# **GALWAY - COUNTY GEOLOGICAL SITE REPORT**

NAME OF SITE Other names used for site IGH THEME TOWNLAND(S)

NEAREST TOWN/VILLAGE SIX INCH MAP NUMBER ITM CO-ORDINATES 1:50,000 O.S. SHEET No. 37, 44 Glencoaghan Beanna Beola (Twelve Bens) IGH5 Precambrian, IGH7 Quaternary Glen Chóchan (Glencoaghan), Doire na bhFlann (Derrynavglaun) Sraith Salach (Recess) 37 480130E 748625N (Glencoaghan River bridge) GSI BEDROCK 1:100,000 SHEET NOS. 10,11

## **Outline Site Description**

A south-facing valley in the glaciated Beanna Beola mountains.

## Geological System/Age and Primary Rock Type

The Beanna Beola mountains are almost entirely Bennabeola Quartzite Formation. The Glencoaghan valley is flanked by quartzite peaks, with a band of Connemara Marble Formation and Barnanoraun Schist Formation, Cleggan Boulder Bed Formation lithologies on the slopes of Derryclare Mountain (east side of valley). Streamstown Schist Formation bedrock forms the central valley floor. All lithologies are part of the Dalradian (Neoproterozoic age). The present topography of the mountains formed during the last Ice Age.

## Main Geological or Geomorphological Interest

The Beanna Beola are some of the most spectacular glaciated mountain landscapes in Ireland. Opening to the south, the horseshoe shaped Glencoaghan valley is flanked by high quartzite summits reaching in excess of 500m, and the highest, Ben Baun, which reaches 730m OD. The valley faces onto the N59 Galway-Clifden road, and is one of the classic Connemara landscape backdrops. The Beanna Beola is one of the best areas in Ireland to view an 'alpine' glaciated landscape. The deep scoured Glencoaghan valley is representative of all of the alpine glaciated features found throughout the Beanna Beola: corries, whalebacks, roches moutonnees, striae, chattermarks and erratics. The high, steep-sided cliffs on the mountains surrounding the valley are one of the best examples of an areally-scoured landscape in Ireland.

The south-western slopes of the Derryclare host the Glencoaghan Antiform (D3 deformation event), a large fold structure, visible as an arc-shaped band of green vegetation that noticeably contrasts with the barer and rockier surface cover throughout the rest of the valley. This antiform folds an earlier fold (D2 deformation event), the Derryclare Fold. The result is a stratigraphic repetition of Streamstown Formation to Bennabeola Quartzite Formation to Cleggan Boulder Bed Formation to Barnanoraun Formation to Connemara Marble to Barnanoraun Formation to Boulder Bed to Bennabeola Quartzite.

## Site Importance – County Geological Site; recommended for Geological NHA

This County Geological Site is a key locality for understanding the stratigraphy, structure and metamorphic history of the Dalradian rocks of Connemara. It is hosts almost all features typical of an alpine glaciated landscape. The site is located in the Twelve Bens/Garraun Complex SAC (002031).

## Management/promotion issues

Encompassing a large area, and mostly inaccessible, this site is an excellent teaching and research site. The Beanna Beola are a renowned and much loved central feature of the Connemara landscape and the formative geological and geomorphological aspects of the mountains should be included in any media relating to tourism, heritage and conservation.



Beanna Beola and Glencoaghan Valley looking northwards from roadside at Doire na bhFlann-Gleann Chochan townland boundary.



Glencoaghan Antiform fold (green landcover) on west slopes of Derryclare. Bennabeola Quartzite Formation along upper ridge.



Bennabeola Quartzite Formation on southern slopes of Bencollaghduff at head of Glencoaghan Valley.

