



TROOPERS HILL

Local Nature Reserve

Hill Geology

General Information

Troopers Hill Local Nature Reserve (LNR) is a picturesque, wild and romantic space overlooking the River Avon in East Bristol.

You can find out more about the hill's wildlife and history in our other leaflets. The wildlife leaflet has a map of the site and details of how to get there. More detail about the history of the area and about Troopers Hill is also available on our website at www.troopers-hill.org.uk

Friends of Troopers Hill

Friends of Troopers Hill are a group of local residents sharing an interest in Troopers Hill Local Nature Reserve. We work in partnership with Bristol Parks to maintain Troopers Hill for the benefit of people and wildlife.

For further information, please contact:

Friends of Troopers Hill www.troopers-hill.org.uk

Bristol Parks www.bristol.gov.uk/parks

T: 0117 922 3719

Bounty from Troopers Hill

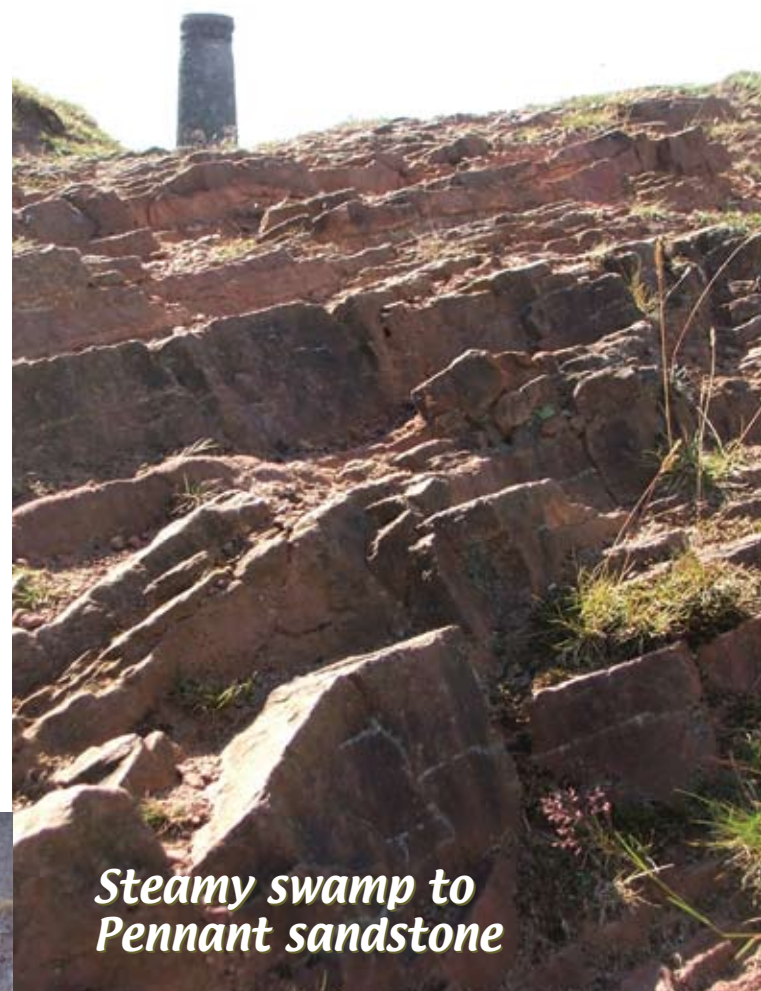
Man has made use of the bounty stored by the Carboniferous Age and has changed the shape of the Hill. Coal was mined from under the hill. You can still see black patches on the Hill that are either spoil from coal extraction or outcrops.

Fireclay, used to make the bricks to line furnaces, was also mined, perhaps accounting for the lean of the chimney on top of the Hill. Pennant sandstone, a prized building material, was quarried, leaving the wonderful multi-coloured rock faces for us to view in the gully on the south facing side of the hill. It is likely that both the chimneys on Troopers Hill were built using on-site pennant sandstone.

Friends of Troopers Hill would like to thank the Avon RIGS group for their help in the preparation of this leaflet and in particular a special thanks to Eileen Stonebridge.



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Steamy swamp to Pennant sandstone



The Rocks of Troopers Hill

The Pennant Measures are mostly sandstones, mudstones, shales and clays with occasional coal seams. They belong to the Upper Coal Measures of the Carboniferous Period. At that time the land was swampy and the climate was very humid. Plants that existed then included giant horsetails and ferns, modern descendants of which can be found on or close to Troopers Hill today.

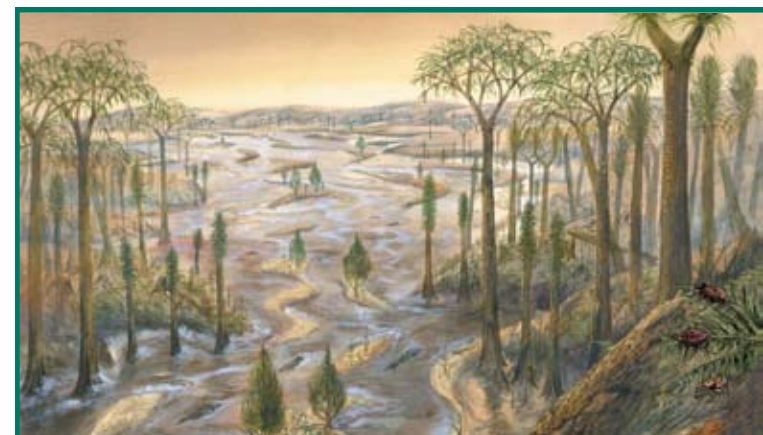


The Coal Measures were formed as the plants rotted down and were compressed by the weight of later sediments. The clayey soil, in which the plants grew, turned into bands of clay lying alongside the coal seams. Over time the whole area was covered by sands and fine gravels as rivers changed their course and finally the swamps disappeared.

© Illustration: Horsetail, *Equisetum arvense* by Abi Stubbs

Creating Troopers Hill

At the end of the Carboniferous age, 290 million years ago, there was a great upheaval of the earth's crust so that rocks were broken and folded. Troopers Hill is on an arm of one of these great folds and the rocks dip to the south at an angle of 30 degrees. If you look carefully at the quarry surfaces in the "Gully" you can tell that they were deposited under water as the currents in the streams cause little dunes to form which were cut into as the current changed direction. This is called cross bedding. There are areas across the hill where the bare rock can be seen, ranging from smooth, sloping surfaces to fractured, angled cross sections of strata.



Carboniferous Landscape. © Artist: Shane Feeney. Devised by: the Avon RIGS group. Reproduced by kind of permission of South Gloucestershire Council.

The shape of Troopers Hill

Troopers Hill is a large, open area of acid heathland with many bare rock faces, particularly in parts that have been quarried which show angled, multi-coloured and broken layers of rock.

The top of Troopers Hill forms a small plateau which falls away in steep slopes on three sides. These steep slopes were formed by the River Avon to the south, a small tributary to the Avon, now running under Troopers Hill Road, to the southeast and a gully to the west. The gully and the tributary probably date from the Ice Ages.

The summit of Troopers Hill is about 70 metres above sea level, which allows visitors to enjoy a wide view across Bristol to the Mendips. Dundry Hill, seen to the southwest, is composed of Jurassic Age Rocks. The slopes across the river and the valley in which Bristol lies are mostly Triassic age rocks, while those slopes to the west forming the Downs are Carboniferous Limestone. Troopers Hill itself is made of sandstone of the Pennant Measures, some 300 million years old.

Geological Timeline

Age of the earth's rocks in millions of years

