

GALWAY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Coole-Garryland Complex
Other names used for site	
IGH THEME	IGH1 Karst
TOWNLAND(S)	Castlequarter, Newtown, Glenbrack, Coole Demesne, Knockaunatouk, Cloonteen, Garryland, Doonowen, Ballynastaig, Crannagh, Raheen Demesne, Lisheencrannagh, Lydacan
NEAREST TOWN/VILLAGE	Gort
SIX INCH MAP NUMBER	113
ITM CO-ORDINATES	543200E 704250N (centre of Coole Lough)
1:50,000 O.S. SHEET No. 52	GSI BEDROCK 1: 100,000 SHEET NO. 14

Outline Site Description

A very large complex of turloughs, risings and sinks in the Gort lowlands.

Geological System/Age and Primary Rock Type

The karstic features are within Carboniferous Limestone and are post glacial in age (Holocene) but may have a strong inherited component of landscape development from inter-glacial or pre-glacial times.

Main Geological or Geomorphological Interest

Groundwater flow from Coole Lough to Doo Lough to Garryland to Caherglassaun Lough is via the epikarst, a shallow flow system with progressively greater transmissive capacities at higher levels. The Coole Lough and Doo Lough sinks are excellent and accessible examples of the entrances to such epikarst networks. Garryland Turlough is a classic example of a small (15 ha) turlough, c. 3 m deep and largely unmodified by human interference. The turlough is located between wooded north-south oriented ridges of till and bedrock. The turlough is of compound uvala type morphology and contains several sub-basins, each with springs and sinks, one of which shows tidal influence. Although underlain with peat and peat marl, rock seems to be close to the surface and outcrops in small solutionally weathered cliffs at the south-western extremity. These outcrops show distinctive lacustrine-type karren micro-landforms, including a type superficially similar to the smooth tube-like features developed on the underside of overhanging rocks which are submerged for a part of the year and are widespread around the shores of Loughs Corrib and Mask. They have been termed pseudorohrekarren. Its hydrology is presumed to be intimately related with that of the Coole – Doo – Caherglassaun system, possibly as an overflow for the main underground flow route. The dipping bedrock is interpreted as being a single bed which has become dissected and developed into dipping blocks by collapse, after solution below.

Site Importance – County Geological Site; recommended for Geological NHA

This is one of numerous sites within the Gort-Kinvara lowlands which make up a complex of international importance. The site is recommended to NPWS for designation as a geological NHA, comprising one of 15 critical sites within the Gort-Kinvara lowland karst which is one of the best studied lowland karst areas of the World.

Management/promotion issues

This site has many elements that cannot all be described and hydrogeological behaviour that varies considerably depending on seasonal patterns and localised changes such as storms and rainfall events. Flood levels vary greatly. The site is designated as an SAC (site code 000252) but it must be remembered that the biodiversity recognised in that designation is fundamentally as a result of the geological diversity. Coole Park is a public National Nature Reserve (NPWS managed) largely overlapping the site so there are great opportunities to provide more educational materials than are currently available, or to revise existing materials with a slightly more geological focus.



Some of the sinks at Coole Lough.



Near Doo Lough.



Garryland Turlough.

