

OFFALY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Marlow's Hole		
Other names used for site			
IGH THEME	IGH1 Karst, IGH16 Hydrogeology		
TOWNLAND(S)	Pallaspark		
NEAREST TOWN/VILLAGE	Tullamore		
SIX INCH MAP NUMBER	24		
ITM CO-ORDINATES	626340E 719725N		
1:50,000 O.S. SHEET NUMBER	54	GS1 BEDROCK 1:100,000 SHEET NO.	15

Outline Site Description

This site is a complex active sinkhole in karstic limestone, southeast of Tullamore and at the northern edge of Pallas Lough.

Geological System/Age and Primary Rock Type

The sinkhole, drainage and cavity development are probably all post-glacial in age, formed over the last 11,000 years.

The karstified limestone itself is pure bedded, undifferentiated Visean limestone, and is of Lower Carboniferous age.

Main Geological or Geomorphological Interest

The site includes three individual stream sinks and the large enclosed depression containing them. One small stream flowing northwestwards out of Pallas Lough sinks into the southernmost sink and (during higher stream flow or flood conditions only) into the northernmost two. All sinks are on the northern side of the enclosed depression. There is probably a significant cavity beneath the site, though no entrance has currently been found.

The site may be linked to Agall Springs, an important public water supply several kilometres to the north of Pallas Lough, although dye tracing would be required to confirm this.

The entire sinkhole fills with water in times of heavy or prolonged rain and wells up within the base of the enclosed depression to become part of the lake. Owing to this, for much of the year, 'Marlow's Hole' itself is actually invisible.

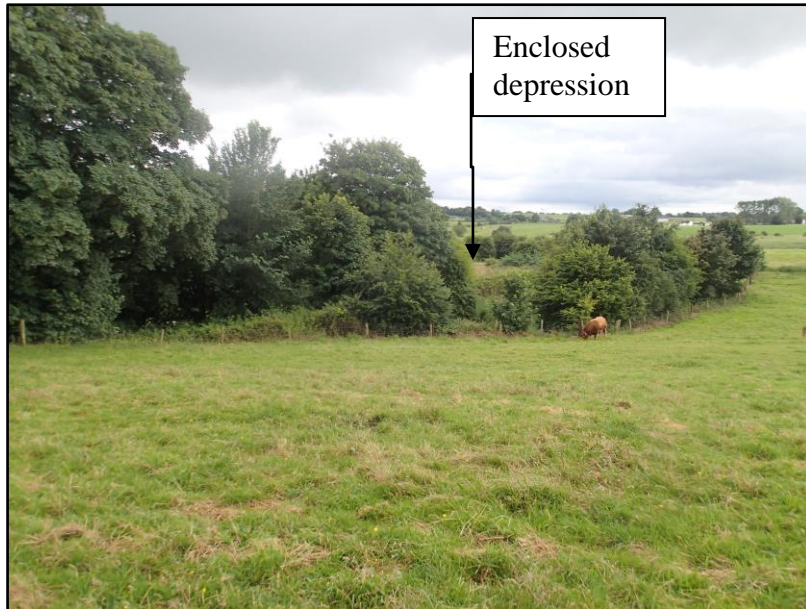
Site Importance – County Geological Site, may be recommended for Geological NHA

This is one of a small number of active karst sites in the limestone district around Tullamore and is recommended as a County Geological Site.

Management/promotion issues

The input of high volumes of water into active conduits in karstified limestone is recognised as a high-risk issue for groundwater supplies and the site should be protected from pollution from agricultural or road spills, or runoff.

The sinkhole has been designated as part of the Pallas Lough pNHA (sitecode 000916), and is already protected as a National Monument for the adjacent castle site (RMP No. OF024-015001, see www.archaeology.ie). The site is on private land and is not suitable for general promotion.



The view from the entrance laneway to Pallas House across the enclosed depression hosting the swallow holes.



