



Quarrying

Quarrying, over 100 years ago, was extremely hard work and labour intensive. Following the natural fractures in the rock, the quarrymen used hand-powered tools to remove the 'overburden' or waste rock which was retained behind massive dry stone walls the quarrymen call 'beaches'.

The overburden, largely made up of top soils, slat and marls was retained behind the dry stone walls seen throughout the quarry. The walls were constructed from poor quality limestone - Roach Stone, Chert and Purbeck beds.

From King Barrow Quarries you can look across at Admiralty, a modern quarry. The use of heavy machinery and demand for aggregate, derived from crushing the cherty limestone, leaves a deep and open site. In the future this will be a far greater restoration challenge than King Barrow Quarries.



Quarrymen working the stone



Clues to the Past

Walking around the quarry, there are clues to past quarrying activities. Look out for the 'beaches', blocks of partly shaped or 'dressed' stone or pieces of tramway track.

A quarrymen's hut, ideal for a sheltered brew, was built into one of the retaining walls and can be found through the tunnel, in one of the quiet, sheltered gullies. On the eastern side of this fascinating tunnel, with its huge blocks of Roach Stone and signs of hand-tools being used on the sides, is a gully going northwards out of the reserve. This is the original route of a horse-drawn tramway which took stone from the quarry to the Merchants' railway. This is now an interesting but challenging path to the Verne Local Nature Reserve where you can join the original route of the Merchants' railway down to Castletown.



Tunnel

3



Tramway Gully

4



Wildlife



Photo: Ken Dolbear

King Barrow's rocky slopes, grassy pockets and sheltered gullies provide havens for wildlife. Thin limestone soils have been slowly colonised by a variety of wildflowers with brilliant displays of colour in spring and early summer. Rare plants, butterflies and even lichens make this quarry a unique reserve.

The plants are often dominated by pinks, such as low growing Wild Thyme, straggling Rest Harrow and spikes of Pyramidal Orchids, or yellows, such as Lady's Bedstraw, Kidney and Horseshoe Vetches and Birds-foot Trefoil. Standing upright are the bright blue flowers of Vipers Bugloss. The shadier gullies encourage Hart's Tongue Fern, Wood Spurge and the unusual Ivy Broomrape, a parasite of Ivy. Taller scrub of Wild Privet, Buddleia, Wayfaring Tree and Sycamore are found throughout the quarry. The non-native and highly invasive Cotoneaster shrub is being removed where possible.

Butterflies are attracted by nectar, food plants and warm slopes and the quarry supports many species; Speckled Wood in dappled shade, Marbled White in longer grass and delicate blue butterflies on shorter turf and open rocky areas including Chalkhill, Small and Common Blue and Portland's special Silver-Studded Blue. In late summer, the migrant Clouded Yellow Butterfly may be seen.

The 'beaches' are used by Slow Worms, Common Lizards and for nesting, by Little Owls.

Kingbarrow Quarries Nature Reserve is of national and international importance for wildlife and geology. It is in the Isle of Portland Site of Special Scientific Interest and Special Area of Conservation.

This leaflet was produced by the Portland Coast & Countryside Project, a partnership of Natural England, Weymouth & Portland Borough Council, Dorset Wildlife Trust and Dorset Countryside, which aims to promote conservation, awareness and enjoyment of Portland's wildlife and landscape for local people and visitors.



King Barrow Quarries is not just a disused quarry. Old quarrying methods have left behind a wealth of accessible geology, fascinating industrial archaeology and lots of places for wildlife.

Map: Antonia Phillips



Geology



1 Rock face with Purbeck beds

The rocks in the quarry are Portland and lower Purbeck limestones formed in the late Jurassic, 135 - 145 million years ago. The rock piles, gullies and retaining dry stone walls were created during quarrying, but in places, it is still possible to see the natural, geological sequence.

On the top, younger Lower Purbeck beds were formed in shallow water lagoons that surrounded low, forested islands; evidence of this is in the rock layers. Some have ripple marks, just like the ones you would see on a beach today. Other layers are ancient soils like the Great Dirt Bed, complete with fossil trees. Thick mats of algae grew around the base of trees in swamp conditions, building up doughnut shaped tree burs seen today. The deep single holes are not drill holes but cavities left by ancient trees.

Below the Purbeck beds is the Portland limestone series created in a shallow, tropical sea. These rocks are made of calcium coated layers of sand grains and fragments of shell. The top layer is 'Roach Stone', packed with easily seen fossils such as ammonites and the moulds and casts of marine molluscs. There are bivalves such as the locally known 'osses eads', supposedly looking like horse heads, and the spirally coiled snails called 'Portland screws'. These are best seen in some of the huge blocks that make up the drystone walls. Below this are the Base and Whit Beds, that formed in deeper waters. Large quantities of this easily-cut and sculptured limestone, famous across the world, have been removed from King Barrow Quarries.



Roach Stone

Photo: Lyn Cooch



Fossil Forest

Photo: Dorset Wildlife Trust



Viper's Bugloss



Pyramidal Orchid

Photos: Kevin Cook



SIX-SPOT BURNET MOTH