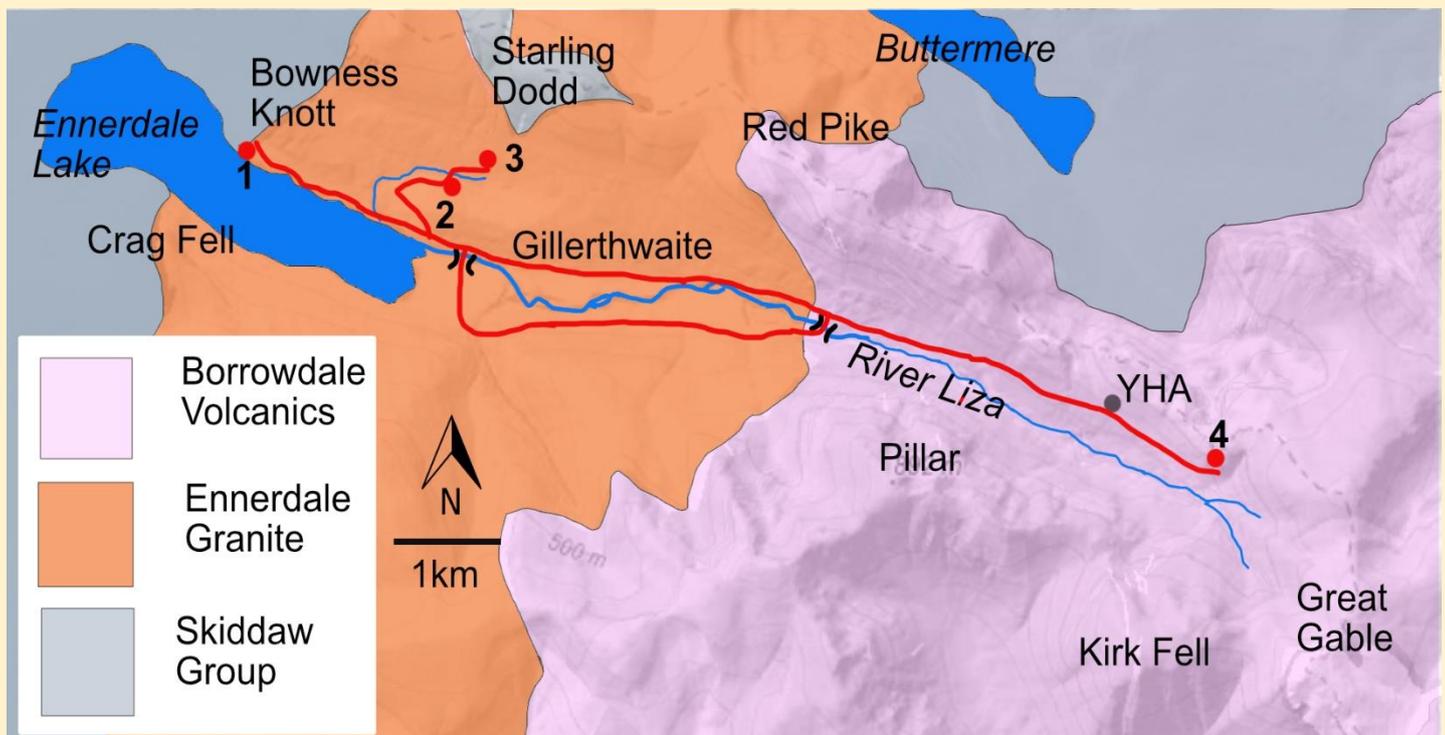


Ennerdale

Purpose: To experience one of England's wildest and most unspoiled mountain valleys, explore a unique medieval site, and see major glacial landscape features.

Practical details: The approach to Ennerdale recommended is via the road east from Kirkland (NY 073 180) to the crossroads at Cross Rigg (NY 086 183), where you turn right down the steep hill of Cauda Brow to Croasdale, and thence to Bowness Knott (NY 1093 1540). The head of Ennerdale valley is about 9km (about 1.5 hrs) of easy walking from Bowness Knott. The track is also an excellent one for mountain bikes. Map OS Explorer OL4



Geological and landscape background: Ennerdale runs from the Cumbrian West coast deep into the mountainous heart of the National Park. It is the only major valley in Lakeland to be free of traffic, and – despite extensive conifer plantations – creates a powerful impression of wildness. The landscape is the product of many centuries of interplay between geology, nature, and man, and the visitor is struck with a feeling of grandeur and remoteness rare in England.

