

File ref:

County: Devon **Site Name:** Fremington Quay Cliffs

District: North Devon

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981, as amended.

Local Planning Authority: Devon County Council, North Devon District Council

National Grid Reference: SS 517340, SS 512332 **Area:** 10.6 (ha) 26.2 (ac)

Ordnance Survey Sheet 1:50,000: 180 **1:10,000:** SS 53 SW

Date Notified (Under 1949 Act): 1974 **Date of Last Revision:** 1976

Date Notified (Under 1981 Act): 1998 **Date of Last Revision:** -

Other Information:

Site boundary extended.

Partly overlaps with the Taw-Torridge Estuary SSSI.

In County Structure Plan Nature Conservation Zone.

Geological Conservation Review Site.

Description and Reasons for Notification:

The cliff section north of Fremington Quay provides stratigraphical evidence for uninterrupted marine sedimentation in North Devon at about the Devonian-Carboniferous boundary. The site is unique in displaying the boundary in a conformable succession, little affected by structural movement. The more northerly beds here display a uniform sequence of dark shales which are richly fossiliferous. Late Devonian (*Wocklumeria* Zone) and early Carboniferous (*Gattendorfia* Zone) faunas have been recognised here, and this section offers a unique opportunity for the detailed sampling of fossils to establish precisely the succession of faunas across the boundary.

Nearer to the Quay, diagnostic ammonoid and trilobite faunas allow some degree of correlation with sequences in Cornwall, but more substantial links can be established with the comparable neritic facies in Germany. The carbonate successions of the South-West Province of England, France and Belgium are of equivalent age, but their critical faunas do not occur in the Fremington section where clastic material is dominant. Only certain groups of micro-fossils, such as conodonts and spores, offer any prospect of equating in time the different facies that characterise the Dinantian age of northern Europe. This is an important site for correlations of Devonian-Carboniferous sediments, and studies of their deposition, in south-west England.

The section to the south-west of Fremington Quay has figured prominently in interpretations of the Pleistocene history and stratigraphy of the Barnstaple area, particularly concerning the crucial relationship of the raised beaches to the glacial deposits. At issue is the interpretation of a sequence of raised beach deposits, gravels and stony clays. According to one interpretation, the stony clays represent a glacial till which postdates the raised beach. The alternative view holds that they are a solifluction deposit and that the raised beach postdates glaciation of the area. Fremington Quay is therefore an important reference site in the debate on the Pleistocene stratigraphy of North Devon.