geography southwest

Place To Walk

Westward Ho!, North Devon

Location & Access:

Westward Ho! is located on the north Devon coast, 2 miles from Bideford and 8 miles from Barnstaple—accessible via the A39 road.

The car park for the start of the walk is located at Seafield (SS 4235 2904), but there are other car parks in the village.

The 21A Stagecoach bus service links Westward Ho! to Barnstaple and Bideford.

There is a railway station at Barnstaple, linking to Exeter.

Westward Ho!—photo: Paul Berry

Key Geography: Wave cut platforms, spectacular wide sandy beach, pebble ridge spit, raised beach, glacial head material, sand dunes, and coastal management. Development of a tourist resort.

Description: Westward Ho! is a north Devon seaside resort made fashionable in Victorian times. It is the only UK resort to be developed as a result of a novel (Charles Kingsley's book of the same name), and the only UK place name boasting an exclamation mark. It continues to be a thriving holiday centre today, and also boasts some special coastal geography, notably the famous pebble ridge.

A gentle stroll (up to around 5 miles) around Westward Ho! will reveal its fascinating coastal geomorphology. Start in the (free) Seafield car park (map stop 1). Turn right past the public toilet block, walk past a group of holiday chalets and beach huts until you see the National Park sign for Kipling Tor. Take the muddy path close-by that heads slightly uphill. Ignore the branch of the path that heads off to the right, and continue straight on, as excellent views begin to open up of the beach and the village. Don't worry about stopping here, as there are even better viewpoints to come. Continue on the path until you reach a staggered four-way junction. Turn right at the hairpin bend and climb the path to the heights of Kipling Tor (map stop 2). Along this stretch of the path are half a dozen wooden benches - all provide wonderful views of the bay.

Kipling Tor is owned by the National Trust, and named after the author and poet Rudjard Kipling who attended the United Services College in Westward Ho! from 1878. His notable works include 'The Jungle Book', 'Kim', and the poem 'If'. From the high path, it is possible to look across Bideford Bay and identify Westward Ho! beach, the pebble ridge, the mouth of the Taw-Torridge estuary (with its massive tide range), and Northam Burrows. In the distance can be seen Braunton Burrows, Saunton Sands and Baggy Point. You are standing on an abandoned cliff that was cut by the sea around 125,000 years ago in the warmer Ipswichian inter-glacial, when sea level was much higher than today - a relic landscape from a very

(continued overleaf)

Curiosity Questions:

Part of this walking route follows the South West Coast Path. How long is this footpath in total?
Westward Ho! Is located within the UK's first UNESCO World Biosphere Reserve. In what year was the North Devon Biosphere designated?
What other European mountain ranges were created by the Variscan Orogeny?

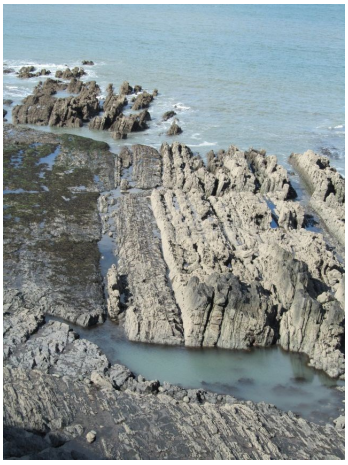
Further information:

www.wordpress.com/post/devongeography.wordpress.com/8273

www.northdevon-aonb.org.uk/resources/biosphere-reserves

Reviewer: Paul Berry B Ed (hons) M Sc FRGS
Former Assistant Vice Principal and Head of Geography at South Molton Community College with 35 years of classroom experience.
Now an Iceland Field Studies Tutor with Rayburn Tours.
Blog: www.devongeography.wordpress.com Twitter: @unicorn4275

different past. The cold spell that followed (our last 'ice age', the Devensian) reached its peak around 18,000 years ago, and at that time temperatures were some 15 degrees cooler than today. Although most of Britain was buried beneath 2 kilometres of ice in this glacial period, North Devon did not have an ice cover. If you stood on Kipling Tor during this cold spell you would see that the sea level was much lower (sea levels fall in glacial periods as water is held in solid ice). You would be able to look across the treeless plain of tundra-like marsh and bog of Bideford Bay that stretched all the way to the ice-capped mountains of the Welsh coast. You could even walk to Wales if you had the energy.