In recognition of Ennerdale's unique amenity and environmental value, Natural England, the National Trust and United Utilities formed 'Wild Ennerdale Partnership' in 2003. This initiative is enhancing natural processes (such as the natural regeneration of native woodland), conserving and augmenting biodiversity, and preserving the valley's unique and nationally important geological and archaeological heritage. The Partnership has produced a 'Wild Ennerdale' trail, which can be downloaded [here](#).

The Ennerdale Valley runs across three main rock types: the Skiddaw Group in the west, the Ennerdale granite in the central section, and the Borrowdale Volcanic Group in the east, each producing distinctive types of mountain scenery. The valley itself is a classic glaciated U-shape, and glaciation has produced some exceptional hummocky moraine at the valley head.

Excursion details

The approach to Ennerdale

After Kirkland the road runs through an area of 19th Century iron ore workings, and the reddish-coloured spoil heaps from the mines can be seen on either side of the road on Kelton Fell. These iron ore deposits are part of the extensive West Cumbrian ore-field which was crucial to Cumbria's rapid industrial development in the 19th Century. Most of the major Cumbria iron ore deposits are found in the limestones of the Carboniferous, but here - unusually - they occur in Skiddaw Group rocks.



Spoil heap of a Kelton Fell iron mine

In Cumbria, the iron oxide mineral haematite was the principal source of iron, and small fragments can still be found in the spoil heaps. But beware – the red soil and mud in the spoil will stain your clothes and footwear, and is almost impossible to remove. No wonder Cumbrian farmers used to use haematite powder mixed with grease to mark their sheep.

As the road descends Cauda Brow to Croasdale the impressive view into the Lake District opens out. Bowness Knott dominates the near end of Ennerdale, and behind it runs the Pillar, Scoat Fell and Haycock massif.

If you can park safely it is worth stopping to look carefully at the summit of Crag Fell, which overlooks the opposite shore of this end the lake. This was the site of a major rock-slope failure sometime after the end of the last glacial period, when a large part of the fellside west of Angler's Crag slumped valley-wards, leaving the long crescent-shaped scar (known as a head-scarp) beneath the summit, and the series of parallel ridges running round the lower slopes of the fell.



The Crag Fell rock-slope failure as seen from Cauda Brow.

The Lake and Lower Ennerdale

As explained in Chapter 5 of the book, there are several large bodies of granite lying deep beneath the Lake District. The largest of these formed in late Ordovician times when molten rock (magma) rose into the crust. Some of the magma reached the surface to produce the ashes and lavas of the Borrowdale Volcanic Group, whilst the remainder cooled and solidified within the crust to form granite. Many millions of years of erosion have since stripped away the upper crustal layers, and in places like Ennerdale the granites are revealed at the surface, alongside the rocks into which they were intruded (in this case the Skiddaw Group and the lower part of the Borrowdale Volcanic Group).

The Ennerdale granite is one of these intrusions, and forms much of the fell country on either side of the eastern half of Ennerdale Lake – including Red Pike between this valley and Buttermere to the north, and to south as far as Wasdale – an area of over 50 square km in total. The granite is a dull grey-pink colour, and forms bulky rounded hills with only a few high crags, but which are cloaked in extensive aprons of blocky terrain.

The boundary between the western edge of the Ennerdale granite intrusion and the Skiddaw Group runs NE-SW down the side of Great Bourne, across Bowness Knott and then can be picked up again at Angler's Crag on the far side of the lake. Bowness Knott is scheduled as an SSSI (a site of special scientific interest) because of the presence of the granite/Skiddaw Group contact. Unfortunately, a larch plantation has obscured the area just to the east of the car park where the boundary runs, so it's no longer possible to see it up close.

