

DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Cionn Mhucrois
Other names used for site	Muckros Head
IGH THEME	IGH8 Lower Carboniferous, IGH13 Coastal Geomorphology
TOWNLAND(S)	Lergadaghtan, Gortalia, Muckros, Roelough
NEAREST TOWN/VILLAGE	Kilcar
SIX INCH MAP NUMBER	96
ITM CO-ORDINATES	562642E, 874110N
1:50,000 O.S. SHEET NUMBER: 10	GSI BEDROCK 1:100,000 SHEET NOs. 3, 4
GIS Code DL030	

Outline Site Description

Muckros Head is a coastal site, comprising cliff, platform and intertidal exposures; the inland part of the headland is mixed farmland with moorland on Roelough Hill in the east.

Geological System/Age and Primary Rock Type

The coastal section exposes Lower Carboniferous Rinn Point Limestone Formation (Ballyshannon Limestone Formation equivalent), consisting of basal conglomerates, sandstones, calcareous shales and calcarenites, and the overlying Muckros Sandstone Formation (calcareous sandstones and sandy oolitic limestones). The Rinn Point Limestone Formation basal clastics unconformably overly Dalradian Termon Formation schists in the east and north.

Main Geological Interest

The sequence of clastics and limestones around Muckros Head is one of a number of Lower Carboniferous outliers (younger rocks surrounded by older rocks) that are found west of the Donegal Syncline, where the main occurrence of Carboniferous rocks in the northwest of Ireland is found. These outliers include the Largymore syncline (see Largymore) and the outliers on Slieve League summit (see Slieve League Carboniferous).

The basal conglomerates of the Rinn Point Limestone Formation contain well rounded boulders of Dalradian Slieve Tooey Formation quartzite and were deposited by large rivers draining the landmass that then lay to the northwest. Overlying sandstones, siltstones and shales were deposited in a fluvial environment. These are succeeded by calcarenites and fossiliferous calcareous shales. This predominance of clastic rocks, compared with the predominance of limestones in the Donegal syncline, indicates that the Rinn Point Limestone Formation sequences formed much closer to shore than those of laterally equivalent Ballyshannon Limestone Formation. Muckros Head has the best exposure of the overlying Muckros Head Sandstone Formation, which consists of heavily burrowed calcareous sandstones. The sandstone cliffs here overhang a wave-cut platform and are popular with rock climbers. They have long been a staple illustration of marine erosion in geological textbooks.

Site Importance: County Geological Site

The Muckros site provides an excellent, accessible exposure of an outlier that demonstrates significantly different Lower Carboniferous depositional conditions than those in the main Donegal basin. The fairly complete succession from Dalradian schists up through the basal clastics unconformity to marine limestone and shales, shows a wide range of rock types and sedimentary structures typical of many depositional environments.

Management/promotion issues

While the outstanding geology and ecology of Muckros Head area would benefit from an interpretive centre at the Old School viewpoint, the area is relatively undiscovered and unspoiled and careful promotion is more critical than elsewhere in south Donegal. The scenic road to Kilcar and access road has limited capacity for existing traffic.



View of Muckros from west: Dalradian schists on Croaghmuckros (left), basal clastics at Roelough (background, centre), basal clastics and succeeding beds of Rinn Point Limestone Formation and Muckros Head Sandstone Formation at Traloar beach (foreground, right) and Muckros Head (out of shot, right).



Basal conglomerate.



Muckros Head Sandstone Formation: interbedded sandstone and karstified limestone.

