

Location & Access:

Welcombe Mouth is in a very remote location in north Devon, and can be accessed directly by car, or via a short walk from a nearby inn (see map at end). By car, the A39 Bideford to Bude (Atlantic Highway) road will take you past the Westcountry Inn and lead you on to Welcombe Cross. Here, you can turn right to the village of Welcombe, and follow narrow lanes to a car park at Welcombe Mouth at map reference SS213 179 (post code for Sat Nav: EX39 6HL). However, be warned! The last section of road to the car park is unsurfaced, and riddled with loads of deep and large pot holes.



Folding at Welcombe — photo: Paul Berry

Key Geography: Rocky cliffs, wave erosion, wave cut platform, waterfall, spectacular folding.

Description:



View of Welcombe Beach from the car park —photo: Paul Berry

A path leads down to the beach from the car park, where you can study cliffs of sandstone and mudstone rocks of the Upper Carboniferous period, known as the Crackington Beds. There are a number of caves to be seen, but the highlight of the beach is the superb examples of folding – evidence of geological events that took place around 300 million years ago in the Variscan Orogeny. An incredible overfold can be seen in the cliff face.

The Variscan Orogeny was a period of mountain building that took place in the late Carboniferous/early Permian periods and lasted for around 100 million years. At this time (when the Atlantic Ocean did not exist), plate movements resulted in the northern land mass of Laurasia (containing Europe and North America) *(continued overleaf)*

Curiosity Questions:

- # Lundy Island is visible from the Hartland coast. How long is the island from north to south?
- # The beach at Welcombe is an SSSI. What do these initials mean?
- # The car park at Welcombe is owned by the National Trust. What is the emblem of the National Trust?
- # What famous TV personality has a home near Welcombe village?

Further information:

- # <https://wordpress.com/post/devongeography.wordpress.com/8763>
- # www.hartlandpeninsula.co.uk

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colliding with the southern continent of Gondwanaland (containing South America, Africa, Antarctica, Australia, and India). This closed the Rheic Ocean that was located between the two giant land masses, and created a new supercontinent called Pangea.

In the Carboniferous period (290-350 million years ago, and before the plate collision), rivers from South Wales brought sediments into a basin containing a shallow, brackish sea – fine sediments leading to mudstone rocks, and coarser sediments leading to sandstones. As sediments were being laid down in this basin, mountain building was taking place to the south. The later squeezing of the two plates compressed the basin, buckling these layers and raising them high above sea level in the final stages of the Variscan. The exposed cliffs of Welcombe are the remaining stumps of these folded rock beds.



Folding at Welcombe —photo: Paul Berry



Sandstone and mudstone beds —photo: Paul Berry

Some of the beds in the cliff face have a distinct orange tint. When portions of the cliff have fallen away, often at a fault, percolating water has led to oxidisation of rich iron minerals within the rock. Interestingly, few of the beach pebbles share this colouring, having been stone-washed clean by the action of the sea.

A cobble storm beach of sandstone pebbles can be found at the base of the cliffs, and an extensive wave cut platform is visible at low tides. The near-vertical sedimentary beds have been eroded by the sea to produce shore platform ridges and gullies, with numerous fault lines also clearly visible. The sandstone beds tend to be lighter in colour to the darker mudstones, and as they are rather more resistant to wave erosion, tend to stand higher and prouder as ridges while the less-resistant mudstones

are worn away faster to produce gullies.

At the back of the beach, Strawberry Water tumbles down the cliffs as a waterfall. The lower course of this river's profile has been truncated by cliff retreat caused by marine erosion. The valley is so deeply incised that

the river ends as a 'hanging valley', descending as a waterfall in order to reach sea level at the beach.

As you leave the beach, look out by the path back to the car park for the layers of 'head' material that can be identified in the cliff profile. This porridge of mixed material was

infilled in the valley here due to solifluction in the peri-glacial conditions that existed at the end of the last (Devensian) glaciation, some 18,000 years ago.

If you cross the car park, you can cross Strawberry Water on the stepping stones to gain a view of the beach from the top of the waterfall.



Strawberry Water —photo: Paul Berry



Stepping stones above the waterfall —photo: Paul Berry

(continued overleaf)

The remote and wild Atlantic coastal valley of Welcombe Mouth is part of the designated Marsland to Clovelly coast site of special scientific interest (SSSI), and is itself a Geological Conservation Review Site.

If you want to explore another interesting coastal site in this area, check out the walk to Marsland Mouth elsewhere on this site.



