



# *Cumbria GeoConservation*

## **Highlights 2024**

*Sylvia Woodhead*

*Geological co-Ordinator (WAF)*

*CBDC Recorders' Conference Feb 25*



Stanley Force – a new LGS (plans)

# Cumbria GeoConservation

Many talks, guided walks & school visits and more



On the way to review Ashes Wood LGS, in the rain

- Voluntary **Special Interest Group** of Cumbria Wildlife Trust. 3 meetings
- ~ 20 members, including NT, NE, AI, CWT
- Designate **Local Geological Sites (LGS)**
- Working to review & update site data
- To ensure protection through the planning system
- To inform & educate the public about LGS & geology of Cumbria
- Our records are held by CBDC
- CBDC hosts our web site
- [www.cumbriageoconservation.org.uk](http://www.cumbriageoconservation.org.uk)

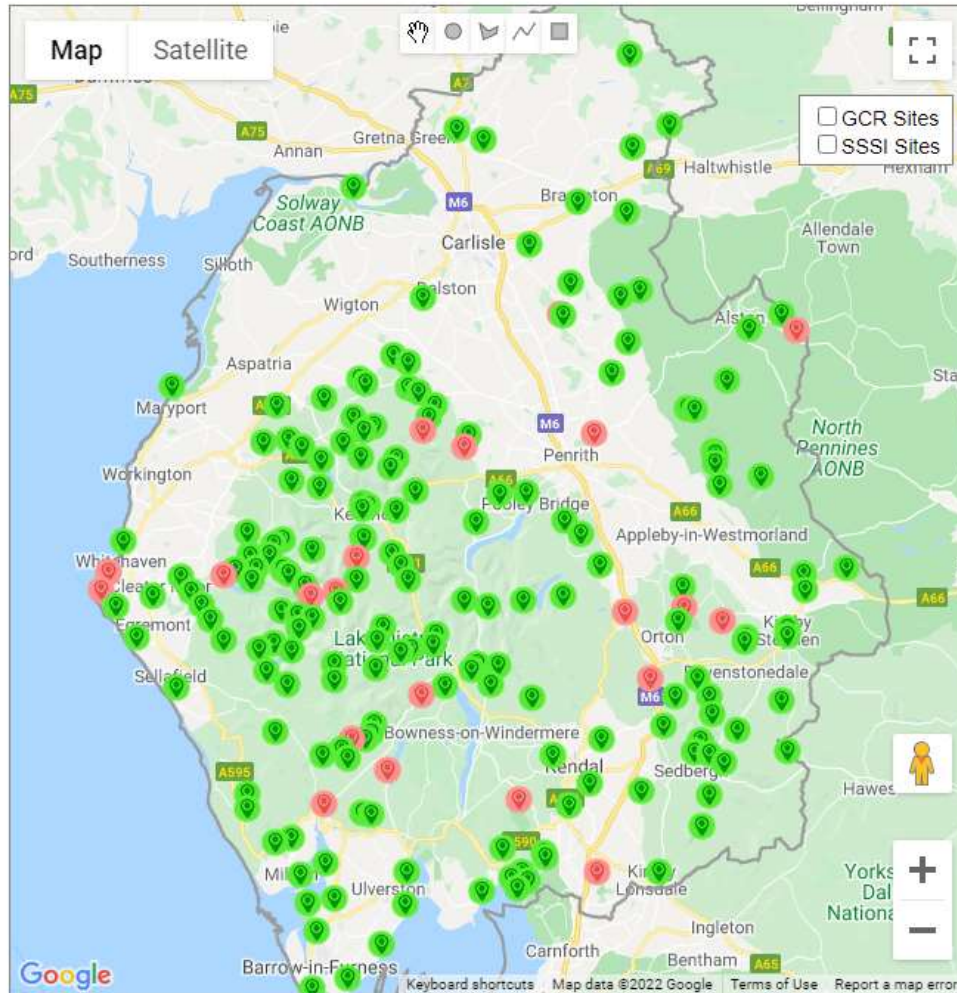
# Local Geological Sites, formerly RIGS

- Defra *Local Sites* 2006- RIGS became LGS
  - Geological equivalent to Local Wildlife Sites
  - **Guidelines for selection (GCUK)**
    - **Value for education and lifelong learning**
    - Intrinsic scientific interest
    - Landscape value & promotion of public awareness
    - Historical value and context of geological thinking
- Now around 300 LGS in Cumbria- details via CBDC
- Protected through the planning system
- Issues- obscured by vegetation, tree planting, how to record sites at risk from climate change?*



## CUMBRIA LGS SITES - ONLINE MAPPING TOOL

Google Map with drawing tools. Best browsed using [Google Chrome](#).



