

# Main Late Devensian glaciation of the Isle of Man

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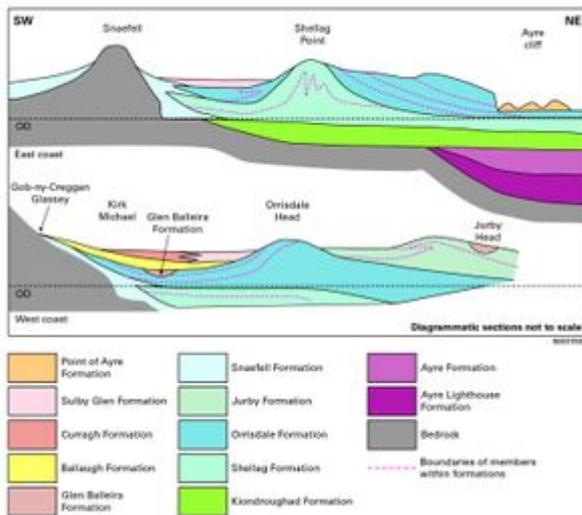
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## Introduction



Sea cliffs at Shellag Point, Isle of Man, cut in glacial sediments of the Bride Moraine that have been subjected to glacitectonic deformation. (P649468a).



Schematic transects across the north of the Isle of Man showing lithostratigraphical relationships. P916099.

The Isle of Man exhibits a very complex sequence of glaciogenic sediments because of its location in the centre of the Irish Sea basin, where it has been affected by successive phases of ice flow from Scotland. The entire island was likely to have been glaciated at the LGM, now constrained to the Late Devensian by a radiocarbon date of about 36 ka BP obtained recently from organic sediments beneath the glaciogenic sequence at Strandhall, in the south of the island; crucially, no glacial deposits underlie the organic layer within a topographic basin otherwise conducive for till deposition. Judging from this new evidence, and contrary to previous interpretation, any Early Devensian glaciations affecting the Irish Sea basin must have been of limited extent.

The lowlands in the north of the island are underlain by up to 250 m of Pleistocene sediment assigned to the Irish Sea Coast Glaciogenic Subgroup. The upper part of the sequence is exposed in a 25 km stretch of coastal cliff sections that reveal an exceptional range of glaciogenic deposits and large-scale glacetectonic structures (P649468). The products of three glacial episodes are contained within three offlapping and southward-tapering glaciogenic formations that are separated by significant unconformities and abut the Bride Moraine, a major push moraine complex (P916099). The Shellag Formation, which formed during the LGM, is composed mainly of deformed, shelly, clay-rich, clast-poor deformation till with subordinate beds of sand and gravel. The stratigraphically higher Orrisdale and Jurby formations are composed of complex interbedded units of deformation till, glaciofluvial outwash, sediment gravity flows, and glaciolacustrine and deltaic deposits that possibly record up to seven readvances of the ice sheet margin. Based on radiocarbon dates on organic sediment within kettlehole basins in the Orrisdale and Jurby formations, the readvances are thought to have occurred between 22.4 and 17.3 ka BP.

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