

WICKLOW - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Lugnaquilla
Other names used for site	Lug, <i>Log na Coille</i> , Percy's Table (summit)
IGH THEME	IGH7 Quaternary
TOWNLAND(S)	Ballinaskea, Cloonkeen, Corrasillagh, Carrowaystick, Aghavannagh, Aghavannagh Mountain, Lugnaquilla, Cannow Mountain
NEAREST TOWN/VILLAGE	Donard
SIX INCH MAP NUMBER	22, 23
ITM CO-ORDINATES	703140E 691810N (summit)
1:50,000 O.S. SHEET NUMBER	56 GSI BEDROCK 1:100,000 SHEET NO. 16

Outline Site Description

Lugnaquilla is the highest mountain in County Wicklow, and Leinster.

Geological System/Age and Primary Rock Type

The slaty schist (Ribband Group) capping the mountain is Ordovician in age. Late Caledonian granites intruded the pre-existing Ordovician country rock, or host rock, approximately 405 million years ago (Devonian). Rocky crags (nunataks) of schist have been free of ice and exposed for between 46,000 and 96,000 years.

Main Geological or Geomorphological Interest

Lugnaquilla (925m) is a slate capped, granite rooted, relatively flat-topped mountain. The summit drops west into North Prison corrie, south into South Prison corrie, and north into Fraughan Rock Glen (a hanging valley that opens into the U-shaped valley of Glenmalure). Viewed from the summit, crags of dark-grey schist protrude from the upper cliff walls of the corries. In 1894, G.H. Kinahan first described accumulations of loose rocks on the floor of the North and South Prisons called 'snowstones' or 'cloghsnatty', today internationally called 'protalus ramparts' (these form at the foot of ice/snow banks). The summit forms the southern extent of an axis of high ground (>600m) that stretches almost continuously for 27km north to Kippure. The summit is marked by a stone cairn and 'Trig' pillar. The granites underlying the mountain are part of the Lugnaquilla pluton (part of the Leinster Granite Batholith), a 200km² body of granite. The cap of schist overlying the granite is the remnant roof of the magma chamber into which the Lugnaquilla granites were emplaced. The schists are part of a metamorphic aureole (a zone of country rock surrounding an igneous intrusion which has undergone metamorphism due to the heat of the intruding magma). Cosmogenic (¹⁰Be) dating on exposed bedrock at the summit reveals that the schists were not covered by ice during the last glacial maximum (LGM, 25,000-22,000 years ago), and have been exposed to the elements for between 46,000 years and 96,000 years. This type of mountain top feature is called a nunatak. During the Last Glacial Maximum, only a small number of summits above 725m in the Wicklow Mountains escaped glacial erosion, while most of the region lay under a cover of ice. Cosmogenic dating and pollen analysis indicate that ice persisted on the southern side of Lugnaquilla around Kelly's Lough until 11,800 years ago.

Site Importance - County Geological Site; recommended for Geological NHA

This landmark site is of special geological and geomorphological interest, hosting excellent glacial landscape features and the Leinster Batholith 'slate cap'. It is located in Wicklow Mountains SAC (002122).

Management/promotion issues

This is a popular hillwalking site. Initiatives such as those led by Mountain Meitheal signage are important in highlighting the sensitivity of the tracks to erosion by walkers. The geological and geomorphological characteristics should be promoted in any literature or media content pertaining to the highest mountain in Leinster.



Summit of Lugnaquilla, looking west. Schist crags outcrop on upper walls of South Prison corrie. Ow valley to left.