It is however possible to recognise it on a larger scale, from a distance, and the easiest way to do this is to clamber to the top of the little heather-covered knoll on the other side of the track (ie on the lake side of the track), **Location 1** (NY 10892 15373). From here you can get a better view of the Knott and can just make out the distinction between the grey rocks of the Skiddaw Group which form the large crags facing you, and the lighter-coloured more subdued topography of the granite to the east (your right).



The SW face of Bowness Knott with the approximate line of the boundary between Skiddaw Group and Ennerdale granite marked. The granite is to the right of the line.

Notice also the relatively smooth rock on the top of the knoll. You are in fact standing on a roche moutonnee, with an ice-smoothed upper surface. It has a gentle east (up-valley) side, and a comparatively steep western side downstream of the direction of the glacier ice that flowed down the Ennerdale valley during the last glaciation.



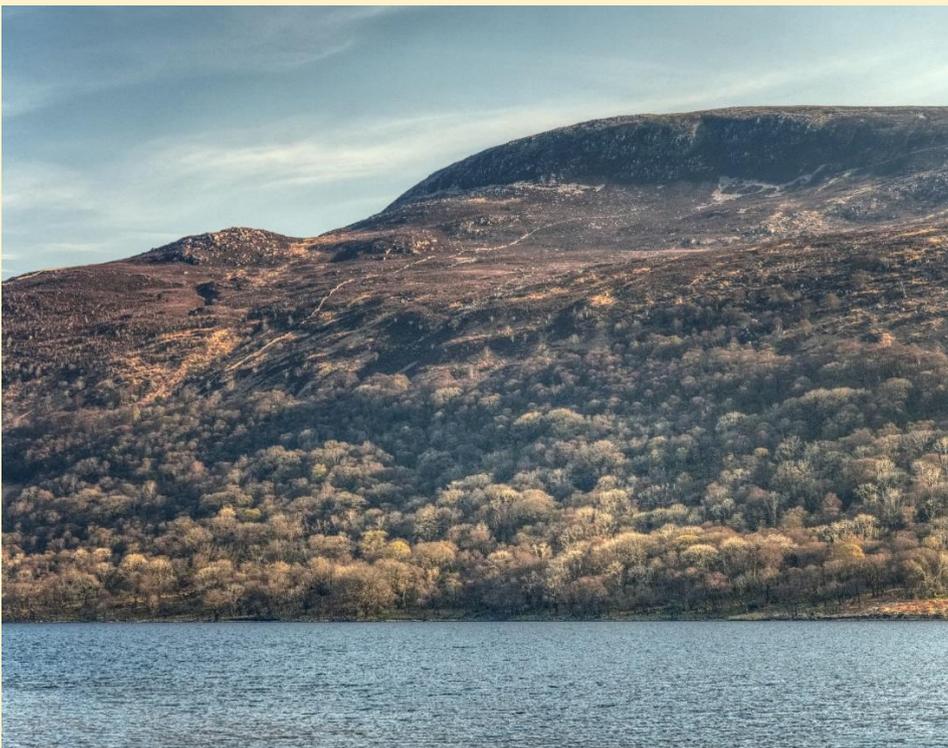
Location 1 the ice-smoothed top of the roche moutonnee at Bowness Knott

Around the edges of the granite intrusion, heat from the magma 'baked' the Skiddaw slates, producing a zone of rock much harder and more resistant to erosion than normal. This accounts for the rocky eminences of Bowness Knott and Angler's Crag on the opposite shore. West of this zone of metamorphic hardening, the rocks are less resistant to erosion and the glacier that carved Ennerdale fanned out as it left the confines of the valley. The western extremity of the lake is therefore wider and shallower than the up-valley section.

Natural and man-made forest

From Bowness Knott the track runs for 4 km to Gillerthwaite farm. You are in granite country here, and there are good views south across the lake to Ennerdale Fell, which is also granite.

Notice the deciduous woods on the far shore. These are some of the few remaining natural or semi-natural ancient oak-birch woodlands remaining in the Lake District, and are protected as part of the Ennerdale Water SSSI. Winding dramatically up the fellside from the left-hand edge of the woods is the 18c 'intack' wall which encloses the part of Ennerdale Fell known as The Side.



Ancient oak-birch woodland on the south shore of Ennerdale Water and the 18c intake wall.