Mermaid's Pool —photo: Paul Berry

Continue along the path towards the sea, past the wooden benches, and you will soon get a good view of Seafield House and the raised beach. We will get a closer look at these later in the walk. Ignore a path that joins from the right, and continue on until you reach the old coastguard lookout (map stop 3) at Rock Nose. This shelter was built by volunteers after the steamer 'Thistlemoor' sank off Clovelly with 20 deaths, and was handed over to the coastguard service in 1911. From the lookout, you get a good idea of the massive 'fetch' of the Atlantic Ocean - the area of open water over which wind blows towards Westward Ho! to create waves. This is a very exposed stretch of coastline with nothing between here and Boston, Massachusetts, and the prevailing south westerly winds create some impressive storm waves in winter. From the advantage point of the lookout, you have a great view of Mermaid's Pool on the wide wave cut platform below, the distant headland of Hartland Point, and if it's a clear day, Lundy Island. Some of the best sunsets in the world can be enjoyed from this location.

From the look-out, there is a scramble path through the gorse to the coast path below, but it is difficult to negotiate. The better option is to retrace your steps along the path to the junction you passed earlier, and take the left branch to head downhill. You will join a flat path, which marks the route of the old Bideford, Appledore and Westward Ho! railway line (map stop 4). This was the last standard gauge railway to be built in Devon, but was never connected to the national rail network. It ran for only seven miles, serving purely as a sightseeing line. The railway started at Bideford Quay, headed out to Cornborough, then on to Westward Ho! and Northam Burrows, with the terminus at Appledore. The project was first suggested in 1860, but work only began six years later. Contractors soon went bust, and it was another 35 years before it was opened in stages between 1901 and 1908. By 1905, it was carrying 130,000 passengers annually, travelling between 11 stations and halts.

Cliffs, wave cut platform, and storm beach at Cornborough—photo: Paul Berry

Turn left to follow the railway line, passing a quarry where it enters an old cutting. Continue on until you reach a gate, and from here you can see the cliffs of Cornborough and Peppercombe in the near distance (map stop 5). Study the far coastline to identify the village of Clovelly, and Hartland Point in the far distance. Below the cliffs can be seen a storm beach of large sandstone pebbles, and a wide wave cut platform exposed by wave action.

Unless you want to carry on and extend your walk along the coastal path, turn here, and head back towards Westward Ho! When you get back to the quarry, look below the rapidly eroding cliffs to see the wide wave cut platform - all that is left of the old cliff line. From here, you also get a closer view of Mermaid's Pool (map stop 6). At low tide, you can see the eroded vertical edges of sandstone and mudstone ridges with numerous fault lines clearly visible. The taller rocks behind the pool are sandstone. These 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 than the less resistant mudstones. These rock ridges were laid down as horizontal beds of sediments around 300-350 million years ago in the Carboniferous period, but then later contorted into curved folds by the Variscan orogeny. The sea then planed them off to leave the vertical ridges we can see today. In

(continued overleaf)

geography southwest

Place To Walk

Westward Ho!, North Devon

Carboniferous times (when the Atlantic Ocean did not exist!), the northern world continent (Laurentia-Eurasia), collided with the southern continent (Gondwana). In between the two giant land masses was the Rheic Ocean, and the squeezing of the two plates crumpled these soft sediments into mountains similar in scale to the Alps, pushing the horizontal beds into a near vertical position.

Raised beach at Seafield —photo: Paul Berry

Continue along the path to the green expanse of Seafield (map stop 7). This is a raised beach, at the foot of the old cliffs of Kipling Tor, showing past changes in climate and sea level. Within the last million years there have been colder periods (called glacials) and warmer periods, like we are in now (called inter-glacials). When temperatures rise, so do sea levels - as melting ice sheets and glaciers pour water into the oceans. Current sea levels are naturally rising (but accelerated by human activities causing global warming), but reach nowhere near previous high levels. The cliffs of Kipling Tor and the Seafield raised beach show how much higher the north Devon coastline was in previous history - some 8 metres above the current level of the sea.

