

BUTTERLOPE GLEN

A SPECIAL PLACE...



Butterlope Glen – a glacial meltwater valley

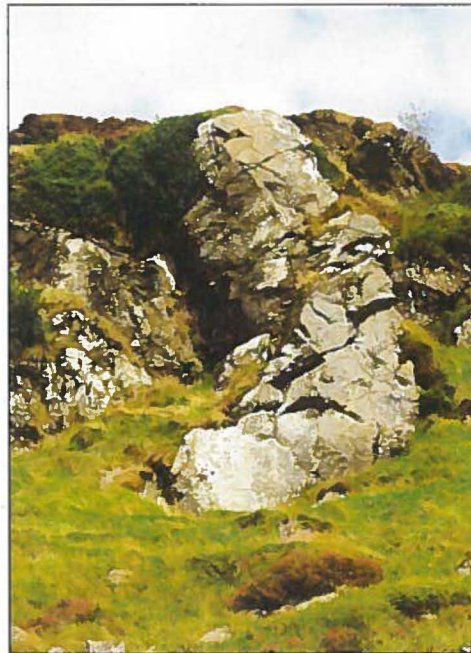
Butterlope Glen is a special place because of its Earth Science interest. The area provides access to important geological features.

Butterlope Glen has been strongly influenced by glacial activity at the end of the last ice age and particularly by glacial waters generated as the ice in this area melted.

The Glen provides a section through some of the rocks that make up the Sperrin Mountains. The rocks are actually overturned so instead of the youngest rocks being uppermost, the oldest rocks appear to be 'on top'. The rocks are youngest at the southern end of the site with progressively older rocks occurring towards the north of the Glen.

The rocks were originally deposited in an ancient ocean at the margin of the past continent of Laurentia. Eventually these rocks were caught up in the

continental collisions associated with the closure of the Iapetus Ocean. The rocks were altered (metamorphosed) by pressure and heat while the pressure also resulted in their being distorted and overturned.



Folded metamorphosed sandstone

SITES OF BIOLOGICAL AND EARTH SCIENCE IMPORTANCE HAVE BEEN SURVEYED BY NORTHERN IRELAND ENVIRONMENT AGENCY TO ASSESS THEIR SCIENTIFIC INTEREST. THE BEST SITES ARE NOW BEING DECLARED AS AREAS OF SPECIAL SCIENTIFIC INTEREST (ASSIs). IN DOING SO WE AIM TO SAFEGUARD THESE IMPORTANT SITES FOR THE BENEFIT OF PRESENT AND FUTURE GENERATIONS.

Rocks at this site include metamorphosed sandstones and mudstones while ash layers and lavas show that there was volcanic activity at the time they originally formed.

The site also provides evidence of rock deformation related to the formation of the Sperrins and so is linked to rocks of similar age in Donegal, north east Antrim and the southwest Highlands of Scotland.

Correct management is essential for special places like Butterlope Glen. For example, if vegetation were to grow unchecked, it may reduce access to and visibility of the exposures. Continued sensitive management will ensure the survival of the area's geological features. Northern Ireland Environment Agency is keen to work closely with landowners to maintain and enhance Butterlope Glen ASSI.

DEPARTMENT OF THE ENVIRONMENT

DECLARATION OF AREA OF SPECIAL SCIENTIFIC INTEREST AT BUTTERLOPE GLEN, COUNTY TYRONE. ARTICLE 28 OF THE ENVIRONMENT (NORTHERN IRELAND) ORDER 2002.

The Department of the Environment (the Department), having consulted the Council for Nature Conservation and the Countryside and being satisfied that the area described and delineated on the attached map (the area) is of special scientific interest by reason of its geological 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 'Butterlope Glen Area of Special Scientific Interest'.

The area is of special scientific interest because of its' important geology. The site is important for understanding Dalradian stratigraphy, a geological rock series, both within Ireland and between Ireland and Scotland. The east side of the Glen exposes a section through representative lithologies of the Dungiven Formation and the lowest levels of the Dart Formation. The rocks are Precambrian in age forming part of the Argyll (Tayvallich Subgroup) and Southern Highland Groups from the upper Dalradian. Structural evidence indicates the sequence is part of the Sperrin fold, related to rocks in Donegal, north east Antrim and the southwest Highlands of Scotland.