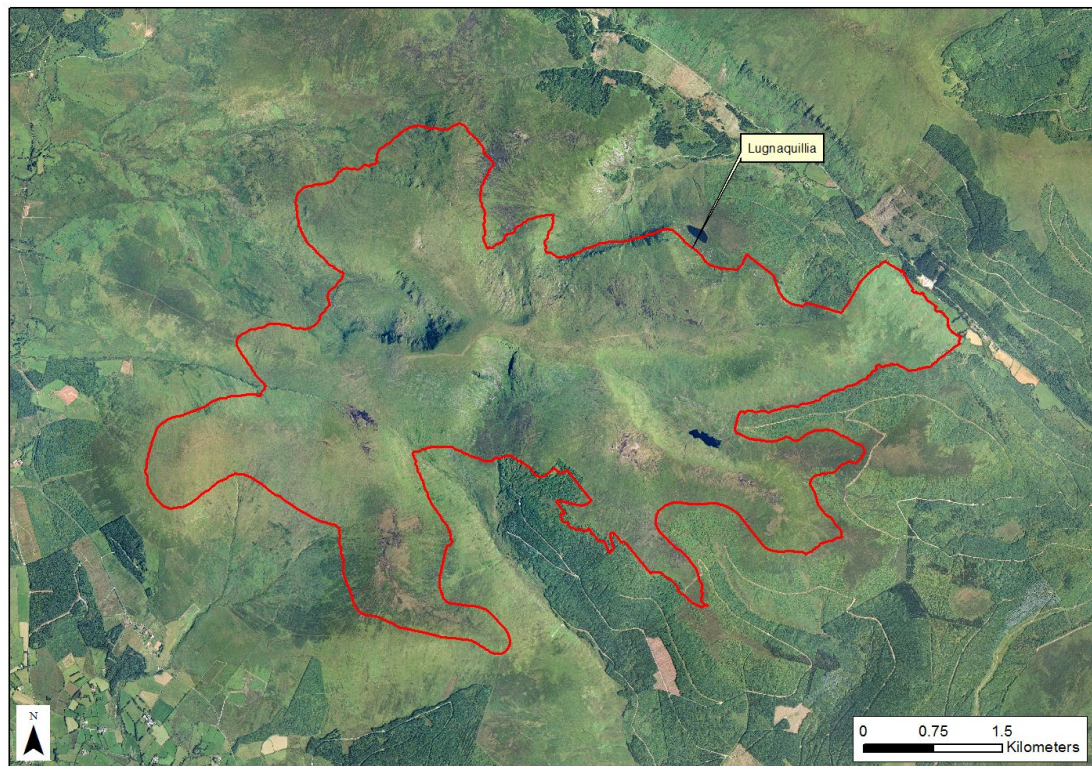
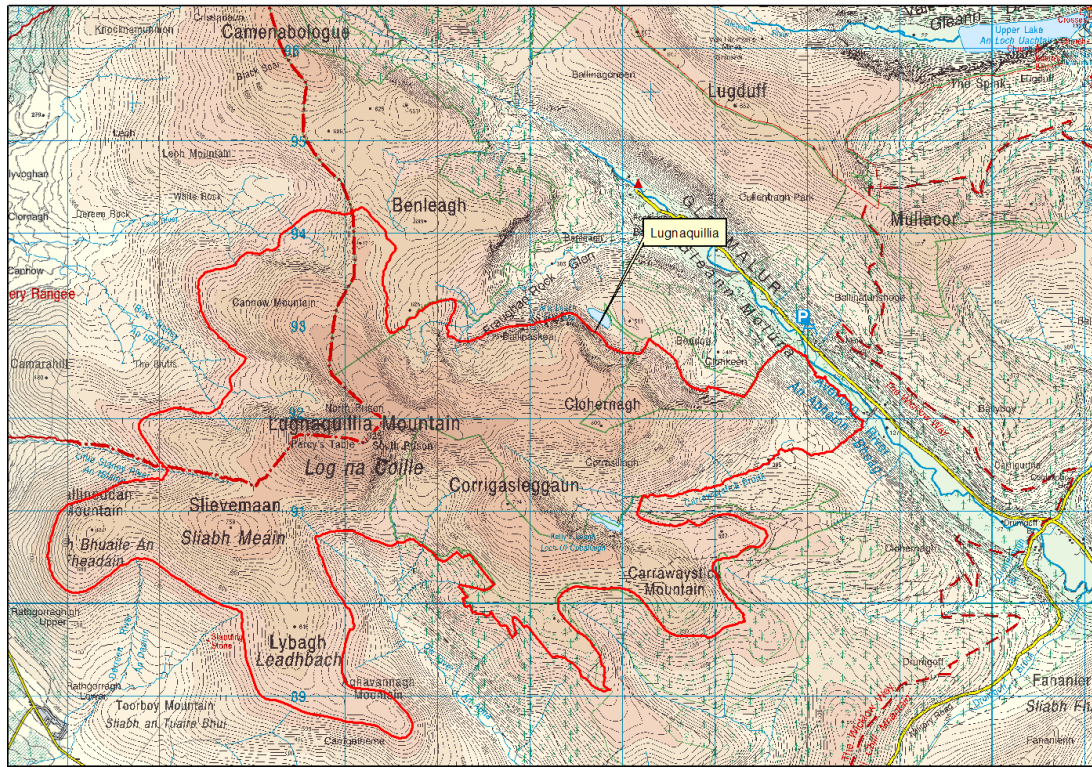
Schist (dark-grey) and granite (white) on east walls of South Prison corrie - viewed from summit.



Kelly's Lough, viewed from ridge to Lugnaquilla summit. Moraine to left (north) of lake.



Granite crag (Jim's High rock) on walking route at Cloghernagh, looking east to Glenmalure.





Kelly's Lough, on the southeastern flank of Lugnaquilla, as painted by George Victor du Noyer in the nineteenth century.