CBDC host our web site and LGS data.

Public interactive map

Red = 5\* sites (36)

**2024**

**Designated 4 new LGS**

**Archived 13 LGS**

**Visited 84 LGS**

**24 MSS updates, including boundary changes**

**20 planning responses**

**Web site regularly updated**

**Closer relations with Geologists Association, Natural England & Landscape Recovery Schemes**

**Considering designation of Ormsgill Banks, Barrow**

Site name  Search  Keyword  Search

Print this page  Reset map

# LGS review – update of data



Cumbria GeoConservation Group

Cumbria Biodiversity Data Centre

Phone: 01228 618717



<b>Site Name:</b>	<b>Binca Stone</b>	<b>Site No.:</b>	<b>7.052</b>
<b>Location:</b>	Thirlmere	<b>Area:</b>	LDNP
<b>Grid Ref.:</b>	NY317137	<b>BGS Map:</b>	29
<b>Easting:</b>	331679	<b>Northing:</b>	513804
<b>Access Description:</b>	<b>Mobility Access:</b> No Parking (2023) in Steel End car park (pay, coins only). Road on west side of Thirlmere is closed and gated. Walk along road. Several footpaths lead to Binca Stone		
<b>Exposure Type:</b>	Open fell	<b>Rating:</b>	4 Star
<b>Leaflet:</b>	-		
<b>Site Summary:</b>	A prominent smoothed outcrop, a large roche moutonnee, bedrock eroded by ice moving north. It is clearly seen from a distance and is named Binka Stone on OS Maps.		
<b>Site Description:</b>	A lovely glacial feature, a roche moutonnee with views over Thirlmere. The rock is a tuff part of the Borrowdale Volcanic Group (BVG). The rock has been plucked at its northern end by the ice as it moved north and there are igneous erratics at its southern end. In the rock, there are several sets of these air fall tuffs, fining up and showing evidence of water sorting and soft sediment deformation.		
<b>Reference:</b>	-		



Smoothed outline, showing layers within the rock.

#### More Photos:

[https://www.cbdc.org.uk/CumbriaLGS/Images/7\\_052\\_2.jpg](https://www.cbdc.org.uk/CumbriaLGS/Images/7_052_2.jpg)

[https://www.cbdc.org.uk/CumbriaLGS/Images/7\\_052\\_3.jpg](https://www.cbdc.org.uk/CumbriaLGS/Images/7_052_3.jpg)

[https://www.cbdc.org.uk/CumbriaLGS/Images/7\\_052\\_4.jpg](https://www.cbdc.org.uk/CumbriaLGS/Images/7_052_4.jpg)

[https://www.cbdc.org.uk/CumbriaLGS/Images/7\\_052\\_5.jpg](https://www.cbdc.org.uk/CumbriaLGS/Images/7_052_5.jpg)



**Archived LGS Head House Quarry, Cartmel.** In a private garden, never visited since designated in 1993. Carolina is on the junction of Park Limestone below & Urswick Limestone above



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Birkrigg Common, Ulverston – new LGS.  
Junction Park Limestone below, Urswick Limestone above



**Clints Quarry Moota, nr  
Cockermouth – subject of  
several planning  
applications**



## **Pebble Events**

West Walney Island (above),  
Roundhouse, May half term

Windy at Barrow Docks,  
August. Barrow mayor & her  
Consort.

Led to many school visits



Westmorland Dales

www.madeinc

Westmorland Dales Day July 2024, Kirkby Stephen

## Water Mills at Force Falls on the River Kent

The fast-flowing River Kent is said to have the steepest fall of any English river, in its short 32 km course from its source in upper Kentmere, to the sea at Morecambe Bay. The energy of the falling water has long been harnessed for water mills (corn, bobbin and paper mills), and its flow has been controlled by many weirs, such as the one below Force Falls. A bridge over the River Kent at Force Falls was recorded as needing repair in 1692. In 1773 an iron forge was established just below Force Bridge. This fell into disuse in 1816, leaving a great amount of debris from the furnaces all down the river.



