

NORTH DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Five Finger Strand
Other names used for site	Five Fingers Strand; Lagg Beach; Lag Sand Dunes
IGH THEME	IGH13 Coastal Geomorphology
TOWNLAND(S)	Lagh, Drung, Knockamany
NEAREST TOWN/VILLAGE	Malin
SIX INCH MAP NUMBER	4
ITM CO-ORDINATES	642400E 952580N (centre of main strand)
1:50,000 O.S. SHEET NUMBER 3	GS1 BEDROCK 1:100,000 SHEET NO. 1
GIS Code ND011	

Outline Site Description

This site comprises a long beach between Five Finger Rock and the mouth of Trawbreaga Bay. The beach is backed by mature vegetated dunes with intermittent blow-outs.

Geological System/Age and Primary Rock Type

A sand and gravel beach, backed by sand cliffs and parabolic dunes. These coastal features have formed in the past 12,000 years since the end of the last Ice Age and are Holocene in age. The site is underlain by Dalradian Supergroup bedrock (quartzite, pelites and psammites).

Main Geological or Geomorphological Interest

Five Finger Strand is a 1.7km long sand and gravel beach backed by sand cliffs cut across a series of parabolic dunes that trend eastward. The dunes formed from sand supply from the seafloor. Atlantic swells shaped the beach and backshore dunes were disrupted by blowouts and parabolic dunes formed by westerly winds. The beach forms an integral part of the estuary mouth-system of Trawbreaga Bay, where sediment is exchanged between the bay, the beach and dunes, and the near shore ebb delta. The dunes are predominantly fixed dunes, with mobile dunes and embryonic dunes (initial stages of sand dune formation) in the south part of the site, bordering the mouth of Trawbreaga Bay, with an area of dune slack and an adjacent salix (willow trees) dune area in the inner dune area. The southern beach area is dominated by the adjacent Trawbreaga Bay tidal inlet. The inlet throat leading into the bay is fixed in position. Seaward of the throat the inlet position varies from a southerly position to north westerly. A natural cycle of erosion and deposition has been recognized at the site. When the seaward inlet of Trawbreaga Bay (seaward of the bay mouth) is at a northerly position, sediment is stripped from the beach and stored in the near shore ebb-tide delta, resulting in beach lowering, erosion and gravel exposure. When the seaward inlet is at a southerly position, sediment migrates onshore in the form of bars, and sediments accumulate on the beach and dune cliffs. In 2002, the beach was gravel dominated.

Site Importance – County Geological Site; recommended for Geological NHA

Owing to both the rare natural cycle of erosion and accretion of the beach sediments, and the scenic value of the site, it is recommended for geological NHA designation.

Management/promotion issues

Five Finger Strand is an important and popular recreational site. A problem of erosion was identified in the 1990s, with shoreline erosion, dune scarping, beach lowering and gravel exposure, and the general degradation of the beach for recreational purposes. Coastal erosion defence measures (seawall 1990s; straw bales 2005/2006) were put in place in an attempt to both arrest the retreat of the dune cliffs and to appease public concern for the ongoing erosion. Recent coastal zone management research indicates that erosion at this site is part of a longer natural erosion/accretion cycle. In 2014, the beach was covered in sand, which covers the underlying gravel deposits. The dune hinterland is low-intensity duneland pasture owned by a local farmer.



Five Finger Strand dunes and beach and Trawbreaga Bay (distance) viewed looking SE from viewing area on Soldiers Hill. Slieve Snaght (clouded) in distance. Lag Church on left, east.



Five Finger Strand viewed looking NE from Doagh Isle across mouth of Trawbreaga Bay.



View south along Five Finger Strand. Dune bluffs and boulder/cobbles deposits visible.



Rocky cliffs below Soldiers Hill at the north end of Five Finger Strand.

