MAYO - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Clew Bay**
Other names used for site	Cuan Mó
IGH THEME	**IGH7 Quaternary, IGH13 Coastal Geomorphology**
TOWNLAND(S)	**Numerous**
NEAREST TOWN/VILLAGE	**Westport, Newport**
SIX INCH MAP NUMBER	**66, 67, 76, 87**
ITM CO-ORDINATES	**490970E 789015N (centre of features)**
1:50,000 O.S. SHEET NOs. 30,31	**GSI BEDROCK 1:100,000 SHEET NOs. 6,10, 11**
GIS Code MO032	

Outline Site Description

A west-facing embayment, some 12km wide from north to south, with numerous drumlin islands, spits and sand bars around the inner margins of the bay.

Geological System/Age and Primary Rock Type

The drumlins are Quaternary in age, having been deposited at the base of the ice sheet moving northeast to southwest during the maximum period of the last Ice Age. The underlying bedrock geology around Clew Bay comprises three distinct types: Carboniferous sandstones on the north side of the bay; Carboniferous limestones at the inner central parts of the bay; and meta-sedimentary and meta-igneous rocks of Silurian age on the southern side of the bay. Glacial bedforms are found almost exclusively on the Carboniferous limestones. Lough Furnace moraines and Castlebar-Westport are part of this drumlin field.

Main Geological or Geomorphological Interest

This classical 'drowned' drumlin landscape demonstrates the sea's erosional action on a drumlin swarm that was formed by the second ice sheet advance during the last Ice Age. This type of landscape is not equalled elsewhere in Ireland in terms of the scale and variations of the drumlin features. Clew Bay contains numerous elongated E-W oriented drumlin islands and peninsulas along the inner bay coastline between Newport and Westport. The east coast of Clew Bay is backed by a low-lying Lower Carboniferous Limestone landscape. There are numerous drumlin islands, many of which have west facing cliffs, flanked by beaches, shoals of sand and gravel, and trailing spits which are derived from the eroded drumlin faces. The drumlins make an intermittent coastline that runs south to Lecanvey, where Thornhill Strand is a beach of sand and gravel that curves ~1km northeastwards along a dune-capped barrier that links the drumlin island of Bartraw to the mainland. There are numerous hummocky moraines on north margins of the bay and around Lough Furnace. Many of the ridges (subglacial bedforms) are oriented in a SW-NE direction, owing to an initial ice flow direction from the northeast and then westward towards the offshore continental shelf. Later ice movement from the southeast results in these ridges having northwest pointing ridge ends, such that many ridges are now slightly bow-shaped.

Site Importance – County Geological Site; recommended for Geological NHA

The sequence forms one of the best examples of a 'drowned' drumlin landscape in the country. The site is of international significant because it documents re-equilibration of the ice margin following deglaciation of the continental shelf, which is a major event in the deglaciation of the North Atlantic area. The site requires designation as a geological NHA.

Management/promotion issues

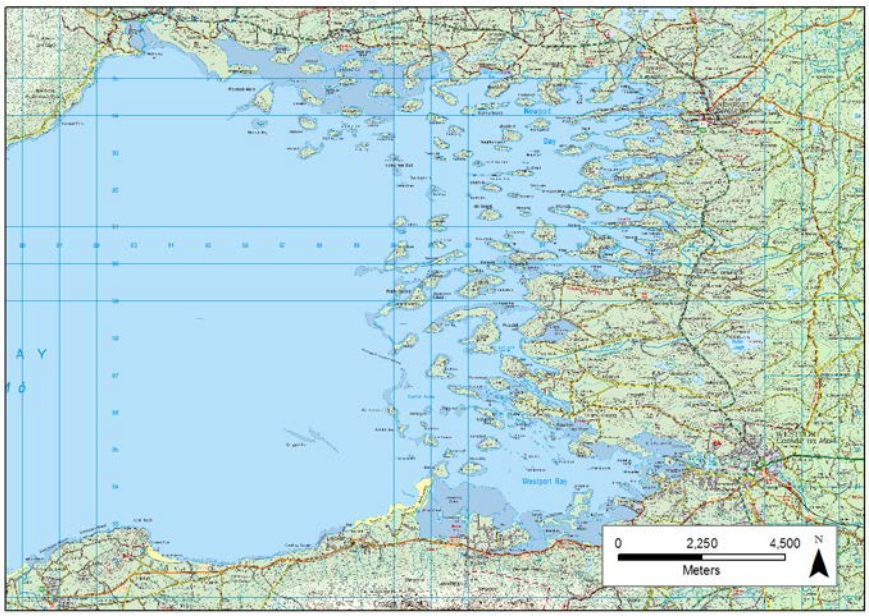
This is an excellent site in terms of macro-scale Quaternary subglacial and coastal geomorphology. The area occupied by the various features is too extensive to define as a single site with a specific boundary, as would be required for NHA status. However the area is a classic example of a coastal drumlin landscape. Many of the features are observable and accessible and are ideal for promotion in the form of easy-to-interpret literature or information panels. The site forms an integral and breath-taking view from Croagh Patrick.

