

## DEPARTMENT OF THE ENVIRONMENT FOR NORTHERN IRELAND

DECLARATION OF AREA OF SPECIAL SCIENTIFIC INTEREST AT TIEVEBULLIAGH,  
COUNTY ANTRIM. ARTICLE 24 OF THE NATURE CONSERVATION AND AMENITY LANDS  
(NORTHERN IRELAND) ORDER 1985.

The Department of the Environment for Northern Ireland (the Department), having consulted the Council for Nature Conservation and the Countryside and being satisfied that the area delineated and described on the attached map (the area) is of special scientific interest by reason of its flora, fauna, geological and physiographical features and accordingly needs to be specially protected, hereby declares the area to be an area of special scientific interest to be known as the 'Tievebulliagh area of special scientific interest'.

Tievebulliagh is a conspicuous crag of olivine dolerite at the edge of the Antrim Plateau. This site is the type locality for the first definitive account of the pyrometamorphism of laterite and lithomarge. The resultant rock, a tough fine-grained porcellanite, was exploited by Neolithic man, who established a stone axe factory based on material from the outcrop and scree.

The exact nature of the volcanic conduit is somewhat uncertain but takes the form of an inclined plug or sheet intersecting the Tertiary lavas of the Lower Basalt Formation. High temperature and low pressure metamorphism recrystallised the basalt lavas at the contact. Crystal settling of early-formed olivine has enriched the rock along the footwall. A large mass of laterite and lithomarge slipped down the footwall, ploughing into the olivine-rich cumulates and was baked into a tough, fine-grained porcellanite.

The main outcrop of metamorphosed laterite and lithomarge occurs some 90 m below the hill summit. Its size and nature would indicate an origin in the main interbasaltic horizon (the 'red beds' of the Interbasaltic Formation). This series has since been eroded from the lava succession in this region but must have existed at the time of the volcanic activity, hence this phase of plug intrusion must have occurred after Lower Basalt times. The Interbasaltic series foundered into the active volcanic conduit and disturbed the early settled olivine-rich cumulates.

The porcellanite from the main outcrop falls into several mineralogical groups. Most of the porcellanite is characterised by iron-corundum/haematite/cristobalite or tridymite. The original laterite is now an iron-corundum/haematite assemblage with accessories. Some of the coarser-grained rocks have been metasomatised and enriched in cordierite and bytownite.

The chemical reactions which generated the metamorphic mineral assemblages have been assessed in detail, while the mineralogy of the weathered basalts at the south contact have also been reconstructed. This has given a fuller understanding of the detailed high temperature mineralogical interactions which have led to the rich and exceptional geology at this site. Some of these minerals can be used as geological thermometers.

The contact between the Lower Basalt and Ulster White Limestone marks a zone of karst development on the latter with active persistent and irregular stream sinks together with a series of doline hollows. The latter are an unusual development on this rock type and appear to be due to collapsed solution hollows.

The thin peats of the crag face support a dry heath with high cover of Heather Calluna vulgaris and Bell Heather Erica cinerea and the mosses Hypnum jutlandicum and Pleurozium schreberi. Vegetation on the deeper wet peat south of the crag is typical of blanket bog, dominated by Common Cottongrass Eriophorum angustifolium and the mosses Sphagnum capillifolium and S. papillosum. Water movement is indicated by occasional high cover of Purple Moor-grass Molinia caerulea. A heath community occurs towards the south-west of the site, characterised by Crowberry Empetrum nigrum, Bilberry Vaccinium myrtillus and Hare's tail Cottongrass Eriophorum vaginatum. Where the shallow peats undergo surface flushing the ground supports a short sedge grassland, especially Yellow Sedge Carex viridula ssp oedocarpa and Carnation sedge C. panicea. The herb component includes Lousewort Pedicularis sylvatica, Common Butterwort Pinquicula vulgaris and Devil's-bit Scabious Succisa pratensis.

