

Location & Access:

Ladram Bay is located on the East Devon coast between Budleigh Salterton and Sidmouth (GR SY 0970 8520; Sat Nav EX9 7BX).

Ladram Bay is accessed via the village of Otterton, just off B3178 Budleigh to Sidmouth Road.

It can also be accessed via the South West Coast Path.



George the Third stack, Ladram Bay

Key Geography: Stunning section of the South West Coast Path - part of the Jurassic Coast World Heritage Site. Triassic geology, steep cliffs, coastal erosion, sea stacks, cross bedding.

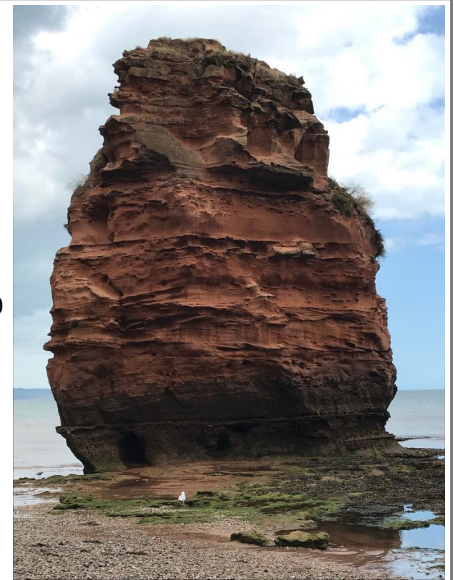
Description:

Ladram Bay is dominated by the five star Ladram Bay Holiday Centre, and although this is a private beach, there is access to the public. Car park fees are £10 a day during summer months. Some services (refreshments and toilets) are available to the public.

Ladram Bay offers a range of leisure activities – swimming (no life guards), fishing, hire of kayaks, paddle boards and motor boats. However, no dogs are permitted.

Ladram Bay is a secluded bay with a flint and chert pebble beach backed by around 200 metres of tall cliffs of Otter sandstone. These represent deposits made in the Triassic Period around 230 million years ago. At that time, Devon and Dorset would have been located at a latitude around 10 degrees north in hot, arid desert conditions.

The main features here though, are the impressive sea stacks. These structures contain numerous fractures and vertical joints that are eroded by the sea to form caves at sea level, which then develop into arches as the sandstone headland is attacked by wave action from both sides. The roofs of these arches eventually became so unstable they collapsed to leave the stacks we see at Ladram today. In 1925, the last arch in Ladram Bay collapsed to isolate a stack. Old postcards and photographs in the Pebbles restaurant show views of the old arches from the beginning of the 20th Century, and an excellent noticeboard in front of the



Sea stack, Ladram Bay

(continued overleaf)

Curiosity Questions:

Why are rocks in cliffs at Ladram Bay coloured red? # What are names of stacks to be found east of Ladram Bay beneath High Peak headland? # The Jurassic Coast covers around 185 million years of our geological history. The Triassic Period (up to 250 million years ago) is well represented to the west of the World Heritage Site, but what are the names of the two other younger geological periods represented as you travel eastwards?

Further information: www.ladrambay.co.uk
<https://GetOutside.ordnancesurvey.co.uk/local/ladram-bay-devon>
<http://www.southampton.ac.uk/~imw/Sidmouth-Devon.htm#5-WESTSID-1>

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restaurant clearly explains how processes of erosion have shaped this landscape. Given time, the stacks themselves will be undercut and collapse as well, overcome by the force of the sea.

It is interesting to consider why stacks appear here at Ladram, but not further along the coast. Certainly, faults and joints are more common here, and there are also hard beds of rock that form a tough platform on which the stacks sit, resisting sea erosion. Some of the sandstone stacks here are capped by small pinnacles of Mercia Mudstone, and this is most obvious in the Hern Point stacks to the east of the bay. The same mudstone layer appears above the Otter sandstone in the cliffs of High Peak and beyond.



The cliffs and stacks below the restaurant display superb examples of cross bedding. Here, thin curved layers in the rock cut across each other – a sign of either wind or river deposition. In deserts, layers of sand build up in dunes which then migrate and change direction with the wind. This creates a cross-bedding pattern. Changing river channels can produce the same effect, and this is what we see here at Ladram Bay.

Cross bedding in the cliffs below the restaurant

Numerous caves can be explored at the head of the beach, and there is a really interesting honeycomb effect in the cliffs, caused by wind and salt erosion and weathering. A wide wave cut platform is exposed at low tide at the far western end of the bay, leaving numerous rock pools to explore.