Seafield House —photo: Paul Berry

The path to Westward Ho! continues to the car park and runs in front of Seafield House (map stop 8). This imposing Gothic style building was built in a in 1885 as a summer home for London banker Brinsley de Courcey Nixon. It eventually became the sole residence of an elderly lady, but when she went into residential care in 2015, the house fell into serious disrepair. It has recently been purchased by a local businessman, who plans to restore it to its former glory as holiday accommodation. Before this can happen, a lot of work will be needed to stabilise the cliffs below the house, that are suffering the effects of wave action. It is possible to get a good look at this later on in the walk.

Follow the path to the seaward side the Pier House pub and restaurant, and look out for the iron posts in the sea that represent all that remains of Westward Ho!'s pier. This was built by the grandly named 'Northam Burrows Promenade and Landing Pier Company', formed in 1864 during the early stages of Westward Ho!'s growth as a holiday resort. The cast iron and timber pier was planned to be 600 feet long with a bandstand and refreshment room, but as soon as construction began, it ran into problems. July 1871 saw the first landing on the still unfinished pier, but by October, gales had snapped the supporting pillars leading to major repairs. On July 24th, 1873, the pier was officially opened to the public (admission 2d), but the promised facilities never materialised. In 1880, further storm damage led to its closure.

Caves below Seafield House —photo: Paul Berry

Continue now along the promenade, passing a holiday park, Nassau Court apartments and a line of quaint beach huts, before arriving at the Rock Pool seawater swimming pool (map stop 9). Steps near here lead down to what looks like a concrete path, but is in fact the capping on a sewage pipe that runs out to sea. It provides a convenient access route to the foreshore, and it is possible to follow it across the wave cut platform back towards the cliffs below Seafield House. Do take care though, because it is covered in seaweed in places and can become quite slippery. Also, do take care of incoming tides! Below Seafield House, you can see how much damage storm waves have done to the cliffs. Caves have been created by abrasion and hydraulic action, and sections of the cliff have collapsed in places.

(continued overleaf)

geography southwest

Place To Walk

Westward Ho!, North Devon

Close to Seafield House is a good location to spot the glacial material or 'head' - a layer of a matrix of pebbles set in sand and other debris, found at the top of the present cliffs. At the time of the last ice advances, north Devon experienced peri-glacial, or tundra-like conditions similar to Siberia today. This involved a seasonal freeze and thaw of the surface, and as snow melt could not penetrate the deeper frozen ground, a pasty mass or sludge of water, debris and frost-shattered stones slipped down the slopes of the Kipling Tor cliffs, a process known as solifluction. This material, or 'head' spread out like an apron over the old beach at Seafield.

Return to the promenade and follow the sea wall to the slipway (map stop 10). There have been several generations of the sea wall built to protect the promenade from storm waves. The early version, built in 1928, was a vertical construction (the least efficient energy absorber), but it was rebuilt in a more efficient way in 1965 with an outward curved face in order to send waves back out to sea and collide with incoming waves to reduce energy.

Sea armour beside the slipway — photo: Paul Berry

If you walk down the slipway onto the beach, to your left you can find an additional method of coastal engineering, where giant grey elvan metamorphic granite boulders have been placed as rip-rap (or sea armour) to protect the slipway from the sea. These were placed here in 1982, and some of the boulders weigh up to 15 tons. If you head right towards the pebble ridge, you can just about pick out the remains of old wooden groynes that once added to the coastal defences on this beach. In the past, large metal cages filled with rocks were also used in the area by the slipway to try to stabilise the pebble ridge, but they were soon exposed by the retreat of the ridge and corroded by salt water, and never replaced.

It's worth pausing here to consider the wonderful expanse of sand that makes up the Westward Ho! beach - its scale especially impressive at low tide (map stop 11). Despite its appearance of permanence, this beach is a shifting environment, and its depth changes regularly. The sand was completely scoured away in 1984, exposing the thick bed of clay and head material that spread out from the old cliffs. Amazingly, the sand soon returned (in a matter of just a few days), and the tourism industry breathed a sigh of relief. Incidentally, a healthy beach able to adjust in this way is the best (and cheapest) form of coastal defence. At the lowest spring tides, the remains of an 8,000 year-old forest of oak, willow and hazel are exposed. Evidence of Mesolithic hunters and gatherers (a kitchen midden containing shells, burnt animal bones and charcoal) has been discovered amongst the roots and branches embedded in the clays and peat.

