

WICKLOW - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Mullaghcleevaun
Other names used for site	<i>Mullach</i> <i>Cliabháin</i> , Mullaghcleevaun East Top, Ballacullian
IGH THEME	IGH7 Quaternary
TOWNLAND(S)	Ballynultagh, Glenbride, Ballinagee, Laragh West, Drummin, Carrigeenduff,
NEAREST TOWN/VILLAGE	Laragh
SIX INCH MAP NUMBER	11, 17
ITM CO-ORDINATES	706690E 707060N (summit)
1:50,000 O.S. SHEET NUMBER	56 GSI BEDROCK 1:100,000 SHEET NO. 16

Outline Site Description

A predominantly granite mountain, this site comprises upland mountain areas of extensively eroded peatland, exposed granite blockfields, perched boulders and granite sand.

Geological System/Age and Primary Rock Type

Peat erosion has been ongoing for the past 3,000 years (Holocene). The Late Caledonian granites were emplaced approximately 405 million years ago during the Devonian Period.

Main Geological or Geomorphological Interest

Areas of high-level blanket peat on Mullaghcleevaun (849m), Mullaghcleevaun East Top (795m) and Ballacullian (715m) show extensive erosional damage. Isolated peat hags and peat banks are found throughout the site, as are deep gullies in peat, and sub-peat pipes. Where peat has eroded severely, the underlying granite is exposed, in most places as granite sand (quartz, feldspar, mica). Peat erosion has been ongoing in Wicklow for over 3000 years, and is therefore not solely attributed to recent human disturbance. Tree clearance in the Wicklow Mountains pre-dates the onset of peat erosion by too significant a period of time to have had any direct influence on the onset of erosion. Other human and biotic factors (grazing animals, burning, drainage, trampling, industrial pollution) are recognised as contributory factors to the acceleration of erosion. However, studies have revealed that erosion began before most human and biotic factors began. On Mullaghcleevaun (849m) and Mullaghcleevaun East (795m), ice-scoured granite slabs are found at heights of up to 670m, and perched boulders up to 735m. This implies that the former ice surface lay at least as high as 735m. Both summits support small tors with occasional large cantilevered slabs, and in situ blockfields descend to 780m, implying that the maximum altitude of glacial action on these mountains reached heights of 735m-780 m. Peat erosion is considered to be a natural consequence of the accumulation of peat on sloping ground. Climate is also considered to be an influencing factor, as are natural bog flows.

Site Importance: County Geological Site

This County Geological Site is an excellent site for observing the results of long-term (millennial scale) peat erosion. The site is located in the Wicklow Mountains SAC (02122).

Management/promotion issues

It has been suggested that management of the peatland resources may decrease current erosion rates in some areas of high-level blanket peat. However, the processes of peat erosion evident on Mullaghcleevaun and elsewhere in Wicklow are an integral part of the upland blanket peatland system. Mullaghcleevaun is a popular destination for hill walking and trekking in the Wicklow Mountains, providing remarkable views of the surrounding mountain/valley terrain. There is no defined path to the summit. Whilst most walkers are respectful of the natural environment, literature for Wicklow Mountains walkers should include guidelines on avoiding damage to fragile peat hags and banks.



Peat erosion on east slopes of Mullaghcleevaun (849m) looking west from Mullaghcleevaun East Top (790m).



Peat banks, peat hags and granite sands on Mullaghcleevaun looking east towards Lough Dan\Knocknacloghoge.



Collapsed peat hag. Looking east towards Lough Dan.



Extensive peat erosion on Barnacullian ridge, viewed from Mullaghcleevaun East Top looking southwest.