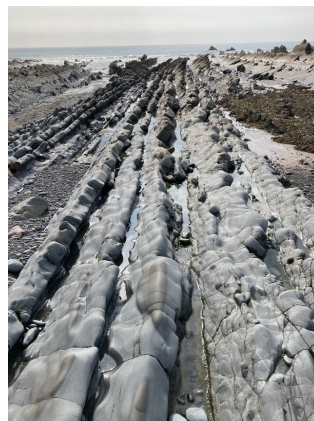
Tilted sedimentary strata at Welcombe —photo: Paul Berry



Faulting on the wave cut platform —photo: Paul Berry



Photo: Paul Berry



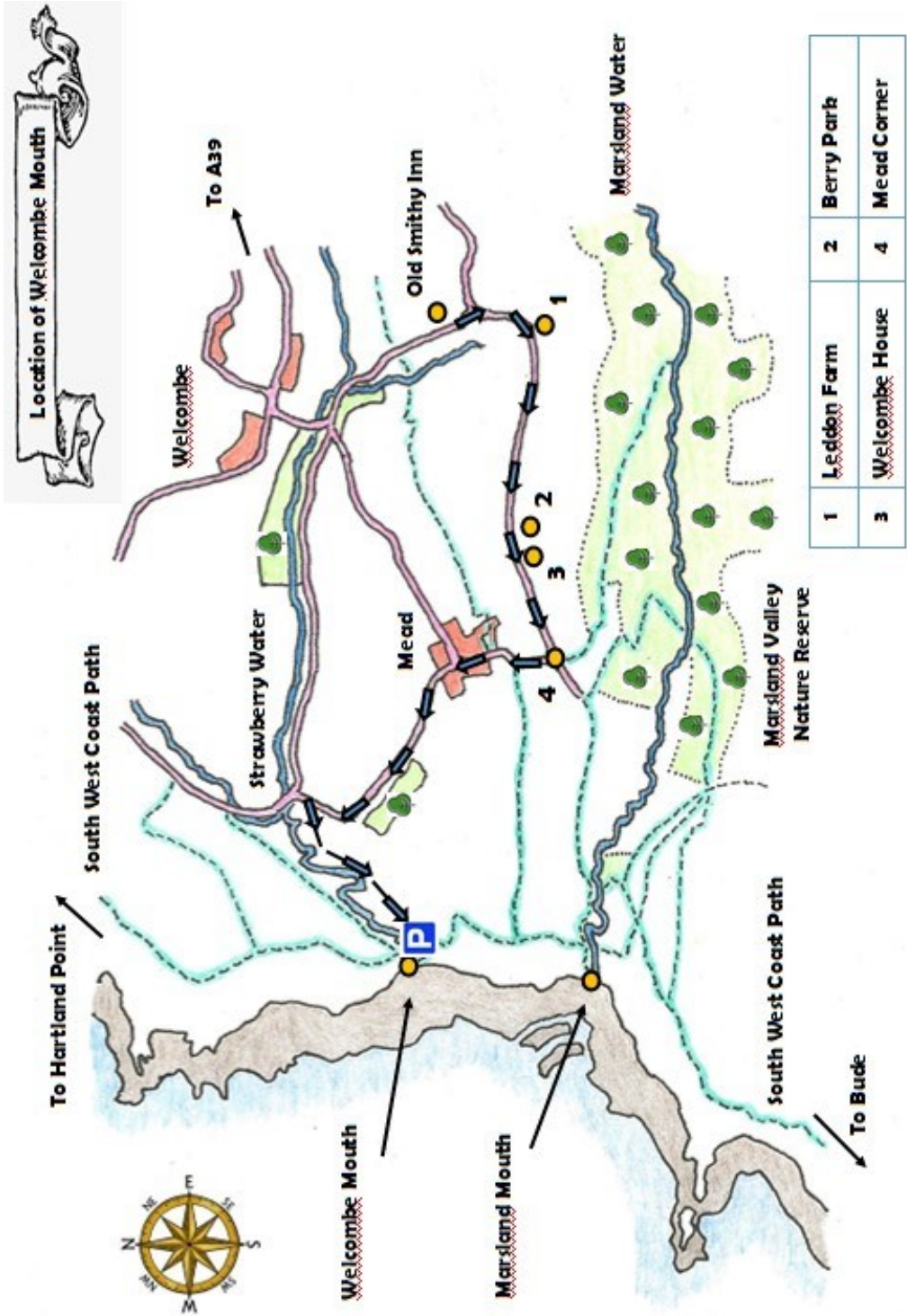
*Polished ridges of sandstone —photo:
Paul Berry*

