

# GALWAY - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Coole Cave and Polldeelin</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH1 Karst</b>
<b>TOWNLAND(S)</b>	<b>Coole Demesne</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Gort</b>
<b>SIX INCH MAP NUMBER</b>	<b>122</b>
<b>ITM CO-ORDINATES</b>	<b>545110E 705680N (Polldeelin)</b>
<b>1:50,000 O.S. SHEET No. 52</b>	<b>GSI BEDROCK 1: 100,000 SHEET NO. 14</b>

## Outline Site Description

A major rising of the Gort River with an associated cave and vertical sided pothole down to the water table.

## Geological System/Age and Primary Rock Type

The karst features are all within Carboniferous Limestone but are probably post glacial (Holocene) in age, perhaps within an inherited component of preglacial or inter-glacial landscape development, given the size of the underground drainage conduits.

## Main Geological or Geomorphological Interest

Coole Cave is a section of abandoned underground course of the Gort River, some 800 m in length, of which 360 m are accessible to non-divers. A large fossil streamway, relatively easy of access and containing a variety of representative cave features:

- elliptical phreatic tube with local modification by roof collapse
- roof tube (proto-cave) along the north-south jointing still preserved in places
- widespread secondary calcite deposits including calcite gour pools on the floor, straw and curtain stalactites, large flowstone and stalagmite deposits over cave sediments and blocks fallen from the roof
- botryoidal (globulite) calcite deposits are also present indicating a long period of submersion of the passage in static, super-saturated waters.

The entrance is a collapse from the surface and leads via a debris cone into the main cave. This debris cone is a classic example of cave entrance facies and may, if excavated, prove an important source of palaeoenvironmental and archaeological data. At about 60 m from the pothole, Polldeelin is a large vauclusian type spring from which the combined waters of the Gort and the Ballylee Rivers resurge. The passage descends to -30 m in a very large diameter tunnel. A series of collapse dolines exist above the cave including one which is directly linked to the main river flow, which is called Polldeelin. This is a 14 m deep vertical sided pothole down to the water table. Outside the river rising, on both banks and on the higher banks is a discrete reddish coloured sand deposit. This was reportedly flushed out of the cave in recent years during a major flood event.

## 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

The site is on private farmland and permission should be sought before accessing it. Caves are potentially dangerous environments and should only be visited in the company of experienced cavers. The site is near the north eastern limit of the SAC 000252 – Coole-Garryland Complex. As Polldeelin and Coole Cave are both active parts of the drainage and karst of that site, it may be

advisable to enlarge the SAC simply to include them, especially as Coole Cave is already an SAC for its horseshoe bat population.



Coole Cave entrance.



Coole Cave entrance tree (centre).



View of the Gort River rising. Note sand deposit on right.



Polldeelin pothole is in the trees.



Sand flushed from the rising in flood event.

