of the village between 20 and 80 metres. This zone is mainly gently sloping. The underlying rock is Limestone but is covered by various depths of glacial deposits. The landscape of the Zone is shown in Figure 5.
5. Low hills - the low hills of Applebury, Wartbarrow and Kirkhead are between 80 and 120 metres. Although there are some small areas of limestone pavement on the latter hills the rock is mostly covered with glacial deposits with only a few outcrops and the slopes are generally not steep.

1.7 Habitats and associated biodiversity

General habitats:

Areal features

The terminology is that described by Bunce et al. (2008) with over 150 habitats defined on the basis of plant structure termed General Habitat Categories (GHCs). A list of those present with summary definitions is given in Table 1. The dominant habitat in the village is pure grassland (grass cover over 70 %). The majority of this grassland is cut for silage twice or even three times in the year with both slurry and inorganic fertiliser applied. Some hay-lage and hay is also cut and the swards are mainly dominated by *Lolium perenne*. Some fields are permanent pasture and are grazed throughout the year by sheep and cattle.

There are also significant areas of grazed meadows of mixed grasses and herbs on the low hills of Wartbarrow and Kirkhead as well as on Humphrey Head. Whilst most of these areas are neutral grassland, there are some patches of calcareous grassland where the limestone is close to the surface. The only area of true calcareous grassland is on the scarp of Humphrey Head which has a rich flora with many typical species such as *Helianthemum chamaecystis* and *Anthyllis vulneraria* as well as some rarities at the edge of their range in Britain such as *Geranium sanguinum*. *Sorbus lanceolatus*, one of the few endemics in Britain, also grows on the cliffs.

The other extensive area of mixed grassland has saline soils and consists of the salt marshes to the west and east of Humphrey Head. There is a gradient from pioneer marsh with *Spartina townsendii* and *Salicornia* species being the main colonisers, to

mature marshes dominated by *Festuca rubra* and *Agrostis stolonifera* with plants such as *Armeria maritima*. All the marshes are grazed by sheep, which are sold at a premium price as "salt marsh lamb".

On Wartbarrow there are some areas of *Ulex europaeus* forming mid-height scrub of non-leafy species (about one hectare) as well as some small areas (about 0.5 hectare) of tall scrub of deciduous species, for example, *Crataegus monogyna*. These patches of scrub were not on the aerial photograph of 1969 and indicate a decline in grazing on the rocky ground. Individual trees of this species are also present on the three hilly areas and on the outcrop of conglomerate. There are also some small patches of MPH/DEC and LPH/DEC on the exposed western face of Humphrey Head.

There are six patches of deciduous woodland covering about five hectares in all. These are present on shallow limestone soils and have not been grazed sufficiently heavily to halt tree growth. These woods consist mainly of native species mainly *Fraxinus excelsior* and some minor species such as *Ulmus glabra* with one patch being dominated by the non-native *Acer pseudoplatanus*. The exception is on the west of Humphrey Head where there is about two hectares of large oak trees (*Quercus robur*). The ground flora has many vernal species such as *Endymion non-scripta*, *Allium ursinum* and *Anemone nemorosa*. There are other Ancient woodland Indicators (Rackham, 1976) on the small woods shown on the Nineteenth Century maps such as *Tamus communis* and *Mercurialis perennis* suggesting that these woodland fragments were part of the original forest cover.

Non vegetated habitats are represented by the cliffs on the west side of Humphrey head and the rock detritus below them. There are also extensive sand and mud banks on the estuary, on the seaward side of the salt marshes.

Urban land is mainly in the centre of the village and is predominantly residential but there are also some playing fields, orchards and an allotment. Community centres include the Village Hall, the Institute, the church and the school. There are also separate groups of farm buildings, a caravan site and a sewage farm outside the urban boundary as well as some groups of residential buildings, for example adjacent to Boarbank Hall.

Special habitats

The habitats of Annex 1 of the European Habitat Directive and the Priority Habitats (Bunce et al., 2013; Maddock, 2008) of the UK Biodiversity Action Plan, pertaining to Allithwaite are shown in Table 1.