Deciduous woodland on either side of the path gradually gives way to conifer plantation as you progress eastwards. The Forestry Commission started conifer planting here in 1925, despite impassioned opposition from lovers of the Lake District, and by the 1930s the entire valley was afforested as far as Black Sail youth hostel at its head.

A medieval mystery

One-and-a-half km after the car park, the track crosses Smithy Beck at (NY 12205 14658). About 100 metres beyond this, take the wide track on the left leading up into the forest. After a short while this track meets the little ravine of Smithy Beck and follows it up-stream. After another 300 meters the track turns sharp left to cross the beck. Just before this point there is a clearing in the woods on your right and within this open space you will find the remains of a stone building – the first of a number of enigmatic ruins which lie half-hidden in the forest here, **Location 2**



The ruins at **Location 2**.

Between the right-hand bank of the beck and the edge of the plantation there is a strip clear of trees along which runs a faint track where you will find several similar ruins, **Location 3**. They are rare and unusual examples of what archaeologists call 'double-walled long-houses', thought (on pottery evidence) to date from the 14th or 15th C. The exact purpose of the double wall is uncertain – did it provide storage space? Was it turf-filled for insulation? Support for a double roof? And why were the houses built here? Unusually, there are few signs of agricultural activity, and it has been suggested they might be connected to early iron smelting activity. There are remains of a medieval iron bloomery on the shores of the lake near the mouth of Smithy Beck (the name itself is a clue), and evidence of haematite workings in Clew Gill directly above the settlement site. The haematite veins here (and at other locations in the western Lake District) are part of the larger episode of iron mineralisation that took place in Triassic times, and gave rise to the huge haematite deposits of west Cumbria including those on Kelton Fell seen earlier.



Medieval settlement at Smithy Gill, Ennerdale, Location 3

The path continues upwards, eventually leaving the forest on the flanks of Starling Dodd. For the experienced fell walker there is a faint track up Starling Gill up to the summit. Note the blockfield (or blockslope) terrain here, a characteristic of many granite fells in the western Lake District. Granite is strongly jointed, making it prone to freeze-thaw shattering during repeated cycles of sub-zero and above-freezing conditions, such as would have been prevalent during and just after, the Younger Dryas between 13,000 and 11,500 years ago.

