

## DONEGAL - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Trá an Mhachaire</b>
Other names used for site	Maghera Strand, Loughros Beg Bay
<b>IGH THEMES</b>	<b>IGH13 Coastal Geomorphology</b>
<b>TOWNLAND(S)</b>	<b>Maghera</b>
<b>NEAREST TOWN:</b>	<b>Ardara</b>
<b>SIX INCH MAP NUMBER</b>	<b>73</b>
<b>ITM CO-ORDINATES</b>	<b>567777E, 891014N</b>
<b>1:50,000 O.S. SHEET NUMBER: 10</b>	<b>GS1 BEDROCK 1:100,000 SHEET NOS. 3, 4</b>
<b>GIS Code DL027</b>	

### Outline Site Description

Maghera Strand, within Loughros Beg Bay, has developed a wide, in-washed sandflat above the level of normal high tides, backed by grassy dunes. Steep cliffs rise immediately to the south.

### Geological System/Age and Primary Rock Type

The sand deposition system is of Holocene age, having been formed within the last 10,000 years since the end of the last Ice Age. The features are subject to continual modification.

### Main Geomorphological Interest

Loughros Beg Bay trends dominantly west–east, reflecting the bedrock orientation along the Knockateen Slide. The shoreline is predominantly of bedrock and geomorphological evolution within the bay is focused on Maghera Strand, a low bank devoid of vegetation, more than 1 km<sup>2</sup> in extent at low tide. It comprises sandflats and dunes at the seaward end through muddy areas and eroded salt marsh to the sandy estuary of Bracky River. Bar features on the foreshore are integral to the development of Maghera Strand as an intertidal barrier by maintaining a surplus of sediment in the nearshore region (southern side) of the inlet. The Owenree River valley to the southwest may also contribute to this by channelling wind onto the supratidal flat, transporting dry sand at low tide to augment the dunes. The Maghera dune system has a denuded appearance, with several small blowouts, and dune vegetation is often covered by a thin deposit of wind-blown sand. On their seaward margin, the dunes grade into the supratidal strand flat *via* a narrow zone of embryo dunes. The resulting intertidal barrier deflects the ebb channel towards the north.

In contrast to the geomorphological change evident in Loughros More Bay to the north, the supratidal Maghera Strand has remained stable during historical times and has exerted continued control on the position of the inlet ebb-channel, maintaining it on the north side of the bay. The stability of the ebb channel position has, in turn, contributed to leaving the Maghera dunes relatively unchanged, in contrast to those in Loughros More Bay.

There is evidence west of Maghera Strand in Loughros Beg Bay of paleodune accumulation and a cave at 5 m above mean sea level that developed when sea level was higher. The cliffs to the west are in thinly bedded southward-dipping quartz sandstone (Slieve Tooley Quartzite Formation) that has been excavated by the sea along joint planes into clefts and caves.

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

Evidence of changes to the coastline at Maghera Strand extends back to the first Ordnance Survey maps made between 1833 and 1836. Modifications to its shape in subsequent years have been the subject of detailed studies but the position of the ebb-channel in the estuary has remained relatively stable. The site's primary importance is as a sensitive benchmark for sea level change, should this threat become an active issue for planners in future. The site is wholly within the Slieve Tooley / Tormore Island / Loughros Beg Bay SAC and proposed NHA (00190).

### Management/promotion issues

Maghera Strand and cave are well established as tourist attractions. A car park has been provided and a boardwalk constructed through the dunes to protect them from the wear and tear of excessive foot traffic.



Maghera Strand and caves



Maghera Strand and the Loughros Peninsula, viewed from the south.

