

DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE:	Sceilp Úna
Other names used for site	Skelpoonagh Bay
IGH THEME	IGH5 Precambrian, IGH6 Mineralogy
TOWNLAND(S)	Beefan and Garveross Mountain
NEAREST TOWN/VILLAGE	Glencolumbkille
SIX INCH MAP NUMBERS	80
ITM CO-ORDINATES	551816E, 885985N
1:50,000 O.S. SHEET NUMBER: 10	GS1 BEDROCK 1:100,000 SHEET NOS: 3, 4
GIS Code DL039	

Outline Site Description

The site is mostly rocky shoreline (coastal wave-cut platform) and cliffs with rough grazing on level ground.

Geological System/Age and Primary Rock Type

The rocks are part of the Dalradian Appin and Argyll Groups (c. 750 Ma), with the Glencolumbkille Limestone Formation (dolomitic limestone/marble) exposed on the northern side of the bay and the Slieve League Formation (quartzite and schist) on the southern side.

Main Geological or Geomorphological Interest

The Dalradian Supergroup rocks in Donegal underwent intense, polyphase deformation during the Caledonian orogeny. This site provides exceptional exposures through a transpressional fold system within the Dalradian. Detailed cross-sections of folds and fabrics are clearly displayed on a variety of scales. Four phases of deformation have been recognized at the site and described in detail in the literature.

In addition, pseudomorphs after ikaite (a cold-water hexahydrate calcium carbonate mineral characteristic of glaciomarine conditions) have been reported from this locality. The ikaite pseudomorphs are preserved in ferroan dolomite at the top of a marble in the Glencolumbkille Limestone Formation. Global occurrences of pseudomorphs after ikaite have been reported in glacial sequences throughout the geological record, including from the Dalradian. The deformation of the Skelpoonagh ferroan dolomite pseudomorphs precludes absolute identification, but together with their stratigraphic proximity to the glacially formed Port Askaig Formation tillite, they are interpreted as one of the oldest known occurrences of the mineral.

Site Importance – County Geological Site; recommended for Geological NHA

The well-exposed formations at Skelpoonagh Bay are part of a sequence that can be recognized northwards through Donegal as far as Inishowen and Fanad. The structures present in these accessible exposures demonstrate tectonic principles on every scale, from minor kink bands through folds and faults to major slides and igneous intrusions. It is a well-documented and potentially important teaching site. The apparent occurrence of ikaite pseudomorphs, in association with the overlying glacial deposits, is of significance, as it reinforces the use of these mineral occurrences as indicators of glacial conditions.

Management/promotion issues

The site is entirely within the Slieve Tooley/Tormore Island/Loughros Beg Bay SAC and proposed NHA (00190). The road from Glencolumbkille to Skelpoonagh Bay cannot accommodate a large bus but minibuses can negotiate the narrow bridge with care. This site, with others on the Slieve League peninsula, could be promoted as a collective destination for student field trips. There may be potential for highlighting the importance of the ikaite pseudomorphs in any general promotion of the complex geological story of the Dalradian and 'Snowball Earth' theories.



Skelponagh Bay, view toward southwest, showing Slieve League Formation rocks.



Glencolumbkille Limestone Formation showing cleavage and folding.

