

## Allenheads is in the North Pennines Area of Outstanding Natural Beauty (AONB) and European Geopark

The North Pennines AONB is Britain's first European Geopark, a status endorsed by UNESCO, and a founding member of the Global Geoparks Network. Geoparks are special places with outstanding geology and landscape, and where there are strong local efforts to make the most of geological heritage through interpretation, education, conservation and nature tourism. To find out more visit [www.europeangeoparks.org](http://www.europeangeoparks.org)



A capped mine shaft west of Allenheads

### Stories in stone

The North Pennines has been shaped by many different geological processes, environments and climates. The rocks that form the fells and dales of the area tell of this journey down the ages. By reading the landscape and spotting clues in the rocks, we can discover a fascinating story - of a deep ocean and violent volcanoes, colliding continents and molten rock, tropical seas and lush rain forests, hot water and minerals, desert dunes and vast ice sheets.

Thanks to Allenheads Trust, and to Brian Young for information about the route.

### Front cover: Miners' farmstead west of Allenheads

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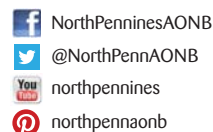
**NORTH PENNINES**  
Area of Outstanding Natural Beauty



The North Pennines is one of England's most special places – a peaceful, unspoilt landscape with a rich history and vibrant natural beauty. In recognition of this it is designated as an Area of Outstanding Natural Beauty (AONB). The area is also a Global Geopark – an accolade endorsed by UNESCO.

An interesting and varied 3-mile (4.8km) walk from the highest village in the North Pennines, exploring the area's geology and mining heritage.

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The AONB Partnership has a Green Tourism award for its corporate office

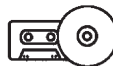


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# Allenheads Geotrail

## Rocks, minerals and mines



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**NORTH PENNINES**  
One of the  
AONB family

## Welcome to a special landscape...

...shaped by millions of years of natural processes and centuries of mining and farming.

The landscape around Allenheads has been over 300 million years in the making. From tropical seas and deltas to minerals and miners – all have played their part in shaping this beautiful landscape.

This circular walk will introduce you to some of the special features of the landscape around Allenheads. By spotting clues in the moors, fields and buildings you'll find out how to read the landscape and discover more about its fascinating past. The sections opposite describe how the local rocks and minerals formed, and tell you more about the area's rich mining heritage.

**Walk length/time:** 4.8 km (3 miles) with 110 m of ascent, taking about 1½ – 2 hours

**Start/finish:** Allenheads village long stay car park  
**GR:** NY 860 454

**Terrain:** This route follows public footpaths, bridleways and a short stretch of minor road. The route is on tracks and paths through fields, moorland and woodland, with several stiles and two small stream crossings. After a steady but gentle climb, the route is undulating. Walking boots are recommended as the ground is rough and boggy in places. **Please keep dogs under close control (on a lead on the moor and through fields) and leave gates as you find them. Take care near old mine workings and derelict buildings.**

**Public transport:** Bus 688 (Mon – Sat only) from Hexham. For timetable information call Traveline on 0871 200 22 33 ([www.traveline.info](http://www.traveline.info))

**Facilities:** The Hemmel Café and Shop, Allenheads Inn, the Blacksmith's Shop (small interpretation centre), the Heritage Centre (which has information on social history upstairs), public toilets, long stay and short stay car parks

### Useful maps:

#### Ordnance Survey

1:50 000 Landranger 87 Hexham & Haltwhistle

1:25 000 Explorer OL31 North Pennines

#### British Geological Survey

1:50 000 Geological Sheet 25 Alston



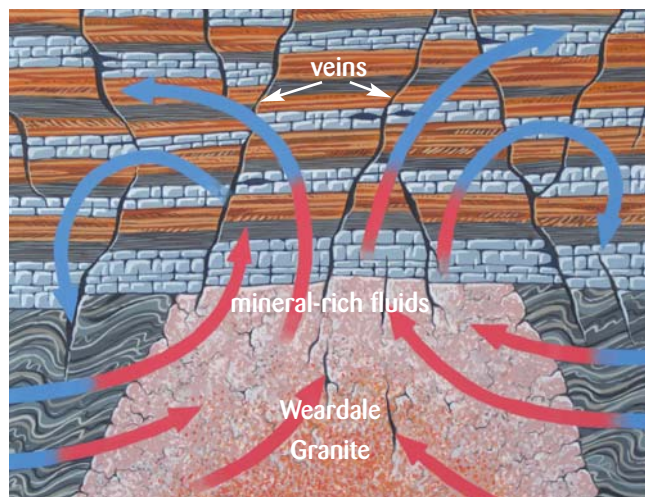
## Tropical North Pennines

The rocks that make up most of the North Pennines are layers of limestone, sandstone and shale. They formed in the Carboniferous Period, 360 to 300 million years ago, when the North Pennines lay near the equator. Limy ooze, sand and mud in tropical seas and deltas hardened into the limestone, sandstone and shale we see today.

The contrast in hardness of these different rocks has influenced the shape of the North Pennine hills. Layers of hard limestone and sandstone stand out as terraces, whereas the softer, easily eroded shales form the gentler slopes between the terraces. On this walk you'll see sandstone, limestone and terraced hillsides.

## Buried treasure

In the rocks beneath your feet there is a network of mineral veins. These formed about 290 million years ago, from mineral-rich fluids flowing through cracks in the rocks deep underground. These solutions were heated by a buried granite known as the Weardale Granite. As the fluids cooled, their dissolved minerals crystallized in the cracks, building up the deposits of lead ore, fluorite and other minerals for which the North Pennines is famous. These mineral deposits were mined for many centuries.



