

MAYO - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Downpatrick Head
Other names used for site	Dun Briste, Doonbristy
IGH THEME	IGH8 Lower Carboniferous, IGH13 Coastal Geomorphology, IGH3 Carboniferous to Pliocene Palaeontology
TOWNLAND(S)	Knockaun, Castletown
NEAREST TOWN/VILLAGE	Ballycastle
SIX INCH MAP NUMBER	7
ITM CO-ORDINATES	512470E 842900N (centre of features)
1:50,000 O.S. SHEET NO. 23	GS1 BEDROCK 1:100,000 SHEET NO. 6
GIS Code MO050	

Outline Site Description

Sheer sea-cliffs, sea-caves, blowholes and a spectacular example of a sea-stack.

Geological System/Age and Primary Rock Type

Lower Carboniferous (late Tournaisian/early Visean age; c. 350 million years old) age marine and non-marine sedimentary rocks, showing body fossils and trace fossils. Coastal erosion landforms, including sea-stacks, caves and blowholes, most likely Holocene in age.

Main Geological or Geomorphological Interest

The Downpatrick Formation consists of marine mudstone and siltstone; alluvial and deltaic sandstone and siltstone; and marine bioclastic (crinoidal) limestone which are interbedded with calcareous shale. Marine origins are indicated by bioturbation features and the appearance of trace fossils (*Chondrites*, *Rhizocorallium*). Body fossils include brachiopods, bivalves and nautiloids. Sandstones (calcareous and non-calcareous) show wave ripple marks. Some mudrocks at the base of the formation contain sediment cracks, and small calcareous caliche nodules. The mudcracks are interpreted to indicate layers of sediment occasionally exposed above water level, before repeated marine incursion cycles (transgressive cycles). The Downpatrick Formation demonstrates excellent examples of inlined heterolithic strata (IHS) and evidence of bipolar palaeocurrents. The ~20m high sea-stack of Dun Briste (Doonbristy) is a remarkable feature of coastal erosion. Viewed from the cliffs, thick tabular limestones are visible overlying thinner mudstones and siltstones. A thick light-coloured limestone layer is visible near the upper part of the sea-stack. The softer shale layers erode easily and provide excellent habitats for seabirds. Blowholes (Pollnashantinny “puffing hole”, Pollabegga) and sea-caves attest to the subterranean impact of the sea on the bedrock at the headland.

Site Importance – County Geological Site; recommended for Geological NHA

This site exhibits dramatic coastal geomorphology, excellent palaeo-environment features and very well preserved body fossils and trace fossils. The site is an important visitor attraction in this part of western Ireland. Considering these aspects alone, the site is of national importance and should be designated a geological NHA.

Management/promotion issues

Site access is facilitated from the car park area. The land enclosed within the site boundary belongs to D. McCormack (Lacken), and thus care should be taken to respect the property. Likewise, caution is required due to the presence of cliff sections and blowholes (fenced off). The outcrop can be viewed at the rocky shore towards the southern boundary of the site. Promotion of the site should aim to communicate the on-going coastal erosion processes at the site, coupled with associated safety concerns, as well as the important features observable from a safe vantage point along the coastline.



Downpatrick Head and Dun Briste (sea-stack) viewed from west Bunatrahir Bay, looking ENE.



Horizontal mudstone, siltstone and limestone layers on Dun Briste.



Pollnashantinny blow-hole, looking south towards Ballycastle.



Ripple marks, trace fossils and mud cracks in mudrocks exposed on the west side of Downpatrick Head.



Brown coloured sandstone overlying a layer of coarse sandstone and breccia on the rocky shore by the car park.