Butterlope Glen itself is a glacial meltwater channel that formed toward the end of the last Ice Age, around 13,000 years ago. At this time, meltwater had accumulated to the south, in Glenelly Valley. When the water eventually found a route to the north, it scoured Butterlope Glen into the country rock as it drained.

The Glen cuts across the Sperrin Mountains and rock is exposed over approximately 800m, mainly along the eastern side of the valley. The succession dips toward the north and is structurally inverted such that the youngest rocks outcrop at the south end of the site with progressively older strata occurring down dip towards the north of the Glen. The youngest rocks are from the Dart Formation and are silver-grey to green amphibolite schists of the Glenga Amphibolite Member, which is particularly well exposed in the south west section of the site. Moving north, the Dart Formation continues with interbedded psammites and semipelites, amphibolite schist with chert, stratified tuffs and locally graded hyaloclastite. The rocks are deformed as is shown by thick units of pink-buff coloured quartzite (with graded bedding) and micaceous psammite which form the hinge of a large flat-lying, downwards facing fold.

The Dart Formation is succeeded by the Dungiven Formation with typical limestones exposed in a disused quarry. The limestone, somewhat altered by heat and pressure, is interbedded with thin units of dark grey schist and black graphitic pelite. At the north end of the site, natural outcrop exposes highly deformed volcanogenic rocks. These include stretched pillow lavas interbedded with tuffaceous amphibolitic schist with selvages of black chert and hyaloclastic shards.

The rocks were originally deposited in a submarine, unstable rift setting at the margin



of the ancient continent Laurentia. Evidence of crustal thinning is found in the basic volcanic rocks found in the upper part of the Argyll (Dart Formation) and lower part of the Southern Highland Group (Dungiven Formation). The rocks were subsequently deformed during the Caledonian Orogeny, a mountain building event of which the Sperrins are a remnant part.

SCHEDULE

The following operations and activities appear to the Department to be likely to damage the geological interest 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 reclamation other than for normal agricultural practices.
2. Extraction of minerals, including rock.
3. The storage or dumping, spreading or discharge of any material other than for normal agricultural practices.
4. Changes in tree or woodland management, including afforestation and planting.
5. Construction, removal or disturbance of any permanent or temporary structure including building, engineering or other operations.
6. Alteration of natural or man-made features, the clearance of boulders or stones and grading of rock faces.
7. The following activities undertaken in a manner likely to damage the interest of the area:
 - i. educational activities;
 - ii. research activities;
 - iii. recreational activities.
8. Sampling of rocks, minerals, fossils or any other material forming a part of the site, undertaken in a manner likely to damage the scientific interest.
9. Use of vehicles or craft likely to damage the interest of the area.

FOOTNOTES

(a) Please note that consent by the Department to any of the operations or activities listed in the Schedule 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 in the Schedule 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 normally give consent, particularly if there is a long history of the operation being undertaken in that precise location.

BUTTERLOPE GLEN

Views About Management The Environment (Northern Ireland) Order 2002 Article 28(2)

A statement of the Department's views about the management of Butterlope Glen Area of Special Scientific Interest ("the ASSI")

This statement represents the views of the Department about the management of the ASSI for nature conservation. This statement sets out, in principle, our views on how the area's special conservation interest can be conserved and enhanced. The Department has a duty to notify the owners and occupiers of the ASSI of its views about the management of the land.

Not all of the management principles will be equally appropriate to all parts of the ASSI and there may be other management activities, additional to our current views, which can be beneficial to the conservation and enhancement of the features of interest. It is also very important to recognise that management may need to change with time.

The management views set out below do not constitute consent for any operation or activity. The written consent of the Department is still required before carrying out any operation or activity likely to damage the features of special interest (see the Schedule on page 2 for a list of these operations and activities). The Department welcomes consultation with owners, occupiers and users of the ASSI to ensure that the management of this area maintains and enhances the features of interest, and to ensure that all necessary prior consents are obtained.

