

MAYO - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Glenulra and Port Glenloss Point
Other names used for site	Glenulra Farm; Glenulra Delta; Glenlossera; Glenglossera
IGH THEME	IGH7 Quaternary, IGH14 Fluvial and Lacustrine
TOWNLAND(S)	Geomorphology
NEAREST TOWN/VILLAGE	Glenulra; Glenglassera
SIX INCH MAP NUMBER	Ballycastle
ITM CO-ORDINATES	6a
1:50,000 O.S. SHEET NO. 23	502260E 841100N (Glenglassera River)
GIS Code MO059	506650E 840000N (Glenulra)
	GSI BEDROCK 1:100,000 SHEET NO. 6

Outline Site Description

The site comprises two river valleys (Glenulra River and Glenglassera River) situated on the north side of the R314 coast road. The valleys are bounded by thick and steep deposits of glacial debris. The land is a mixture of grazing land, scrub, and wooded areas.

Geological System/Age and Primary Rock Type

Accelerator mass spectrometer ^{14}C (carbon-14) dating of microfauna and shell fragments contained within the fossiliferous units exposed at Glenulra range from circa 26,375 \pm 115 years before present (BP) to 43,890 \pm 520 years BP. Bedrock exposed at the site comprises Carboniferous siltstones, sandstones and limestones of the Downpatrick Formation.

Main Geological or Geomorphological Interest

The glaciomarine diamicts (sediments) at the site are interpreted as raised marine muds overlain by deltaic gravels. Foraminifera, shell valves (*Macoma calcaria*) and shell fragments (*Arctica islandica*) were sampled for radiocarbon dating at two sites exposed north of Glenulra Bridge. The marine fauna suggest Arctic conditions and shallow waters when the sediments were deposited. The major facies exposed comprise fossiliferous muds (lowest); parallel laminated silt and sand, cross-bedded sand, and cobble and pebble gravels (top). The basal units are interpreted as glaciomarine rain-out, which was then overlain by a delta deposited by meltwater off an ice margin during a period of high relative sea level. The valley diamicts (debris flows) suggest an offshore ice advance. Because this evidence for glaciation is ~20 km west of the limit of the most recent major ice sheet readvance in western Ireland, known as the Killard Point Stadial Readvance (c. 17,500 to 16,500 years BP), this site is significant as it represents an earlier glacial event. The upper surface of the terraces above and along the valley is up to 80m above sea level (asl). The Glenulra River cuts through near-horizontal strata (Downpatrick Formation) nearer the river mouth. The river cascades north before falling over sea cliffs in a >15m high waterfall.

Site Importance – County Geological Site; recommended for geological NHA

This site is critical for understanding the episodes of ice-sheet advance and retreat, and relative sea-level changes during the last glaciation. This site is not within a designated SAC or NHA. The site is of international importance because it documents re-equilibration of the ice marginal position following deglaciation of the continental shelf, which is a major event in the deglaciation of the North Atlantic area. The site requires designation as a geological NHA.

Management/promotion issues

River erosion along the Glenulra and Glenglassera rivers is a continual natural threat to the exposures. Continued gravel extraction at the site may damage the integrity of the features. However, the fresh exposures may reveal new material for research. The shelly tills at Glenulra have been studied since the early 1900's.



Looking southward up Glenulra Valley towards R314 road bridge (middle distance).



Glenglassera River valley looking SW to R315 road and Glenglassera Lodge, near Glenloss Point.