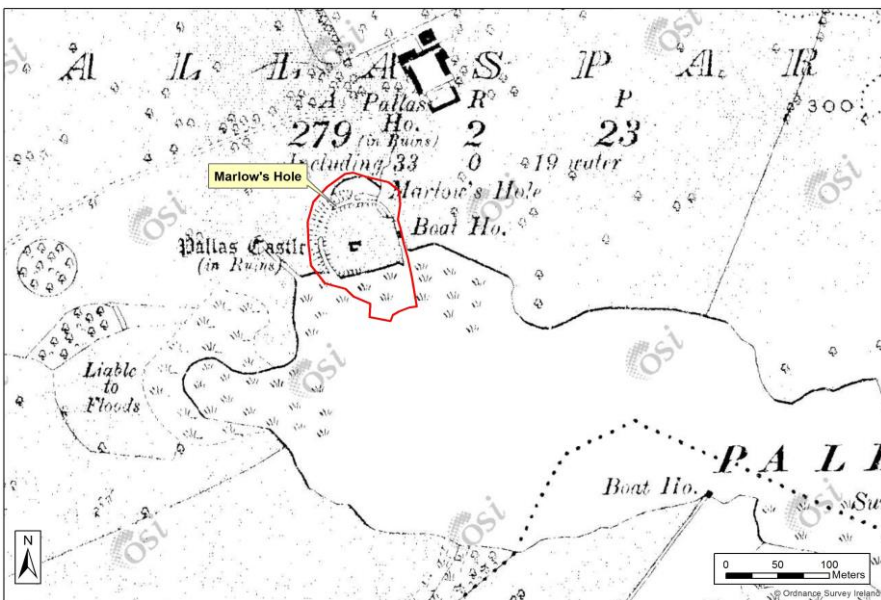
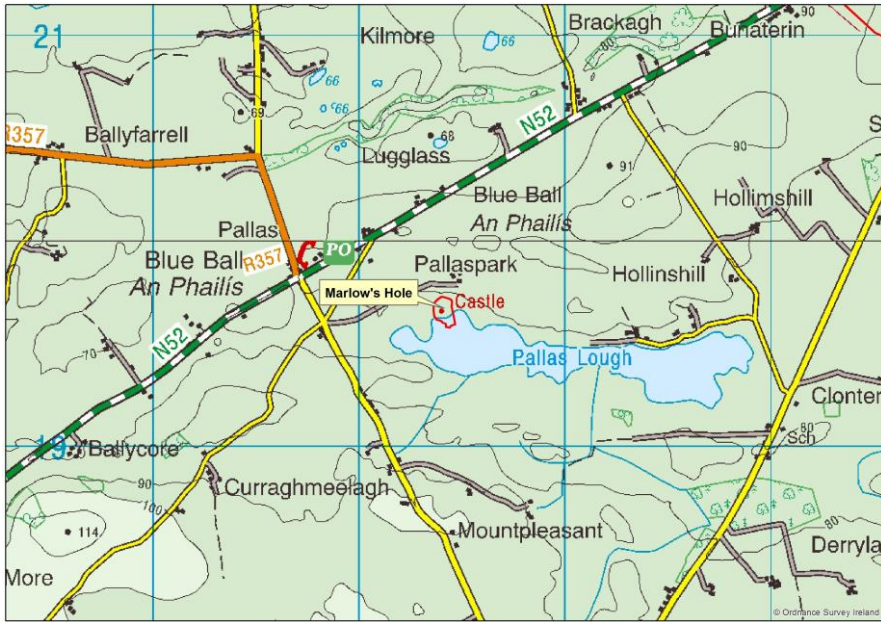
Looking northwards across the enclosed depression; see the stream entering at the base.



The stream as it flows from Pallas Lough into the enclosed depression



The stream heading towards the swallow holes and bedrock outcrop.





A photograph of Marlow's Hole from 1974, showing the lake level much higher than it is now.
Note the absence of vegetation around the swallow hole locality.
Photograph courtesy of Offaly Historical and Archaeological Society.