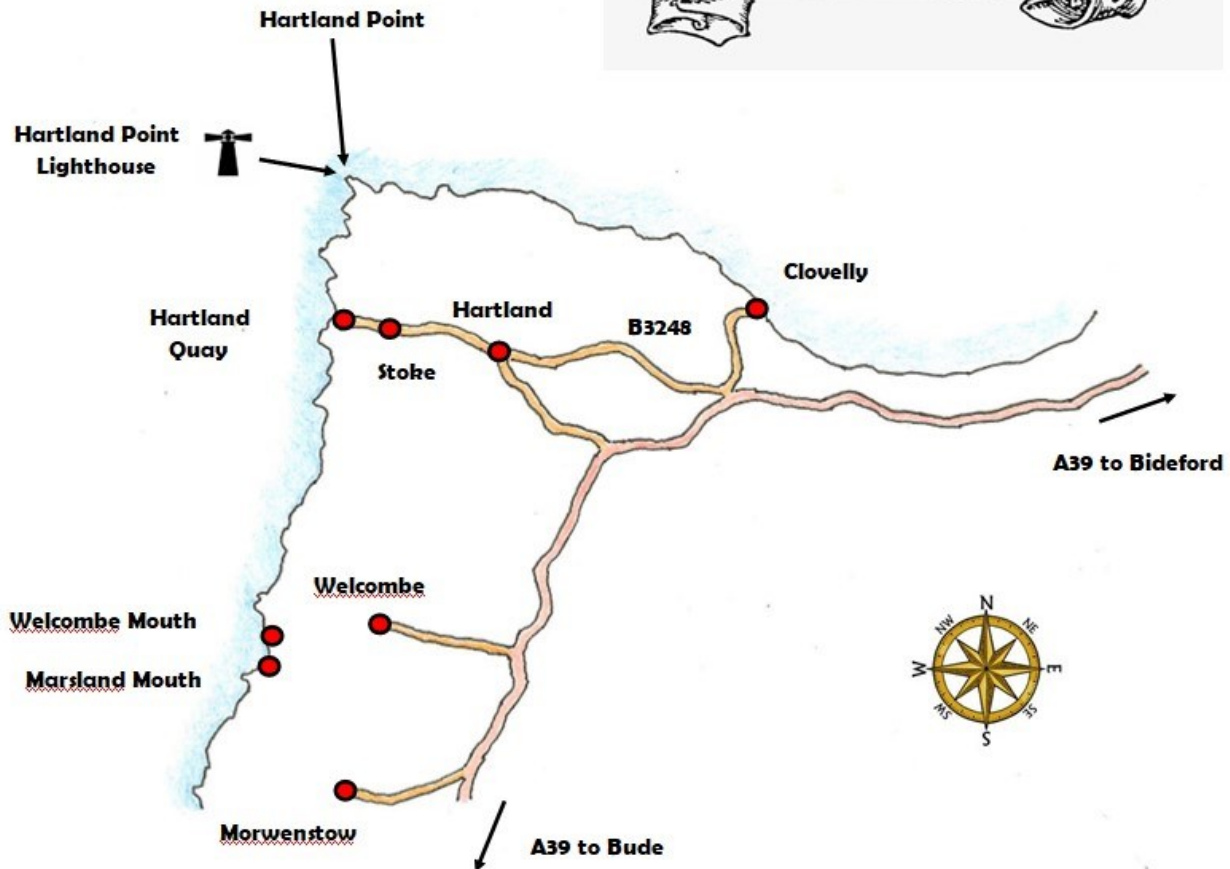


Welcombe caves —photo: Paul Berry

Alternatively, you can navigate your way to the delightful 'Old Smithy' public house at Darracott (SS231 179). From here it is a two mile walk along a quiet country road to Welcombe Mouth, but with some very steep sections. Don't forget to factor in another two miles to walk back!

To walk to Welcombe Mouth, leave the pub entrance, and turn right to follow the road. After passing an old public telephone box, the road takes you past a large dairy unit at Leddon Farm, Berry Park and Welcombe House, before reaching the Mead Corner road junction. A path here leads straight on to Marsland Mouth – a route described in detail elsewhere on this site – but you need to continue along the road around to the right to the hamlet of Mead. Take the left fork here, to travel steeply downhill to a four-crossways. Turn left and walk along the unmetalled road to the car park at Welcombe Mouth.





Answers to Curiosity Questions:

- # Lundy Island is visible from the Hartland coast. How long is the island from north to south? (3 miles)
- # The beach at Welcombe is an SSSI. What do these initials mean? (Site of Special Scientific Interest)
- # The car park at Welcombe is owned by the National Trust. What is the emblem of the National Trust? (An oak acorn)
- # What famous TV personality has a home near Welcombe village? (Property guru Kirsty Allsopp)