

NORTH DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Burnfoot Spread
Other names used for site	Burnfoot Delta, Inishowen Delta
IGH THEME	IGH7 Quaternary
TOWNLAND(S)	Birdstown Demesne, Drumhaggart, Gortcormacan, Gortnaskea
NEAREST TOWN/VILLAGE	Burnfoot
SIX INCH MAP NUMBER	38, 39
ITM CO-ORDINATES	641800E 924900N (at concrete works)
1:50,000 O.S. SHEET NUMBER 7	GS1 BEDROCK 1:100,000 SHEET NO. 1
GIS Code ND013	

Outline Site Description

A flat-topped sand and gravel feature, plugging a deep valley, which has been deeply incised and eroded by the Burnfoot River.

Geological System/Age and Primary Rock Type

The 'delta' feature is Quaternary in age, having been deposited at the edge of a retreating ice sheet during deglaciation towards the closing stages of the last major Ice Age. The 'delta' is comprised of glaciofluvial and glaciolacustrine sediments overlying Dalradian Supergroup bedrock (Southern Highland Group).

Main Geological or Geomorphological Interest

Burnfoot Delta is a large accumulation of sands and gravels situated about 4km east of Burnfoot. The feature has been interpreted as a large delta that was deposited into a bay situated on the east side of the head of a fjord - today known as Lough Swilly. Lough Swilly is 7km west of Burnfoot Delta.

The extensive sand and gravel ridge plugs a deep valley between Burnfoot and Muff, and spreads over an area of 1 km². The 'delta' sediments are well exposed in several old and current sand and gravel pits in the locality. Dark reddish-brown silty-clays are present in some of the older pits, and are possibly related to environmental changes that occurred rapidly towards the end of the last glaciation. These silty-clays are of marine origin, and contain marine shells and comprise c.10% carbonate material.

The 'delta' is an excellent example of a well-drained sand and gravel ridge that would have originally stood proud of the surrounding landscape, before extensive quarrying removed the sediments.

Site Importance – County Geological Site

Raised fjord head deltas have not been described with any precision in Ireland, and this is an excellent example. Much of the feature has been removed through quarrying, and it is therefore not of adequate quality for recognition as a geological NHA. This County Geological Site is one of the few deglacial sand and gravel features in County Donegal and represents a fine example of a deglacial, ice marginal, meltwater-deposited feature. The delta feature is important to the understanding of the sequence of terrestrial to marine deposition along the north coast of Ireland during deglaciation.

Management/promotion issues

Whilst continued quarrying is a serious threat in terms of complete obliteration of this feature, quarrying has revealed importance exposures of the deltaic deposits and facies.



View north over Burnfoot Delta towards Barr concrete works from Drumhaggart.



View of Gortcormacan sand and gravel pit looking south from road.



Current ripples in sands at Gortcormacan Pit.