The river's power at Force Falls was the site for the **Basingill Gunpowder Mill Scheduled Monument (left)**, which is seen on the east side of the river just 150m below the waterfall. It was built in 1790 to support the older Sedgwick gunpowder mills. Water was channelled from the River Kent a short distance upstream and taken along a leat. At the mills it was diverted at 90° to power the **water-wheel (below)**.

A tunnel carried water downstream to further mills and a second water-wheel. The mill used local ash wood for charcoal, while saltpetre and sulphur were imported via Milnthorpe.



The ingredients were crushed under massive water powered rollers. The gunpowder was used in local mines and quarries. The mill closed in 1935, after which the wooden-framed buildings were burned to remove explosives, leaving the thick stone blast walls, which can still be seen, as can the water management structures.



A **corn mill** was first established at Force Falls Fish Pass in 1345 (left).

## River erosion

Force Falls is a short stretch of bedrock channel in the lower course of the River Kent. The River Kent has cut down through the overlying less resistant Carboniferous Park Limestone into the Dalton Formation below, forming a deep gorge, which recedes upstream as the rock layers are undercut by the river's force, at a series of waterfalls. Undercut and overhanging rock layers can be seen from Force Bridge.



Undercutting the limestone by the River Kent. (above). Possible Park Limestone on the right of the picture, with a resistant bed on Dalton Limestone on the left. The river is eroding and deepening its bedrock channel of limestone by the power of hydraulic action. Fast flowing water dissolves the limestone and removes fallen blocks.



Force Falls is a **Local Geological Site LGS 5\_035**, designated by **Cumbria GeoConservation**, a Special Interest Group of **Cumbria Wildlife Trust**.



[www.cumbriageoconservation.org.uk](http://www.cumbriageoconservation.org.uk)

## FORCE FALLS SEDGWICK

A short road walk with a view of a gorge and waterfall on the River Kent



Flowing south from Kendal towards the sea, the River Kent crosses a resistant outcrop of Carboniferous Dalton Limestone in a series of waterfalls which, in the past, powered water mills.

**Park on the roadside at SD 507 869 by the River Kent**

Look at the river from both sides of the bridge. Take the old road for a short walk south to the Fish Pass Falls, and on to an underpass under the A 590. From here you can do a circular walk round Levens Park if you wish. You will need the **OS map OL7** for this extended walk

**Content** by Sylvia Woodhead **Design** by John Shippen  
March 2024

# WELCOME TO MILLOM ROCK PARK

Here in Millom Rock Park, at the edge of Ghyll Scaur Quarry, you can discover the remarkable and varied geology of Cumbria and surrounding areas. The region's rocks - examples of which are displayed here - form the foundations of the landscape. They span around 500 million years of Earth history and tell amazing stories about our distant geological past.

The rocks in Ghyll Scaur Quarry formed an ancient volcanic complex, similar in size to Mount Vesuvius in the Philippines in 1881. Find out more in the quarry viewpoint and along Rock Street.



The Rock Park panels replace an older set written by geologist Eric Johnson. Much of the geological information here is based on his original material.

Finally- to look forward to in 2025

Geological Interpretation boards; plans for great unveiling events in May 2025.

Millom Rock Park- 14 new boards

## Earth history exposed



**Home to the world's oldest volcano**  
The volcanic complex at Ghyll Scaur Quarry is one of the oldest in the world. It is similar in size to Mount Vesuvius in the Philippines in 1881. Find out more in the quarry viewpoint and along Rock Street.



You are at the western edge of an area of limestone hills with outstanding geology, landscapes and wildlife. The dramatic island in Holme Park Quarry ahead is protected as a nature reserve and displays superb geology in its rock faces. Quarrying has revealed rocks that give us fascinating insights into Cumbria's distant past.

**Geological time**  
The geological time scale is a system of chronological dating that uses geological strata to determine the age of the Earth. It is the primary method of dating the Earth's history and is used to describe the time and sequence of events that have shaped the planet.



**Quarrying reveals**  
The quarrying process has revealed a variety of rock types, including limestone, sandstone, and shale. These rocks are the result of geological processes that have taken place over millions of years.



**A haven for wildlife**  
The quarrying process has created a unique habitat for a variety of wildlife, including birds, insects, and plants. The quarry is a haven for many rare and endangered species.



**A local geological site**  
The quarry is a local geological site of interest, providing a unique opportunity to study the geological processes that have shaped the landscape. It is a valuable resource for geologists and the public alike.



Holme Park Quarry, Burton-in-Kendal, replacement board for Quarry Viewpoint LGS