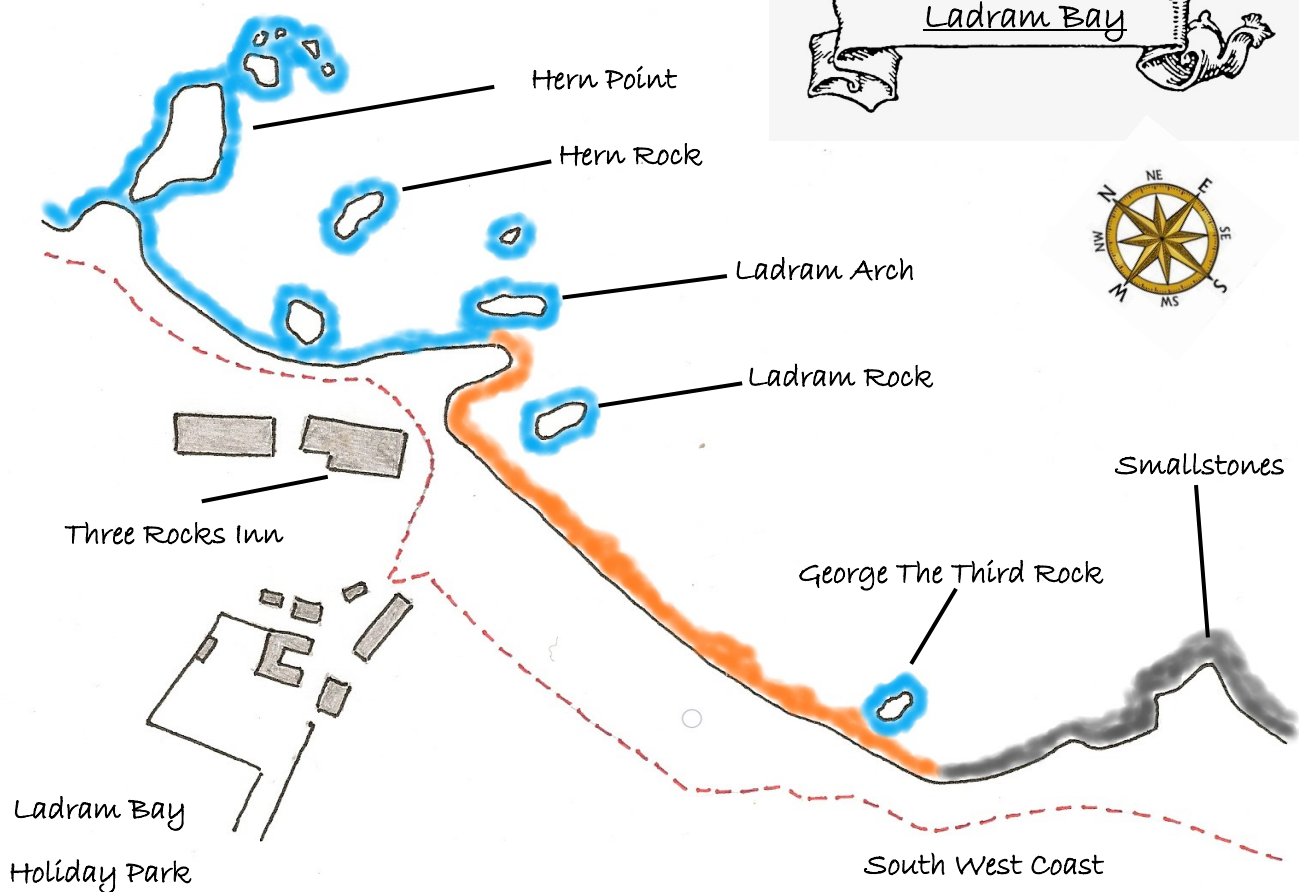
At the south-west end of the bay, some fossils can be found in the sandstone cliffs - groups of vertical, tube-like features called rhizocretions. During the Triassic period around 235 million years ago, ancient plants grew here amongst the shifting streams of a desert river system. The roots of these thirsty plants burrowed down into the soft red sand of the desert, drawing on any water they could find. Minerals that were dissolved in the water grew in crystals around the roots and encased them. As time passed, the streams moved and the plants died. But the encased roots remained as fossil evidence for us to examine.

Exploits of smugglers play an important part in local folklore, and the numerous hidden coves in this area provided numerous secret hideaways for illicit trade. Ladram Bay has a history of smuggling, and was a favourite haunt of the legendary John Rattenbury from Beer who often landed contraband here. In February 1816, Rattenbury's boat 'Volante' hauled 35 kegs of spirits to Ladram from 4 miles offshore of Sidmouth where it had been dumped at sea. He stored it here in a cliff-top ploughed field, although he was thwarted by the authorities who discovered his cache before it could be removed.

You could extend your visit with a walk – perhaps east along the South West Coast Path to Sidmouth (3.5 miles), passing High Peak, Windgate and Peak Hill. Alternatively, west along the South West Coast Path to Budleigh Salterton (3.5 miles), or even further to Exmouth (8.5 miles). You may prefer a circular walk that would take you inland to the village of Otterton (5 miles).



Hern Point stacks to the east of the bay



Answers to Curiosity Questions:

Why are rocks in cliffs at Ladram Bay coloured red? *(Due to iron oxidising and staining the geology - rusting the rock)*

What are names of stacks to be found east of Ladram Bay beneath High Peak headland? *(Big Picket and Little Picket)*

The Jurassic Coast covers around 185 million years of our geological history. The Triassic Period (up to 250 million years ago) is well represented to the west of the World Heritage Site, but what are the names of the two other younger geological periods represented as you travel eastwards? *(Jurassic – 200 to 140 million years; and Cretaceous – 140-65 million years)*