MANAGEMENT PRINCIPLES

The earth science interest at Butterlope Glen occurs as inland rock exposures, mainly outcropping on the eastern side of the Glen. The Department would encourage the maintenance of the ASSI and its earth science interest.

The geological series

Provided no damaging activities, as set out in the Schedule are undertaken without consent, the needs of owners, occupiers and the Department can be met. Earth science features such as those at Butterlope Glen may require occasional management intervention in order to maintain access to, and exposure of, the geology. This could include selective removal of vegetation or any major build up of loose rock.

Specific objectives include:

Maintain the geological series in an undamaged state.

Maintain access to the geological series.

The Official Seal of the
Department of the Environment
hereunto affixed is authenticated
by

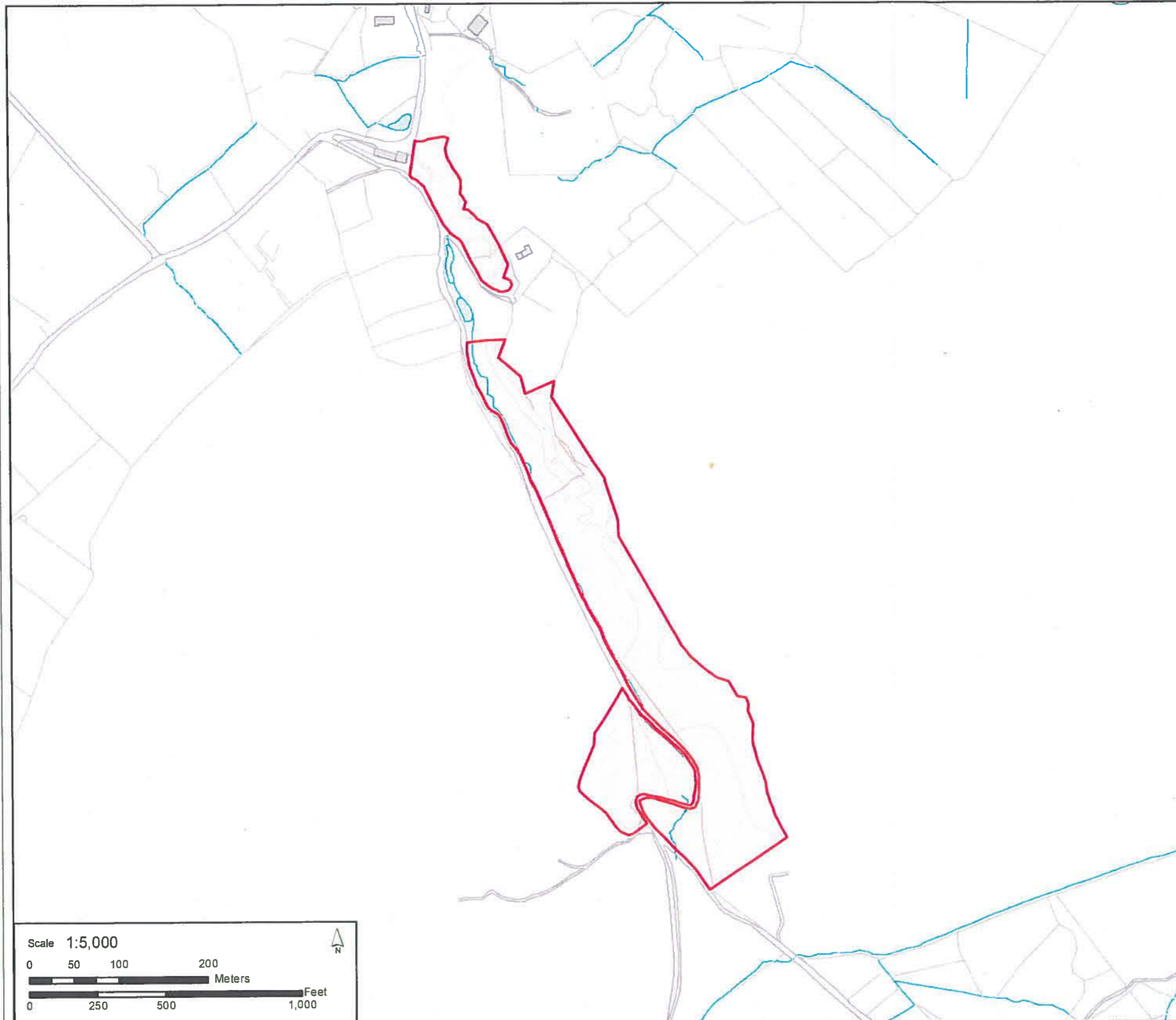
G. R. Seymour.

