

GALWAY - COUNTY GEOLOGICAL SITE REPORT

| | |
|----------------------------|---|
| NAME OF SITE | Aran Islands |
| Other names used for site | <i>Oileáin Árann, The Arans, na hÁrainneacha</i> |
| IGH THEME | IGH 1 Karst, IGH 7 Quaternary, IGH13 Coastal Geomorphology, IGH14 Fluvial and Lacustrine Geomorphology |
| TOWNLAND(S) | Onaght, Kilmurvy, Oghil, Killeany (Inish Mór), Carrowntemple, Carrownlisheen (Inish Meáin), Inisheer (Inish Oirr) |
| NEAREST TOWN/VILLAGE | Rossaveel (ferry) |
| SIX INCH MAP NUMBER | 110, 111, 119, 120 |
| ITM CO-ORDINATES | 485975E 709500N (centre of Inish Mór) |
| 1:50,000 O.S. SHEET No. 51 | GSI BEDROCK 1:100,000 SHEET NO. 14 |

Outline Site Description

The Aran Islands comprise three inhabited islands approximately 10 - 14 kilometres off the southwest coast of Galway.

Geological System/Age and Primary Rock Type

The rock comprising the islands is pure bedded limestone of Lower Carboniferous (359-323 Ma) age. The form of the islands was shaped within the Quaternary (Ice Age) Period, when the limestone bedrock was smoothed and scoured by glacier ice, and tills were deposited in isolated pockets along the northern portion of the islands. Much of the coastal erosion has occurred since then, during post-glacial or Holocene times.

Main Geological or Geomorphological Interest

Geologically, the Aran Islands are an extension of the Burren in County Clare, and are comprised of Carboniferous limestone strata, interbedded with occasional layers of shale. Ice-scoured limestone pavement dominates the upland areas to the south of each island, and in places along the southern coast, splendid cliffs rise to a 90 m elevation. A thin cover of rendzina soil occurs in pockets between the bare limestone ground. This soil is combined with a mixture of sand and seaweed to form, in places, a unique man-made soil cover, built up over the centuries.

The limestone pavement includes smooth-blocky and shattered types. Boulder erratics of granite carried from the mainland at Connemara are dotted across the pavement. Along the north coastline, occasional beaches and pockets of sand dunes occur. An Tra Mhór at the eastern end of Inish Mór is an intertidal sandy lagoon behind a barrier spit. At An Loch Mór on Inish Oirr, scientists have carried out pollen, plant macrofossil, ostracod, geochemistry, AMS and conventional C¹⁴ dating, uranium/thorium dating and varve and tephra analyses on a thick Holocene lake sediment sequence.

Site Importance - County Geological Site; recommended for Geological NHA

The Aran Islands are unique in the fact that bare, karstified limestone comprises the majority of the area of the islands, and they are also textbook localities for the recognition of coastal erosion features. The tephra layers of An Loch Mór on Inish Oirr also form an impressive story. The islands are relatively undisturbed, and the long palaeoecological record stretching back to the Ice Age is a further topic of geological interest.

Management/promotion issues

The fact that the islands are inhabited means they are easily accessible *via* ferry or plane, and they are a very popular destination for tourists. Information boards along the cliffs at the southern sides of the island, detailing the unusual geology would prove a worthy addition to sites such as Dun Aonghasa, explaining the formation of the cliff feature. The majority of the area of the islands are already an SAC and proposed NHAs (site codes 000212, 000213 and 001275) for biodiversity reasons and the exceptional geodiversity of the localities should be highlighted in any promotion of these.



The view east across ice-scoured limestone pavement, along the southern edge of Inish Mór.



One of the small beaches at the northern end of the Inish Mór, at Kilmurvy.



Steep cliffs at Doonaghard, on Inish Mór.



An Loch Mór, on Inish Oírr.