Elizabeth Pickett © BGS, NERC

## Centuries of lead mining

Lead mining at Allenheads probably started in the 16th century, but was at its height in the 18th and 19th centuries. It's hard to imagine now but 150 years ago Allenheads would have been a noisy, industrial place. It was the site of Allenheads Lead Mine, the most productive in the North Pennines, and the headquarters of a big lead mining company, W. B. Lead.

The mine workings are mostly hidden underground, but in the village you can still see the old washing floor, shafts and mine buildings. The surrounding hillsides are also covered with evidence of the area's lead mining past – as you'll discover on this walk.



Capped mine shaft and reservoir east of Allenheads

© NPAP/K Gibson

## Fluorspar mining

By the late 1800s the North Pennine lead mining boom was over and Allenheads Mine closed in 1896. But this was not the end of the area's mining story. In the 20th century, the mineral fluorite (known commercially as fluorspar) became important in the iron, steel and chemical industries. In 1969 British Steel reopened Allenheads Mine in the search for fluorspar, but the venture was unsuccessful and the mine closed again in 1981.



# Geology and landscape around Allenheads

Start at Allenheads village car park

## 1 Allenheads Lead Mine

Next to the car park is the old mine yard (seen below in 1870). This was the site of Allenheads Lead Mine and the washing floor for processing the lead ore. Between 1729 and its closure in 1896, this mine produced over 250,000 tons of lead ore ready for smelting into lead. The modern industrial buildings beside the car park date from a failed attempt to mine fluorspar in the 1970s.

From the centre of Allenheads follow a track past the inn to the Blacksmith's Shop (see Stop 14). Follow a small path round the back of the building and up a small valley.



© Beamish Museum Limited

## 2 Ventilation shaft

This narrow valley marks the course of opencast workings along the Old Vein, one of many veins worked for lead ore. A low wall surrounds a 70m-deep shaft which provided ventilation for the underground workings.

Follow the path to rejoin the main track and turn right.



## 3 Lead-tolerant plants

In late spring and summer look out for mountain pansies beside the track. These, along with other plants like spring sandwort and alpine pennycress, can tolerate lead-rich soil and thrive on areas of mine spoil.



## 4 Springhouse Reservoir

Water power was the most important source of power at Allenheads Mine. This is one of several reservoirs built to provide water to drive hydraulic machinery at the mine. In the village you can see one of the original hydraulic engines (Stop 14).

Go through the gate and turn right. Climb two stiles and head for some farm ruins.

## 5 Miners' farmsteads

Many lead mining families made ends meet by working small farms like this. The buildings are made of local sandstone and roofed with thin sandstone slabs. Don't go inside as they are unstable and dangerous.

After the buildings head to the right of a derelict cottage, passing a capped mine shaft. Join a grassy track and turn left to go in front of the ruins.



## 6 West End shafts and workings

To your right is an area of old workings, spoil heaps and shafts. Look out for lead-grey galena (lead ore) and purple fluorite in or beside the track.

Turn right just before the barn. Head downhill, climbing two stiles, to a farm track. Turn left and go along the inside edge of the meadows.



## 9 Allenheads Smelt Mill

At the bottom of the flue are the remains of the Allenheads Smelt Mill. There is a barn (once a peat store), some ruined walls and a small reservoir. The smelt mill was built around 1700 to smelt lead ore from mines in the Allen Valleys and Weardale, and closed in 1869.

Go through the gate and turn right.

## 10 The Great Limestone

From the bridge you can see layered grey rock in the riverbank. This is the Great Limestone, the rock in which the Allenheads lead veins were most productive.

Turn right after the bridge and follow the road.



## 11 Smelters' cottages

Mill Cottages on the left were where the smelt mill workers lived. Smelters were paid more than miners and were often provided with better houses because smelting was such a highly skilled job. In the 19th and early 20th centuries several of the houses here and further along the road were shops.

## 12 Methodist chapels

Many lead mining families were devout Methodists. Along the road you pass the Wesleyan Methodist Chapel on the right (now a private house) and, further on, the Primitive Methodist Chapel (now Allenheads Lodge) on the left.

## 13 Shaft mounds

Look out for a line of mounds, some with trees growing out of them, in the fields on the left. These are spoil heaps from shafts sunk during the construction of a drainage tunnel known as the Haugh Level.

Turn right to cross a footbridge. Climb uphill to meet a track, turn left and follow tracks and paths back to Allenheads.



## 14 Allenheads

There are many reminders of Allenheads' lead mining history in the village. Discover more about the area's geology and mining heritage upstairs in the Blacksmith's Shop, and visit the restored hydraulic engine in the middle of the village.

A low circular wall beside the crossroads in Allenheads marks the Gin Hill Shaft, one of several entrances to Allenheads Mine. The long, low building opposite was once the mine offices.



## 7 View over the East Allen Valley

From these fields there's a good view over the East Allen Valley. The opposite valley sides show horizontal terrace features, which mark layers of hard sandstone and limestone.

Go over a stile on to the moor and follow a track. Join a gravel track and turn right.

## 8 The Carriers' Way

This is an old packhorse route along which lead ore was brought from mines around Killhope in Weardale to the Allenheads Smelt Mill. Low ridges to the right of the track are the remains of the flue which carried fumes from the smelt mill in the valley to a chimney – long since collapsed – high on the moors.

Follow the track until it bears left. Then follow the old flue downhill towards a gate by a bridge.

