

# GALWAY - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Derrynagran Bog and Esker</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH7 Quaternary, IGH16 Hydrogeology</b>
<b>TOWNLAND(S)</b>	<b>Cloonboo Beg, Cloonboo More, Derrynagran, Cloonagh, Cloonkeen Eighter, Ballinphuill</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Moylough</b>
<b>SIX INCH MAP NUMBER</b>	<b>31</b>
<b>ITM CO-ORDINATES</b>	<b>558000E 752450N (centre of bog)</b>
<b>1:50,000 O.S. SHEET No. 39</b>	<b>GS1 BEDROCK 1:100,000 SHEET NO. 11</b>

## Outline Site Description

The Derrynagran Bog and Esker includes a number of high, sinuous ridge segments, which all form part of the same small esker system, as well as an adjacent raised bog, approximately 5 km northwest of Moylough, in east central Galway.

## Geological System/Age and Primary Rock Type

The bog and esker are formed within an area dominated by bedrock of Lower Carboniferous limestones. The esker itself is Quaternary in age, having been deposited either under or at the edge of the northward-retreating ice sheet during deglaciation, approximately 14,000 years ago. The bog peat is also Quaternary in age, though much more recent, having formed in marshy conditions since deglaciation, about 7,000-10,000 years ago.

## Main Geological or Geomorphological Interest

This ridge is the easternmost of the three major conduit systems that subglacially drained the western portion of the melting ice sheet in the Irish Midlands. It also forms a more southerly portion of the same system that the Park Esker forms part of. Where present, the esker ridge is a striking feature, standing proud of the flat landscape of till (boulder clay) and sands and gravels within which it was deposited. The majority of the feature comprises intact portions, and little of the esker has been quarried out. The feature is important in that it records faithfully the ice movement across this area of east Galway which is along its orientation, *i.e.* north to south. Associated sands and gravels in Cloonkeen Eighter and Ballinphuill townlands flank the esker and are probably part of associated ice marginal fans. The sands and gravels within the esker feature itself are comprised chiefly of limestone clasts. The bog consists of one small, very wet dome, and many flanking cutover areas. The central area is very flat and somewhat quaking and supports a distinctive system of hummocks and pools with carpets of bog moss extending from the edges. Some pools have large, actively-growing hummocks of the scarce bog moss, *Sphagnum imbricatum*, particularly on islands which have escaped any historical fire damage. The cutover areas at the east comprise a complex of banks and abandoned very wet cutover, with regenerating bog mosses and cottongrass.

## Site Importance – County Geological Site

The esker feature is an impressive, high, striking example of a dry sand and gravel ridge. This esker and the associated sands and gravels are a good example of a deglacial, meltwater-deposited complex, with portions deposited under the ice, and portions at the ice margin. Though only two segments of the esker have been designated as pNHA (Site code 001255), several more are here proposed as a County Geological Site, as well as the raised bog area. Overall the site shows a transition from bog to esker (both of good quality) including a possible lagg zone [ecological transition from mineral soil communities to ombotrophic bog communities], which increases its overall scientific value.

## Management/promotion issues

A walking trail across some of the esker segments, with a signboard detailing the geomorphology of the feature, could be a local amenity resource. Currently, the land is in private ownership and the site should not be visited without the permission of the owners.



The Derrynagran Esker, looking northeastwards. See the high, elevated nature of the ridge.



The local road following the crest of the esker in Cloonkeen Eighter Townland.



The main dome of the raised bog, with a cutover face in the foreground.



Some regenerating bog at the northern end of the bog extent, in Cloonagh Townland.