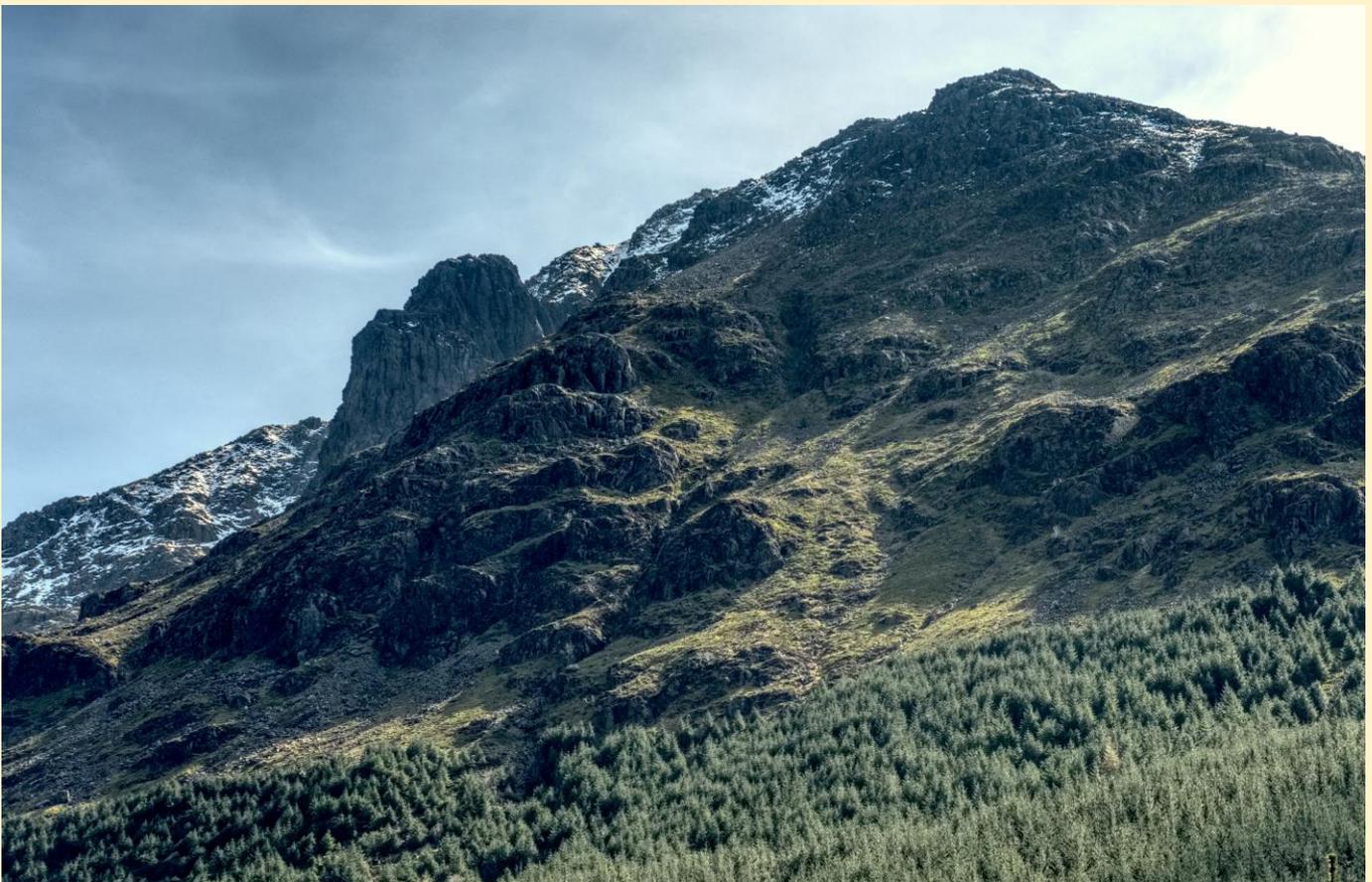


Herdwick sheep (centre of photo) on Ennerdale granite blockslope terrain, Starling Dodd

Upper Ennerdale

Return to the main track, and continue to Gillerthwaite at the head of the Lake. Here is the only good valley-bottom grazing land in the valley, lying on the delta of Lisa Beck where it flows into the Lake. This pasture land was probably enclosed and improved in early Medieval times, but the name itself is clearly Norse in origin (*Gil* = ravine, *Thveit* = clearing) suggesting an earlier Viking settlement. And there is evidence of even earlier occupation - a little further up the valley, where Low Beck joins the Lisa (about a kilometer after High Gillerthwaite YHA) are the remains of a Romano-British cairnfield and settlement.

Beyond High Gillerthwaite Youth Hostel the track enters the heart of the Forestry commission plantation. After about 2km you leave the Ennerdale Granite and enter Borrowdale Volcanic Group terrain. In fact, there is little to suggest this in your immediate vicinity, but in gaps through the tree canopy on your right rise the majestic bulk of Pillar and the fearsome tower of Pillar rock, which are built from andesite lavas of the lower part of the Borrowdale Group sequence. There are few more impressive sights in the Lake District.



Pillar and Pillar Rock as seen from the forestry track, Ennerdale

As you continue eastwards, the plantation on the left of the track thins out and you are rewarded by the panorama of Great Gable sitting at the head of the valley, with its small brother Green Gable beside it, separated by a saddle eroded along a fault line known as the Rossett Gill fault which runs all the way from here to Langdale.

On your left is Brandreth, and to your right Kirk Fell – all composed of Borrowdale Volcanic Group lavas and ashes. Notice the striking contrast between the jagged and complex appearance of the fells on right-hand side of the valley, and the relatively smooth slopes on your left. North or north-east facing slopes receive less solar radiation, and after the main glaciers retreated at the end of the last glacial period (and again during the Younger Dryas) smaller, high-level glaciers lingered on these slopes and eroded the high-level cirques that are so characteristic of the Lake District.



Upper Ennerdale with Great Gable sitting at its head.

