

LEITRIM - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	O'Donnell's Rock
Other names used for site	
IGH THEME	IGH8 Lower Carboniferous, IGH1 Karst
TOWNLAND(S)	Larkfield, Boggaun
NEAREST TOWN/VILLAGE	Manorhamilton
SIX INCH MAP NUMBER	11
ITM CO-ORDINATES	588325E 836060N (main cliff face at O'Donnell's Rock)
1:50,000 O.S. SHEET NUMBER 26	GSI BEDROCK 1:100,000 SHEET NO. 7
GISCODE LM023	

Outline Site Description

The site is a central section of a northwest-facing escarpment of limestone bedrock.

Geological System/Age and Primary Rock Type

O'Donnell's rock provides a good representative section of successive bedrock layers down from the Mullaghmore Sandstone Formation, through the Glencar Limestone Formation, to the Dartry Limestone Formation, of Mississippian (Lower Carboniferous) age.

Main Geological or Geomorphological Interest

The O'Donnell's Rock site has a trackway through old broadleaf forestry, which climbs slowly along an escarpment, with a cliff rockface at the top. Exposures alongside the track and in small quarries and natural cliff faces, especially at the top of the cliff, give a very good representation of the Glencar Limestone Formation, which is a dominant feature in the shaping of Leitrim's landforms. Exposure of the underlying Mullaghmore Sandstone and Benbulbin Shale Formations is poor, but the top of the plateau and an extension of the site to the south includes representation of the overlying Dartry Limestone Formation, also very significant in Leitrim's upland karst landscapes.

Detailed logging of the sequence here, and sampling of the rocks for coral and other macrofossils, along with analysis of microfossils in the rock, have been valuable to broader understanding of the Carboniferous stratigraphy in Leitrim. These localised studies can be compared and correlated from one area to another. In this way, it is possible to model how the North West Carboniferous Basin, an important geological region in Ireland, developed.

There are several caves recorded in the heavily wooded cliff face, and the southern extension of the site includes another. In the forest road at the southern margin of the site there is also a quarry, into the Dartry Limestone Formation.

Site Importance – County Geological Site

The representative nature of this site for part of the Carboniferous succession in Leitrim deserves recognition as a County Geological Site. More detailed appraisal in comparison with the national range of similar sites would be required to determine if it should be considered for NHA designation.

Management/promotion issues

Although access *via* the trackway seems available from either end, the off-road areas are on private farmland, and permission should be sought from landowners.



The track through the woods heading up to O'Donnell's Rock, with Glencar limestone exposures in the bank.



Glencar Limestone rock exposure/quarry at the top of the track through the woods heading up to O'Donnell's Rock, looking northeast.



Panorama view of quarry at southern end of O'Donnell's Rock CGS, showing Dartry Limestone.



Glencar Limestone rock exposure/quarry at the top of the track through the woods heading up to O'Donnell's Rock, looking northeast.



A bed of fossil debris or perhaps a crushed fossil coral colony, on the side of the path to O'Donnell's Rock.