Table 1. The habitats of Annex 1 of the European Habitat Directive and the Priority Habitats

Annex I Habitat		Priority Habitat	
1110	Sandbanks which are slightly covered by sea water all the time		
1130	Estuaries		
1140	Intertidal mudflats and sandflats not covered by seawater at low tide		
1230	Vegetated sea cliffs of Atlantic and Baltic coasts	1	Maritime cliffs & slopes
1320	Spartina swards		
1330	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)		<i>Saltmarsh</i>
8240	Limestone pavements	2	Limestone pavements
9180	Tilio-Acer woodland forests of slopes, screes and ravines		
91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)		
91J0	<i>Taxus baccata</i> woods of the British Isles		
		3	Wet woodlands
		4	Lowland mixed deciduous woodland
		5	Calcareous grassland
91D0	Bog woodland	3	<i>Wet woodlands</i>
91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)		
6510	<i>Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)</i>		<i>Coastal & floodplain grazing marsh</i>
6210	<i>Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia)</i>		<i>Lowland calcareous grassland</i>
			<i>Traditional Orchards</i>



Type	Length in m	% of total
1 Wall	9363	22.1
2 Hedge and wall	3050	7.2
3 Hedge, wall, line of trees	2726	6.4
4 Line of trees	531	1.3
5 Managed Hedge	19305	45.6
6 Fence	3912	9.2
7 Hedge and line of trees	3440	8.1

Figure 9. Distribution of linear & boundary features

Linear features

All linear features in the village, outside the urban area, have been mapped as shown in Figure 9. The minimum mappable length was 30 m and the procedure followed is that described by Wood et al. (2017) and when the woody components reached over 5m they were classed as trees and mapped as lines.

- Hedges

The dominant linear features contain hedgerows which give the distinctive character to the landscape. They are mainly managed by flailing but many are left alone and are gradually turning into lines of trees. They are present throughout the village but are most abundant in Zones two and three. Until the Enclosures, the network was mainly along tracks and roads which have wavy outlines. These hedges can be estimated as up to 1000 years old using the Hooper method of one woody species for a hundred years (Pollard et al., 1974). Whilst *Crataegus monogyna* is the main species a variety of other trees and shrubs are present such as *Quercus petraea* and *Corylus avellana*. The ground flora of these hedges also have Ancient Woodland Indicators such as *Mercurialis perennis* and *Allium ursinum*.

By contrast, the hedges between the fields are mainly in straight lines and have two or less species, probably being planted during the enclosures. The ground flora is dominated by competitive species.

- Lines of trees

Apart from overgrown hedges, these are associated with Boarbank Hall and consist of *Acer pseudoplatanus* and *Fagus sylvatica* and are about 150 years old, and probably planted when the hall was built.

- Walls

There are also many walls especially on the low hills, as shown in Figure 9. The walls are important not only for their contribution to the landscape but also for biodiversity since they not only provide the surface for lichens and mosses but also give shelter for small mammals and insects and nest sites for birds.

The literature on walls is surprisingly restricted, compared with hedges, as pointed out by Rollinson (1969). A recent search also failed to find many new references. Rollinson (1969) does however provide more than adequate details of the characteristics of the walls in the Lake District with references to Furness which apply in Allithwaite.

Most walls were built at the beginning of the 19th Century after the General enclosure Act of 1801, as discussed in the historical section above. The walls have served a variety of functions over time, varying from the original objective of enclosure to the main modern one of controlling grazing. There is a diversity of styles and rock types and in some cases a mixture of ages of origin. The common linking factor is that no mortar is involved in the construction around fields and is only used adjacent to houses to protect from vehicle damage. Many of the rocks used for the walls were collected from fields to improve them for agriculture but these were supplemented by faced larger rocks from three small quarries in the village. Rollinson (1969) gives full details about the methods of construction, how the wallers proceeded and the skills that were involved. There are some examples of walls where pebbles of glacial origin were used which subsequently became grassed over - a common feature throughout Western Britain.

The main rock used is the underlying Carboniferous Limestone and all the quarried stone belongs to this series. Where rocks have been collected from fields, Limestone still makes up about 70% but there is also Silurian Slate, about 20% from the Lindale Fells about five km away, 10 % Granite from the Shap area about 25 km away, as well as miscellaneous other types. These have been deposited in glacial till by the glaciers.