Groynes in front of pebble ridge —photo: Paul Berry

Now we come to the jewel in the crown - the pebble ridge itself (map stop 12). This recurved spit is unlike any other similar feature in the UK, consisting of hard sandstone pebbles rather than shingle or sand. The date the pebble ridge came into existence is uncertain, but it is a comparatively recent feature. It is dynamic, and has been subject to considerable modification over the past 150 years or so. The pebble ridge has been built up by the process of longshore drift, where the prevailing south westerly winds have driven strong currents which have shifted sandstone rock like a conveyor belt along the coast from the Hartland Point area towards the mouth of the Taw-Torridge estuary. On their journey, the rocks have been reduced to smooth pebbles by the process of attrition.

The pebble ridge has been fairly stable for the last 50 years or so, but there is a general trend of landward migration. In the mid-1700s, the pebble ridge was located approximately 300 metres out in the bay, and since the 1870s, the spit has pushed inland by 150 metres. The average retreat over the past 150 years or so has been 1 to 1.5 metres a year. Recent studies have predicted that by 2055-2105, the pebble ridge will retreat inland by a further 200 to 300 metres. A major breach took place in 1962, with others recorded in the 1970s and as recently as 2011. The pebble ridge is maintained by a fresh supply of pebbles from the west, but it is believed that this source has been depleting in recent

(continued overleaf)

years. Consequently, the height of the pebble ridge has decreased and it has become flatter in shape. Further breaches or overtopping is expected in short term predictions. The pebbles on the spit have been replenished by the local council in times of need, moving rocks from the north end of the spit to the area near the slipway. However, this management technique was ceased around five years ago. A tradition of 'pot walloping' existed up until the end of the last century, carried out by local residents who had the rights to 'air and exercise' sheep and horses on Northam Burrows. This involved helping to retain the pebble ridge by annually (at Whitsun) throwing pebbles that had ended up on the Burrows from storms back onto the ridge.

Continue northwards along the line of the pebble ridge and you will soon come to Sandymere, an ephemeral lake in a wind-scoured depression behind the spit (map stop 13). This area fills with salt water when the sea overtops the ridge at high tides. Before 1855, this is as far as the pebble ridge extended. There is a large car park and excellent new visitor centre next to the lake - well worth a visit.

From the top of the spit you get a great view of the open, flat expanse of the 650 acre Northam Burrows Country Park on the land side, protected by the pebble ridge (map stop 14). This area of unimproved grassland, salt marsh and sand dunes, and also contains the Royal North Devon Golf Club, reputedly the oldest club in England, and believed to be the first to include women members.

Northam Burrows —photo: Paul Berry

Follow the ridge right to the mouth of the Taw-Torridge estuary, and look across the river to the sands of Saunton, Braunton Burrows and Crow Point on the north side (map stop 15). There is a small sand dune system behind the ridge here, but nothing compared to that found across the river. Changes to the river mouth sand and shingle banks have focused incoming waves onto the 'corner' of the pebble ridge, where granite rock armour has been placed as a protection. A rubbish dump dating to the 1950s beneath the dunes has been exposed in places, and like a part of the golf course, is currently threatened by wave erosion. In recent times, some gaps have appeared in the pebble ridge at its northern end, although so far, these have been naturally refilled. However, this part of the spit remains an area of concern.

On your way back to Westward Ho! village, you might want to reflect on what the future holds for this area. If the pebble ridge continues to migrate inland, what will be the most appropriate management techniques for this location? Should there be further investment in 'hold the line' methods like sea armour and other linear defences, or some form of 'managed retreat' that abandons existing defences? In an age of rapidly rising sea levels, Northam Burrows may prove to be very expensive to defend. It is possible that at some stage, nature may be allowed to take its course, and the area will be flooded. How will this impact on the current land uses?