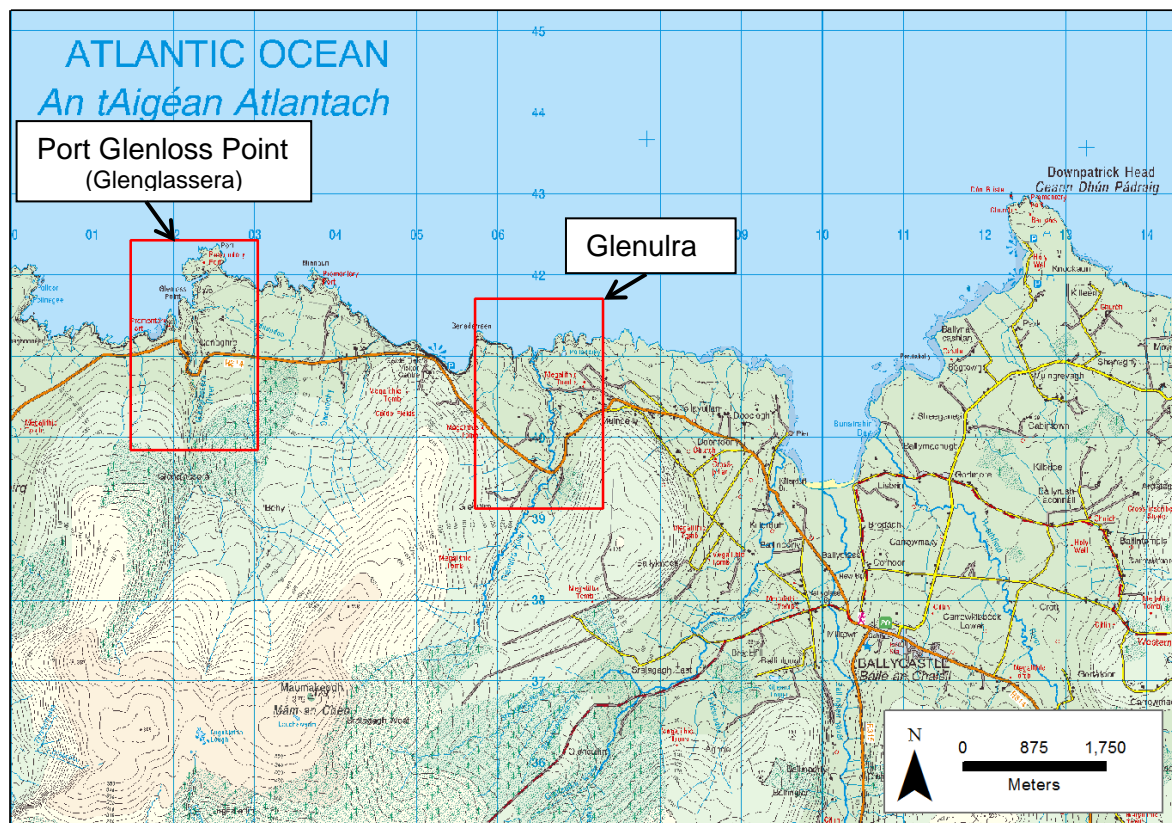
Looking north from R314 road bridge at Glenulra Valley.



Shell fragments of *Arctica islandica*.



Cascades near the Glenulra river waterfall at sea cliffs.

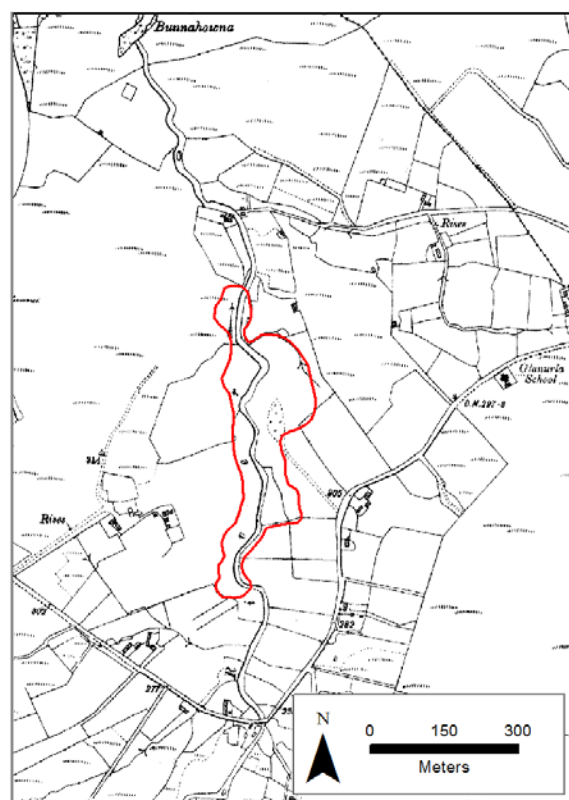
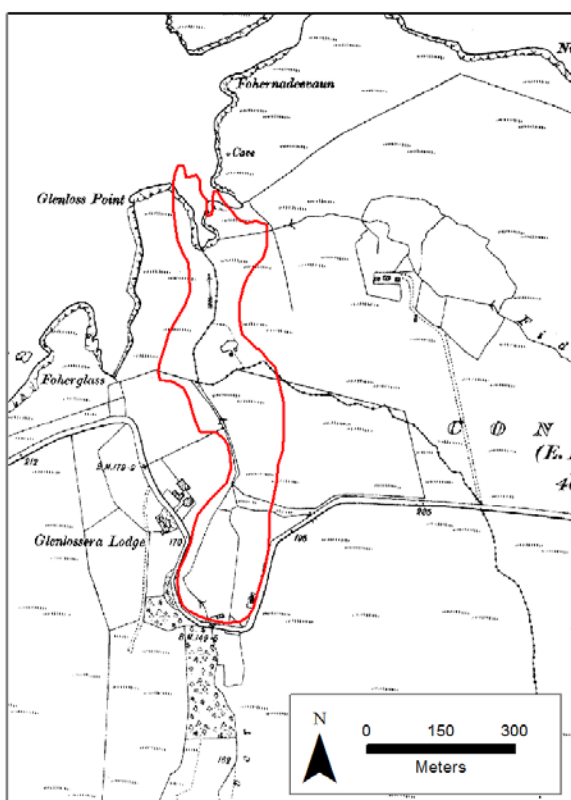