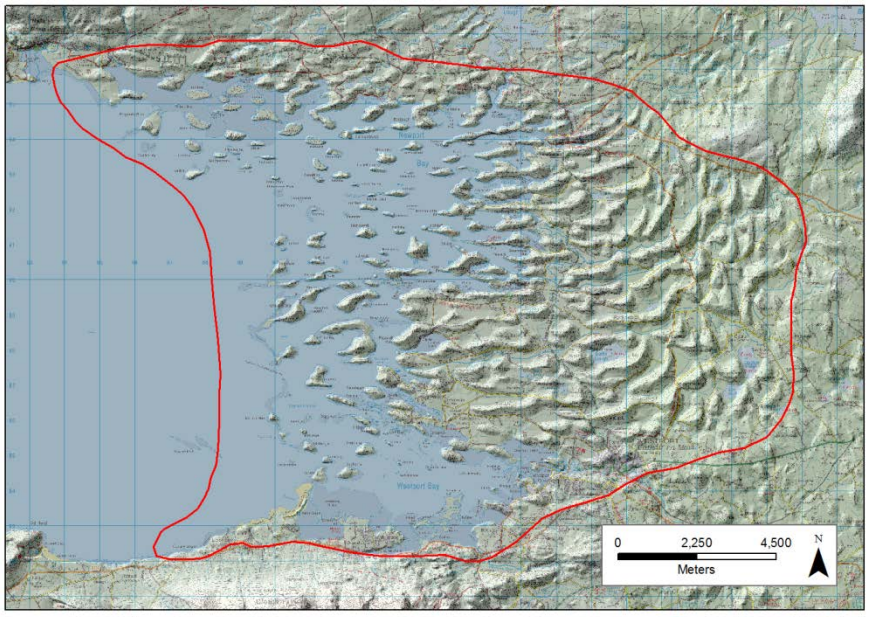
Hennessy et al. 2014 (revised 2019). Geological Survey Ireland.

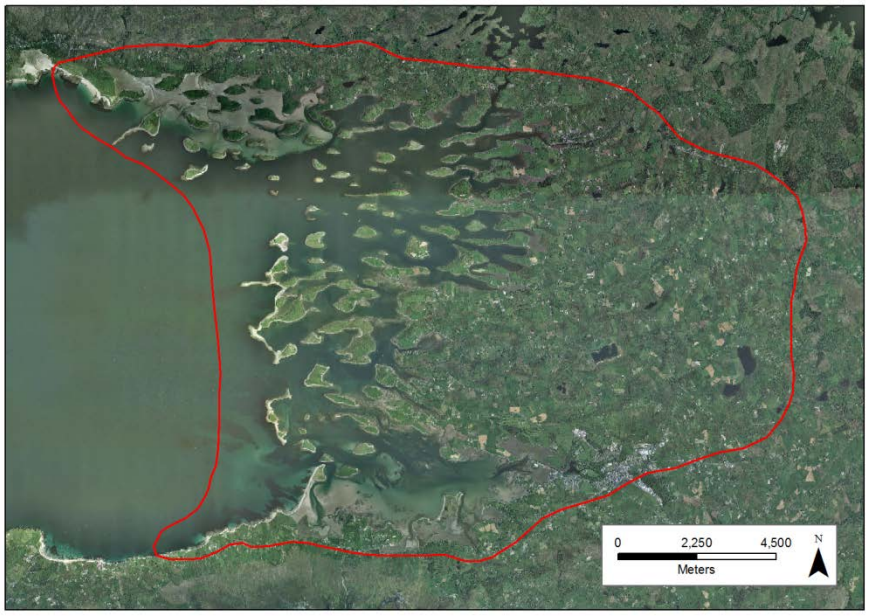
The drowned drumlin landscape of Clew Bay, viewed from Croagh Patrick.

View of Clew Bay drumlin islands from Westport pier, looking west.

Drumlin islands along the north side of Clew Bay viewed looking SE from the Greenway Cycleway east of Mulranny







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