GALWAY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Mannin Bay**
Other names used for site	*Cuan Mhannainn*
IGH THEME	**IGH13 Coastal Geomorphology, IGH7 Quaternary**
TOWNLAND(S)	**Drimmeen, Keerhaun North, Curhownagh, Derryeighter, Drinagh, Maum, Ballinaboy, Derrigimlagh, Mannin More, Mannin Beg, Knock**
NEAREST TOWN/VILLAGE	**Ballyconneely, Clifden**
SIX INCH MAP NUMBER	**35, 49**
ITM CO-ORDINATES	**462000E 746500N (centre of bay)**
1:50,000 O.S. SHEET No. 44	**GSI BEDROCK 1:100,000 SHEET NO. 10**

Outline Site Description
Mannin Bay is a large coastal embayment in western County Galway.

Geological System/Age and Primary Rock Type
The bays, beaches and estuarine features have been formed in the Holocene Period, since the last glaciation, and the bay (particularly the southern side) hosts soft silt and sand sediment washed into it, or blown across the locality, during that time. It is likely that the macro-structure of the bay, which is very shallow across its extent, dates back through the Quaternary (Ice Age) to the Tertiary Period. The underlying rock is predominantly Precambrian age (4,600-541 Ma) gneiss, except for schist along the northern shores of the bay.

Main Geological or Geomorphological Interest
The beaches and estuarine sediments in the bay have formed as a result of deposition by longshore drift, which is the movement of sand and silt along the coast by the waves. The beach and estuary features are formed when the silt and sand material - that is being carried by the waves - gets deposited due to a loss of the waves' energy, because the streams entering the bay slow it down. The bay has then resulted from wind erosion and deposition over the millennia since the Ice Age and a number of dune fields have formed along the southern edge of it. Dune slacks occur between these, which are low, narrow, marshy localities.

Mannin Bay is flanked by well-defined protruberances of bedrock which form headlands. The associated beaches in the bay are impressive features, with very white sand. Mannin Bay is almost unique as a very large proportion of the bay is dominated by a combination of maerl debris and living maerl. Maerl is free living red calcareous algae generally called 'coral'. The two species that are most abundant in Mannin Bay are *Lithothamnion corallioides* and *Phymatolithon calcareum*. In addition *Lithophyllum fasclatum* and *L. dentatum* have also been recorded. These are of considerable geological interest being one of the few examples of temperate carbonate production.

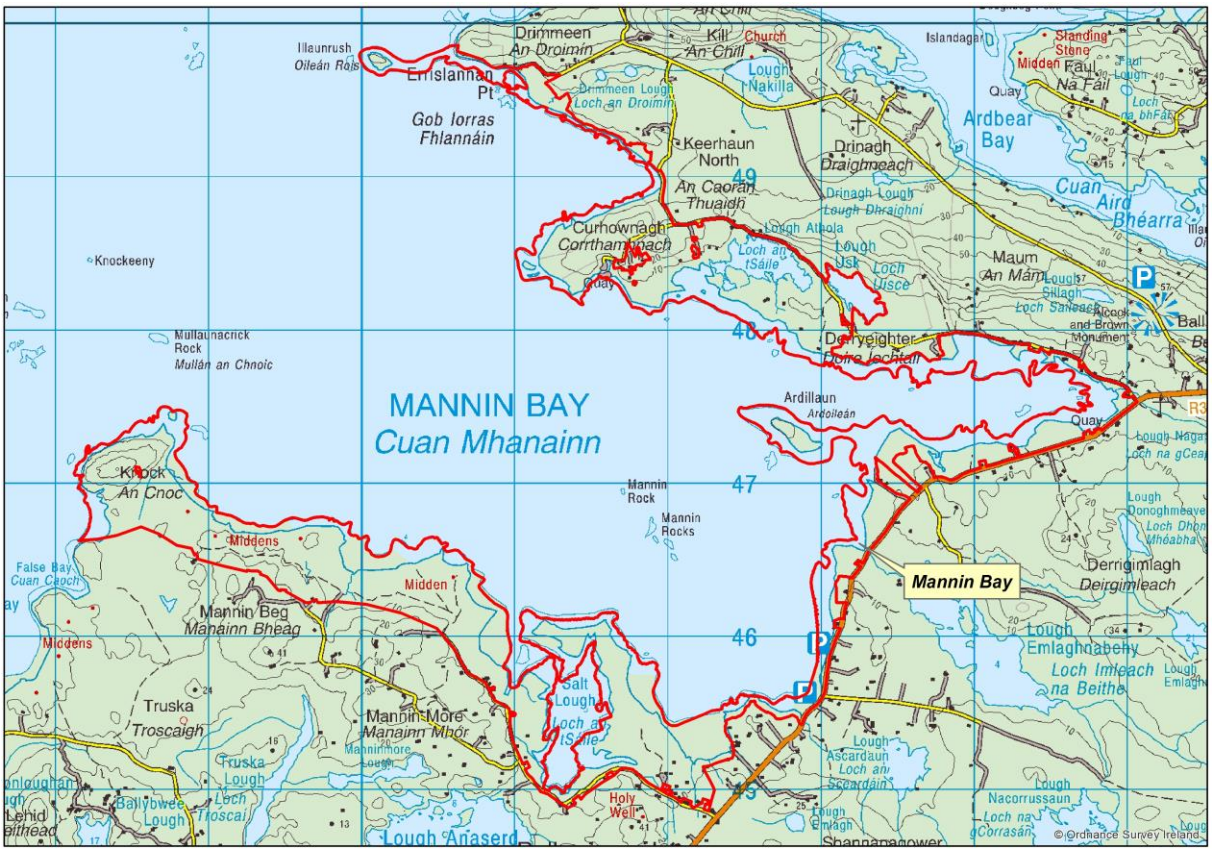
A number of small islands also occur in the bay, formed either from ice-polished granite bedrock or, in the case of Ardillaun, formed as a drumlin.

Site Importance - County Geological Site
Mannin Bay is an impressive locality and the associated island, beach, dune and slack features, as well as the surrounding headlands, make the bay a textbook locality for the recognition of coastal erosion and deposition features.

Management/promotion issues
The location of the bay means it is easily accessible, and the Mannin Bay Blueway is a popular outdoor activity destination. The information boards already present could explain the formation of the bay feature and its associated habitats, flora and fauna. The site is already part of an SAC and proposed NHA (Slyne Head peninsula, 002074), for biodiversity reasons and the geodiversity of the locality should be highlighted in any promotion of this.

View northwest across the intertidal flats and islands of the eastern end of Mannin Bay.

View southwest along the southern end of Mannin Bay.



Meehan et al. 2019. Geological Survey Ireland.

Information board for the Mannin Bay Blueway.

Meehan et al. 2019. Geological Survey Ireland.