

## LEITRIM - COUNTY GEOLOGICAL SITE REPORT

|                                      |   |
|--------------------------------------|---|
| <b>NAME OF SITE</b>                  | <b>Largy - Gorteenaguinnell</b>                                     |
| Other names used for site            | Largy Rifts   |
| <b>IGH THEME</b>                     | <b>IGH1 Karst</b>   |
| <b>TOWNLAND(S)</b>                   | <b>Largy, Gorteenaguinnell, Aghamore, Tawnamachugh, Launtaggart</b> |
| <b>NEAREST TOWN/VILLAGE</b>          | <b>Manorhamilton</b>  |
| <b>SIX INCH MAP NUMBER</b>           | <b>3, 6</b>   |
| <b>ITM CO-ORDINATES</b>              | <b>580000E 845000N (centre of site)</b>                             |
| <b>1:50,000 O.S. SHEET NUMBER 16</b> | <b>GSI BEDROCK 1:100,000 SHEET NO. 7</b>                            |
| <b>GISCODE LM019</b>                 |   |

### **Outline Site Description**

A large area of upland plateau karst.

### **Geological System/Age and Primary Rock Type**

The karst landscape and abundant potholes are formed within the Dartry Limestone Formation, of Mississippian (Lower Carboniferous) age, but they are probably mainly of Holocene age, or post-glacial development.

### **Main Geological or Geomorphological Interest**

Largy – Gorteenaguinnell is the most extensive field of enclosed depressions formed on plateau karst in Ireland. As well as this, the site area has probably the densest and most extensive development of enclosed depressions, or dolines, and pothole type shafts in the country. The numerous potholes mapped by cavers are known, but there are countless more shallow dolines that do not lead into potholes and which were not mapped until recently. The plateau has a fairly flat and featureless terrain so locating these features was not easy before the advent of Global Positioning Systems.

The development of potholes, and of other landscape features, in the upland karst is strongly controlled by the bedrock geology of the area. The lithological variation in the Dartry Limestone Formation, which underlies the area, has a strong influence. Areas of clean limestone form limestone pavements on the plateau. Other sections, with very abundant chert beds and nodules, are where potholes tend to form as the chert forms barriers to downwards flow, meaning shafts form in adjacent limestone. As with many cave districts of northwest Ireland, the presence of chert stops both horizontal and vertical cave development, except where fracturing or faulting in the cherts provides downwards pathways for water. Faulting such as this is strongly influential in Largy Townland, where linear series of potholes have formed following major weaknesses in the bedrock. Series 1, Series 2, Series 5, the Cock Series and 'The Ditch' are the most linear of these potholes, as named and mapped by cavers, but there are many more less linear clusters too.

### **Site Importance – County Geological Site; recommended for Geological NHA**

The Largy – Gorteenaguinnell site has already been recommended to NPWS for Geological NHA status but most of the site falls within the Ben Bulbin, Gleniff and Glenade Complex SAC (Site Code 000623). Parts of the site, in Gorteenaguinnell and Tawnamachugh townlands, for example, are outside the southern boundary of the SAC.

### **Management/promotion issues**

The caves are all vertical potholes and are unsuitable for visiting except by experienced and properly equipped cavers. The relatively featureless terrain means it is dangerous for hillwalkers too, as potholes can be nearly invisible until you are right upon them. The northern scarp is also a dangerous cliff face. Recent years have seen several expedition caving projects to fully map and survey every pothole and karst feature. The site is likely to remain the preserve of sheep, cavers and geologists.



The plateau karst looking southwest over the townlands west and south of Largy.



Pollododhéag, looking north along Series 1 potholes.



Looking west across Deep Pot on Largy.



Junction Hollow, at the junction of Series 1 and 2.



Limestone pavement at the east of the site.