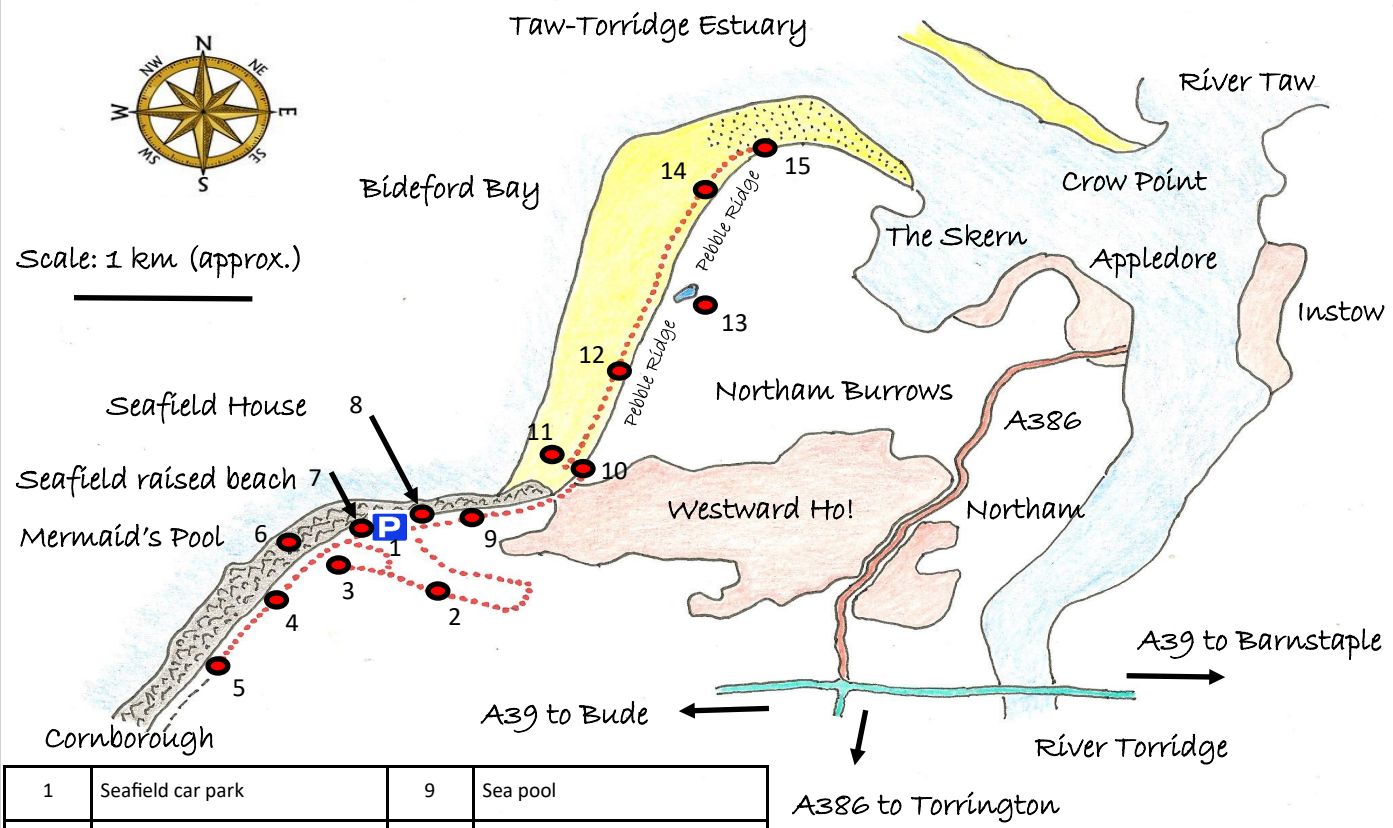
Wave cut platform with faulting —photo: Paul Berry

geography southwest

Place To Walk

Westward Ho!, North Devon

Westward Ho! Coastal Geography



1	Seafield car park	9	Sea pool
2	Kipling Tor	10	Slipway
3	Coastguard look out	11	Beach
4	Old railway line	12	Pebble ridge
5	Path gate	13	Sandymere
6	Mermaid's Pool	14	Northam Burrows
7	Seafield raised beach	15	Taw-Torridge Estuary
8	Seafield House		

Answers to Curiosity Questions:

Part of this walking route follows the South West Coast Path. How long is this footpath in total? *(630 miles)*

Westward Ho! Is located within the UK's first UNESCO World Biosphere Reserve. In what year was the North Devon Biosphere designated? *(2002)*

What other European mountain ranges were created by the Variscan Orogeny? *(Iberian Mountains of Spain and Portugal, Black Forest Mountains in southern Germany)*