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## Frosterley Marble

Frosterley Marble is a name widely used for a distinctive bed, or 'post', of limestone up to about

1 metre thick, which occurs between 6 and 7.5 metres below the top of the Great Limestone, over a large part of Weardale and parts of Teesdale and the North Pennine escarpment (see Carboniferous rocks, above). Sometimes referred to as the 'Frosterley Band', it is not a true marble, but is a dark grey, to almost black, rather bituminous limestone in which very well preserved fossils of the solitary coral *Dibunophyllum bipartitum* are extremely abundant. Other corals, brachiopod, bivalve and crinoid fragments are also present, but comparatively inconspicuous compared to the large solitary corals.

### Frosterley Marble in the AONB

The Frosterley Marble is exposed in several of the numerous quarries in the Great Limestone, though is often rather inaccessible in high faces. The best exposures are in Weardale, though many are immediately outside the AONB.

The coral-rich Frosterley Marble, or bioherm, is an extremely important 'marker bed' within the Great Limestone. It contains a very rich, and very well preserved marine fauna and thus gives valuable insights into the palaeontology and palaeoecology of the Carboniferous Period in this part of northern England.

Harehope Quarry, the nearby bed of Harehope Burn and the Killhope Burn upstream from Killhope Lead Mining Museum, offer the best and most readily accessible natural exposures of the rock in the AONB. Very fine and extensive exposures remain in parts of the now disused Eastgate Quarry, though these are not publicly accessible.

Within the AONB, good worked examples of Frosterley Marble may be seen in churches at Eastgate and Alston. Beyond the designated boundary, excellent examples of the ornamental uses of the stone may be seen at:

- Frosterley Church (font) [NZ 02705 36854]
- Stanhope Church (font, table-top tombs, coffin) [NY 99700 39229]
- Eastgate Church (font) [NY 95331 38852]
- Wolsingham Church (chancel floor) [NZ 07338 37390]
- Auckland Palace Chapel [NZ 21360 30215]
- Durham Cathedral (extensively used as pillars in Chapel of Nine Altars, Chancel, Rood Screen, Gallilee Chapel, flooring) [NZ 27352 42176]

### Impact on the landscape and biodiversity

As a single bed within the Great Limestone (see Carboniferous rocks, above), the Frosterley

Marble itself has little individual impact upon the landscape or biodiversity of the AONB.

### Economic use

Working of Frosterley Marble as an ornamental stone is known to extend back over several centuries. In addition to its use in making internal ornamental pillars in churches, it has been much used in making fonts, tombs and even wash-stand tops. Substantial amounts of the stone are employed as pillars and flooring slabs in parts of Durham Cathedral built during the 12th Century. Frosterley Marble fonts are known in several churches in Weardale. It is commonly supposed that much of the stone employed in Durham Cathedral originated from Harehope Quarry, at Frosterley, immediately outside the AONB, though other sources may also have been exploited.

As well as in buildings in and near the AONB, Frosterley Marble may be seen, employed as an ornamental stone in York Minster, Truro Cathedral, the Roman Catholic Cathedral in Norwich, and in Mumbai Cathedral, India.

For many years little Frosterley Marble was worked as an ornamental stone, except on a very limited scale for small ornaments. In recent years Frosterley Marble has, from time to time, been recovered for use as an ornamental stone, during quarrying of Great Limestone at Broadwood Quarry, Frosterley, immediately outside the AONB. The amounts worked are not known, but are likely to be small.

## **Wider importance**

Solitary corals of the type found within the Frosterley Marble are common in many of the Carboniferous limestones of Great Britain. However, the great concentration of these corals and associated fauna in the Frosterley Marble, appear to be unique to this part of northern England. This highly distinctive rock is thus both an important part of the Carboniferous succession and an extremely important element within the geodiversity of the AONB.

## **Conservation issues**

The finest natural exposures of Frosterley Marble within the AONB appear to be comparatively robust. However, as with all such natural exposures, they should be monitored for condition and vigilance maintained for future threats. The finest exposures of this unusual rock lie immediately outside the AONB.

## **Currently protected sites of Frosterley Marble within the AONB SSSIs**

The exposures in Killhope Burn form part of the Old Moss Vein SSSI, designated primarily for its mineralogical importance.

## **Selected references**

AONB Partnership 2008, Dunham, 1990; Forbes et al, 2003; Johnson, 1958

## **Figures**

(Figure 70) Font in Frosterly Church © B. Young, BGS, NERC.

### [Full references](#)