G R SEYMOUR

Senior Officer of the
Department of the Environment

Dated the 8th of FEBRUARY 2011

BUTTERLOPE GLEN ASSI



BUTTERLOPE GLEN AREA OF SPECIAL SCIENTIFIC INTEREST

Map referred to in the Declaration dated: 8th FEBRUARY 2011

SITE BOUNDARY: The Area of Special Scientific Interest (ASSI) includes all the lands highlighted within the solid coloured lines.

AREA OF SITE: 6.90 hectares

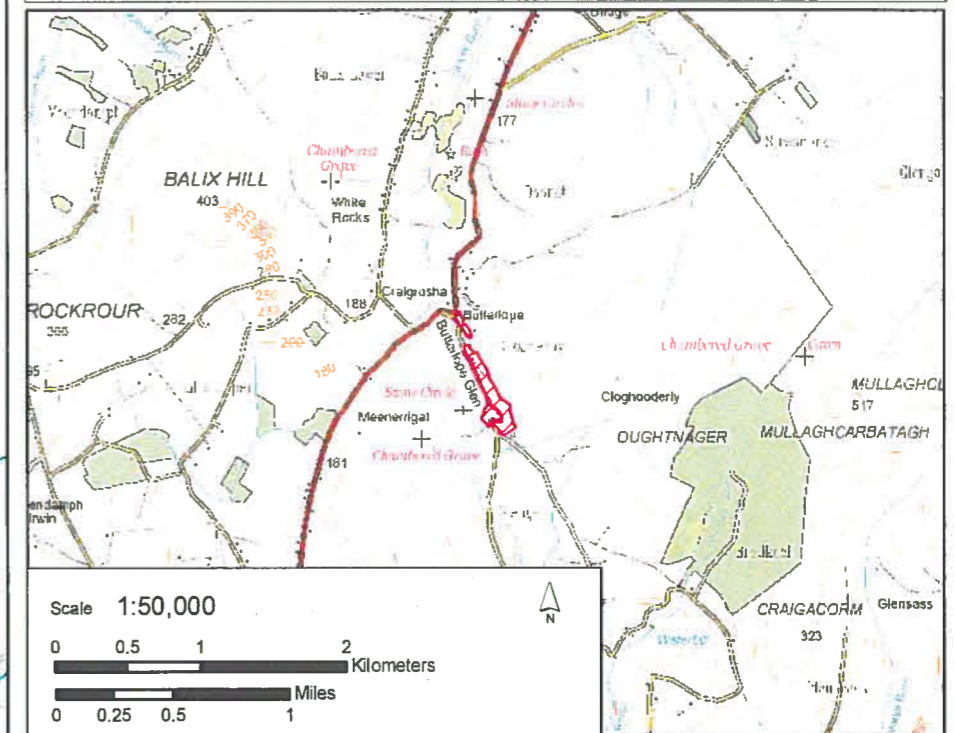
OS MAPS 1:50,000: Sheet No. 13
1:10,000: Sheet No. 74

IRISH GRID REFERENCE: IH493 949

COUNCIL AREA: STRABANE DISTRICT COUNCIL

COUNTY: TYRONE

G. R. Seymour
G R SEYMOUR
SENIOR OFFICER OF THE
DEPARTMENT OF THE ENVIRONMENT



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