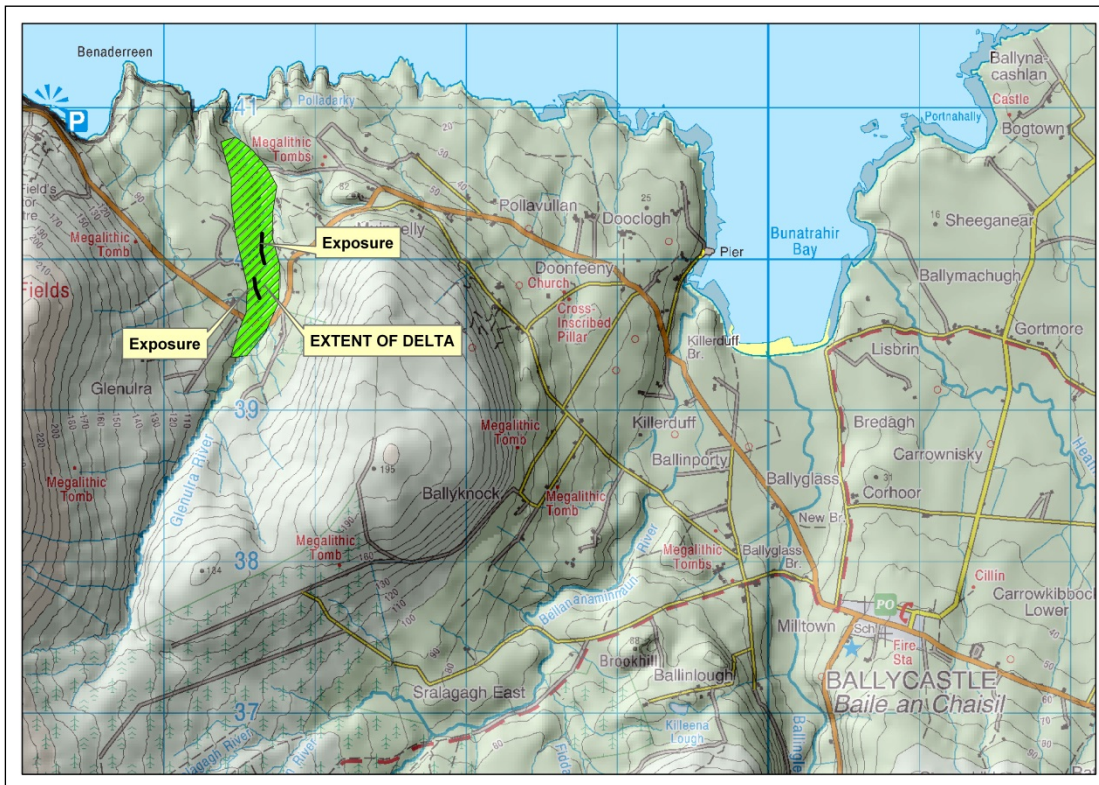


Port Glenloss Point (Glenglassera)



Glenulra





Location of the two Glenulra sections adjacent to the coast road at Glenulra. The extent of the delta feature is also shown.