Spectacular as these views are, the real reason we have ventured so far up the valley will be discovered on reaching the tiny Black Sail Youth Hostel (the remotest hostel in the Lakes). Take the path from the hostel and keep to the north side of the Lisa, heading towards Great Gable. This takes you through a striking collection of conical hillocks (**Location 4**) arranged rather like eggs in an egg-box. In 1873, the geologist Clifton Ward (who produced the first Geological Survey map of the area) called this 'perhaps the finest example of a large series of moraines' in the Lake District. The term for this landform often used today is 'hummocky moraine'.

Like similar features elsewhere in the Lake District, these were formed at the end of the last Glacial Period, when the amelioration of the climate was abruptly reversed by a plunge back into arctic conditions between 13,000 and 11,500 years ago – a period known as the Younger Dryas, when active glaciers returned to the valleys.

That they are glacial in origin is not in doubt (similar landforms are seen in many glaciated regions today), but the exact mechanism of their formation is still uncertain. Older textbooks describe them as features of glacial wastage – in other words piles of debris on the glaciers surface or at its snout was dumped in mounds as the glacier melted. More recent explanations invoke sediment within and under the glacier being scooped and pushed into mounds by moving ice.

As well as the hummocky moraines around the floor of the valley there are also a series of oblique elongated mounds which run across the south-west face of the Tongue (the long shoulder that runs up towards Green Gable). These probably represent debris that accumulated along the edges of glacier, deposited as a glacier retreated up-valley at as the Younger Dryas drew to a close.



Aerial view of the field of hummocky moraines (Location 4) at the head of Ennerdale Valley. Black Sail YHA can be seen top left.



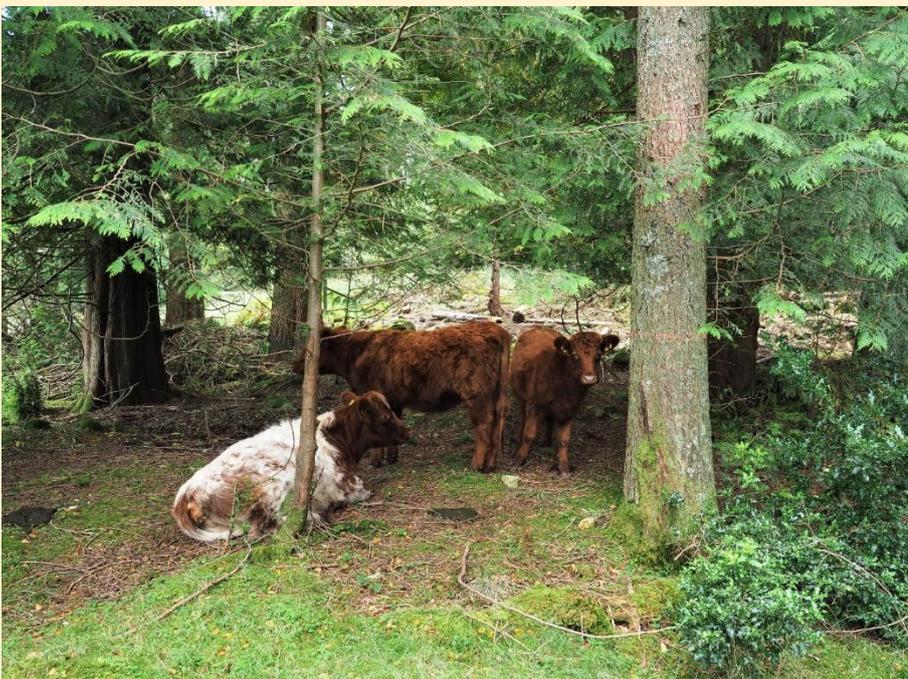
Oblique elongate moraines on the flank of The Tongue

You can return to Gillerthwaite the way you came (on the main track via the Youth Hostel) or, for more variety, cross the bridge 200m southeast of the Hostel at NY 19170 12295 and return via the track which runs along the opposite (southern) side of the valley. In places it is possible to get close to the south bank of the Liza and observe one of the key results of the Ennerdale re-wilding project: the river is flowing naturally, free from the dredging and bank stabilisation imposed on most Lakeland Rivers.



Liza – a re-wilded river

Look out also for the Galloway cattle which have been introduced into the valley. Their trampling and grazing help promote habitat diversity.



Galloway cattle in Ennerdale forest