The wet grassland below the escarpment is influenced by a broad, base rich, seepage zone. Where this is concentrated in runnels and streams it supports a community typified by Few-flowered Spike-rush Eleocharis quinqueflora and Bog Pondweed Potamogeton polygonifolius. The margins hold a high brown moss cover, formed mainly by Scorpidium scorpioides, through which a short sedge and rush sward extends and includes Dioecious Sedge Carex dioica. Additional notable species here are Pale Butterwort Pinquicula lusitanica and Lesser Clubmoss Selaginella selaginoides.

Tievebulliagh crag provides a regular nesting site for Peregrine Falcon, Falco peregrinus.

#### SCHEDULE

The following operations and activities appear to the Department to be likely to damage the flora, fauna, geological and physiographical features of the area:

1. Any activity or operation which involves the damage or disturbance by any means of the surface and subsurface of the land, including ploughing, rotovating, harrowing, reclamation and extraction of minerals, including sand, gravel and peat.
2. Any change in the present annual pattern and intensity of grazing, including any change in the type of livestock used or in supplementary feeding practice.
3. Any change in the established method or frequency of rolling, mowing or cutting.
4. Any change in the annual pattern of application of manure, slurry or artificial fertiliser.
5. The application of herbicides, fungicides or other chemicals deployed to kill any form of wild plant, other than plants listed as being noxious in the Noxious Weeds (Northern Ireland) Order 1977.
6. The storage or dumping, spreading or discharge of any material not specified under paragraphs 4 or 5 above.
7. The destruction, displacement, removal or cutting of any plant, seed or plant remains, other than for
  - (i) plants listed as noxious in the Noxious Weeds (Northern Ireland) Order 1977;

- (ii) normal cutting or mowing regimes for which a consent is not required under paragraph 3 above.
- 8. The release into the area of any animal (other than in connection with normal grazing practice) or plant. 'Animal' includes birds, mammals, fish, reptiles, amphibians and invertebrates; 'Plant' includes seed, fruit or spore.
- 9. Burning.
- 10. Changes in tree or woodland management, including afforestation, planting, clearing, selective felling and coppicing.
- 11. Construction, removal or disturbance of any permanent or temporary structure including building, engineering or other operations.
- 12. Alteration of natural or man-made features, the clearance of boulders or stones and grading of rock faces.
- 13. Operations or activities which would affect wetlands (including marsh, bog, rivers and streams), e.g.
  - (i) change in the methods or frequency of routine drainage maintenance;
  - (ii) modification in the structure of any watercourse;
  - (iii) lowering of the water-table, permanently or temporarily;
  - (iv) change in the management of bank-side vegetation;
  - (v) changes in field drainage or boundary field drainage.
- 14. The killing or taking of any animal in a manner likely to affect the continued existence of the species within the area except as provided for under the terms of the Wildlife (Northern Ireland) Order 1985.
- 15. The following activities undertaken in a manner likely to damage the interest of the area:
  - (i) educational activities;
  - (ii) research activities;
  - (iii) recreational activities;
  - (iv) exercising of animals.
- 16. Changes in game, waterfowl or fisheries management or fishing or hunting practices.
- 17. Sampling of rocks, minerals, fossils or any other material forming a part of the site, undertaken in a manner likely to damage to interest of the area.
- 18. Use of vehicles or craft likely to damage the interest of the area.

Sealed with the Official Seal  
of the Department of the  
Environment for Northern Ireland on 24<sup>th</sup> July 1995.

*John Crowther*

J CROWTHER  
Assistant Secretary

*R. Lynceletaux.  
Civil Servant in Clovenoe Court  
Belfast*

**FOOTNOTES**

- (a) Please note that consent by the Department to any of the above operations or activities does not constitute planning permission. Where required, planning permission must be applied for in the usual manner to the Department under Part IV of the Planning (Northern Ireland) Order 1991. Operations or activities covered by planning permission are not normally covered in the list of Notifiable Operations.
- (b) Also note that many of the operations and activities listed above are capable of being carried out either on a large scale or in a very small way. While it is impossible to define exactly what is "large" and what is "small", the Department would intend to approach each case in a common sense and practical way. It is very unlikely that small scale operations would give rise for concern and if this was the case the Department would give consent, particularly if there is a long history of the operation being undertaken in that precise location.