- Grass and mixed strips by the roads and tracks.

Since the 1980s, these are mainly unmanaged except for a strips of about one metre by the edge of the road. As a result they are dominated by coarse grasses such as *Arrhenatherum elatius* and *Dactylis glomeratus* as well as competitors such as *Urtica dioica* and *Anthriscus sylvestris*. Before the 1980s the verges were managed by linesmen who cut them by hand several times a year enabling stress tolerant species such as *Adoxa moschatellina* to survive but these have now disappeared. Whilst the

botanical diversity is low they do provide cover for small mammals and food for a restricted range of insects.

- Watercourses

There are two short streams of about two kilometres in length, rising at the margins of zones two and three. The water is clear and aquatic macrophytes and marginal vegetation are present. On account of the limestone, there is no other surface water although there is a temporary spring in one of the woods. Otherwise, there are brackish channels in the marshes fed by underground water. On the coastal plain there also ditches with some helophytes such as *Phragmites australis*.

Point features

Two ponds are also present on the coastal plain with some amphibians present. Veteran trees are also present mainly along hedges but also beside walls. They are either *Quercus petraea* or *Fraxinus excelsior*. Other individual trees are much younger and have been derived from hedges. There are also scattered *Crataegus monogyna* trees on Wartbarrow and a patch of *Alnus glutinosa* woodland with standing water near Wraysholme.

- Allithwaite trees

A field survey noted many veteran trees i.e. those over 75 cm diameter at breast height (dbh), as the accepted size – more than would be expected in such a lowland area in the Lake District. Measuring them all was too great a task for this paper and have not been included in the results for reasons of brevity. Instead, a short paragraph outlines the range of variation. There are five woods over one hectare in the village and three smaller copses. There are also isolated, hedgerow and streamside trees. Oak and ash are the main species with some alder, holly and an isolated lime, There are also veterans in gardens especially beech but also sycamore, yew and planes as well as large Austrian pines. The largest oak measured was 1.6m ash, and yew 1.3m dbh.

1.8 Conclusion

Although the village of Allithwaite falls within a region of recognised small scale landscapes, it also contains a range of other features that do not come within this descriptive term, which is only applied in general and does not have a precise definition. Many other villages near the coast, whether in south west England, Brittany or North West Spain, will have similar variability even although they may come within regions that are dominated by small scale landscapes. Allithwaite is therefore a good case study to demonstrate the character of such landscapes and has a wide range of habitats and associated biodiversity.

1.9 References

- Aiken, J., Bryson, B., and Countryside Agency Staff: *The English Landscape, Profile*, London, 2000.
- Ashmead, P.: The caves and karst of the Morecambe Bay Area. In: *The Limestones and Caves of North-West England*, Waltham, A. C. (Ed.), David and Charles, Newton Abbot, 1974.
- Baudry, J., Burel, F., Thenail, C., and Le Cœur, D.: A holistic landscape ecological study of the interactions between farming activities and ecological patterns in Brittany, France, *Landscape and urban planning*, 50, 119-128, doi:[https://doi.org/10.1016/S0169-2046\(00\)00084-0](https://doi.org/10.1016/S0169-2046(00)00084-0), 2000.
- Bunce, R. G. H., Barr, C. J., Clarke, R. T., Howard, D. C., and Lane, A. M. J.: ITE Merlewood Land Classification of Great Britain, *Journal of Biogeography*, 23, 625-634., doi: <https://doi.org/10.1111/j.1365-2699.1996.tb00023.x>, 1996.
- Bunce, R. G. H., Bogers, M. M. B., Evans, D., and Jongman, R. H. G.: Field identification of habitats directive Annex I habitats as a major European biodiversity indicator, *Ecological Indicators*, 33, 105-110, doi:<https://doi.org/10.1016/j.ecolind.2012.10.004>, 2013.
- Bunce, R. G. H., Metzger, M. J., Jongman, R. H. G., Brandt, J., de Blust, G., Elena-Rossello, R., Groom, G. B., Halada, L., Hofer, G., Howard, D. C., Kovář, P., Múcher, C. A., Padoa-Schioppa, E., Paelinx, D., Palo, A., Perez-Soba, M., Ramos, I. L., Roche, P., Skånes, H., and Wrška, T.: A standardized procedure for surveillance and monitoring European habitats and provision of spatial data, *Landsc. Ecol.*, 23, 11-25, doi:doi:10.1007/s10980-007-9173-8, 2008.
- Dickinson, J. C.: *The land of Cartmel: a history*, Titus Wilson, Kendal, 1980.
- Gómez Sal, A. and González García, A.: A comprehensive assessment of multifunctional agricultural land-use systems in Spain using a multi-dimensional evaluative model, *Agriculture, Ecosystems & Environment*, 120, 82-91, doi:<https://doi.org/10.1016/j.agee.2006.06.020>, 2007.
- Hoskins, W. G.: *The making of the English landscape*, Hodder & Stoughton. , London, 1955.
- Kikas, T., Bunce, R. G. H., Kull, A., and Sepp, K.: New high nature value map of Estonian agricultural land: Application of an expert system to integrate biodiversity, landscape and land use management indicators, *Ecological Indicators*, 94, 87-98, doi:<https://doi.org/10.1016/j.ecolind.2017.02.008>, 2018.
- Lomba, A., Moreira, F., Klimek, S., Jongman, R. H., Sullivan, C., Moran, J., Poux, X., Honrado, J. P., Pinto-Correia, T., Plieninger, T., and McCracken, D. I.: Back to the future:

