

## WICKLOW – COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Dunran Channel</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH7 Quaternary</b>
<b>TOWNLAND(S)</b>	<b>Dunran, Moorstown, Carrignamuck, Killiskey, Ballyduff</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Newcastle</b>
<b>SIX INCH MAP NUMBER</b>	<b>19</b>
<b>ITM CO-ORDINATES</b>	<b>727080E 702590N (centre of channel)</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>56</b>
	<b>GSi BEDROCK 1:100,000 SHEET NO. 16</b>

### Outline Site Description

The Dunran comprises a deep channel that was formed by meltwater erosion on the eastern flank of the Wicklow Mountains. The channel is oriented generally north–south, and extends for a distance of approx. 3 kilometres.

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

The feature is formed in an area of bedrock outcrop and subcrop, and bedrock outcrops along the majority of the channel sides, giving the feature its ‘carved out’ appearance. The feature was etched out by meltwater during deglaciation at the end of the last Ice Age, about 12,000 years ago.

The bedrock in the locality is dominated by greywacke and quartzite of Cambrian age.

### Main Geological or Geomorphological Interest

The Dunran channel is up to 80m deep and has a U-shaped profile, typical of meltwater channels. The base of the northern portion of the channel is dry, but springs emerge in the grounds of Dunran Castle and form a stream that flows along the base of the channel and exits to the south.

The Dunran Channel is considered to have formed completely in the late-glacial Period. Initially the Dunran Channel was a subglacial channel, formed under the ice, but later carried surface glacial outwash southwards from an ice margin just to the north. The channel carried huge amounts of subglacial meltwater draining the ice sheet which extended into Wicklow from the Irish Sea Basin. This very high energy meltwater flow resulted in the Dunran Channel’s unusual depth and size.

Much of the sides of the channel are very steep, and are covered with coniferous forestry today. The glen has an irregular long profile, which means that meltwater was under huge pressure from ice above, thus proving that the channel was initially subglacial in origin. The channel probably extended further southwards but its southern portion was blocked by ice marginal sediments which forced drainage later in deglaciation to flow southeastwards towards Ashford.

### Site Importance – County Geological Site

This is a site with good teaching potential on glacial meltwater erosion, as the feature is accessible, quite spectacular, and easily viewed from roads.

### Management/promotion issues

The location of the channel just off the N11 means it is easily accessible, although the flanks are located presumably in private ownership or in commonage. However, there is no parking nearby and it is difficult to stop safely on the road. A good impression of the feature can be had by looking south from the highpoint of the N11 as it passes by Newtown Mount Kennedy. The road then passes below the Dunran channel through the Kiltimon channel which was formed later by meltwater flowing southwards, marginal to the ice.



The Dunran Channel, viewed from the N11 to the north.



The southern end of the Dunran channel, where the feature is cutting through till sediment. See the outcropping rock along the shoulder of the channel in the distance.