rethinking socioecological systems underlying high nature value farmlands, *Frontiers in Ecology and the Environment*, 18, 36-42, doi:<https://doi.org/10.1002/fee.2116>, 2020.

Maddock, A.: UK Biodiversity Action Plan; Priority Habitat Descriptions, Published online, http://jncc.defra.gov.uk/PDF/UKBAP_PriorityHabitatDesc-Rev2011.pdf, http://jncc.defra.gov.uk/PDF/UKBAP_PriorityHabitatDesc-Rev2011.pdf, 2008.

Metzger, M. J., Bunce, R. G. H., Jongman, R. H. G., Múcher, C. A., and Watkins, J. W.: A climatic stratification of the environment of Europe, *Global Ecology and Biogeography*, 14, 549-563, doi:10.1111/j.1466-822X.2005.00190.x, 2005.

Natural England: National Character Area profiles, <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles>, last access: 2023 2023.

Norton, L. R., Maskell, L. C., Smart, S. M., Dunbar, M. J., Emmett, B. A., Carey, P. D., Williams, P., Crowe, A., Chandler, K., Scott, W. A., and Wood, C. M.: Measuring stock and change in the GB countryside for policy: key findings and developments from the Countryside Survey 2007 field survey, *Journal of Environmental Management*, 113, 117-127, doi:<https://doi.org/10.1016/j.jenvman.2012.07.030>, 2012.

Paracchini, M. L., Petersen, J.-E., Hoogeveen, Y., Bamps, C., Burfield, I., and van Swaay, C.: High nature value farmland in Europe, An estimate of the distribution patterns on the basis of land cover and biodiversity data. EUR, 23480, 2008.

Pollard, E., Hooper, M. D., and Moore, N. W.: *Hedges*, Collins, London, 1974.

Rackham, O.: *Trees and woodland in the British landscape*, Dent London, 1976.

Rollinson, W.: *Lakeland Walls*, Dalesman, Clapham, 1969.

Rowland, P.: Cartmel Peninsula Local History Society, <https://cplhs.wordpress.com/village-histories/templand/> last access: 26/5/2023 2023.

Stockdale, J.: *Annals of Cartmel*, Michael J. Moon, Whitehaven, 1872.

Wood, C. M., Smart, S. M., Bunce, R. G. H., Norton, L. R., Maskell, L. C., Howard, D. C., Scott, W. A., and Henrys, P. A.: Long-term vegetation monitoring in Great Britain – the Countryside Survey 1978–2007 and beyond, *Earth Syst. Sci. Data*, 9, 445-459, doi:<https://doi.org/10.5194/essd-9-445-2017>, 2017.

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Nunc viverra imperdiet enim. Fusce est. Vivamus a tellus.

Mauris eget neque at sem venenatis eleifend. Ut nonummy.



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