South Wales RIGS Group Site Record
RIGS Description

SECTION A

General	South Wales
Site Name: Mynydd Llangynidr	**File Number:** Site_AB_38
RIGS Number: 774	**Surveyed by:** Gareth Owen
Grid Reference: Centred around SO 1480 1360	**Date of Visit:** 16th March 2010
RIGS Category: Aesthetic, educational, scientific, historic	**Date Registered:**
Earth Science Category: Geomorphology, karst	**Owner:** Duke of Beaufort **Planning Authority:** Blaenau Gwent, Powys and BBNPA
Site Nature: Sink holes and caves on a large upland plateau	**Documentation prepared by:** Gareth Owen
Unitary Authority: Blaenau Gwent, Powys and BBNPA	**Documentation last revised:** 1st March 2011
OS 1:50,000 Sheet: 161	**Photographic Record:** Attached
OS 1:25,000 Explorer Sheet: OL13	
BGS 1:50,000 Sheet: 232	

RIGS Statement of Interest:

Mynydd Llangynidr contains the finest array of collapse dolines (sink holes) and subsidence basins seen anywhere in Britain, and clearly demonstrates the surface expression of interstratal karst – that is where caverns in underlying limestone have caused collapse of the overlying Millstone Grit strata.

The upland plateau here is littered with crater-like landforms caused by collapse of the insoluble Millstone Grit into caverns formed in the underlying limestone by the dissolution of the limestone by water. As well as being unusual for their interstratal nature, the karst of Mynydd Llangynidr is noteworthy because of the impressive size of the features, in some case tens of metres across and tens of metres deep. Some of the dolines are active sink holes, whereas others have flooded, forming upland wetland and ponds. The packed doline field, about 2km wide, is fringed to the north by foundered masses of Millstone Grit (where the Grit has collapsed in blocks as the limestone beneath has been dissolved away over time)on the scarp face.

The relationship between the limestone and Millstone Grit can be seen at Chartists' Cave. Local tradition holds that this cave was a secret meeting place of the Chartists in the months leading up to the Chartist Uprising of 1839.

Geological setting/context:

Carboniferous Limestone crops out along the northern rim of the South Wales Coalfield (the North Crop), dipping gently southwards towards the axis of the basin. It is underlain by Devonian sandstones to the north, and is overlain by the Namurian Grits which form the uplands of the South Wales Valleys to the south. The limestone outcrop is narrow, and often constrained to the sides of the glacially deepened Devensian valleys. This narrow outcrop is characterised by karst features such as dry valleys, river sinks and resurgencies and doline fields. The most impressive feature of the limestone of the North Crop is seen underground though. A combination of large catchments (both previously and today) and shallow dip, together with repeated rejuvenation and extension of networks in response to changing base levels, has produced the longest cave systems in the UK, and some of the longest in the world.

In contrast, the surface features of the limestone outcrop are relatively small scale compared with their equivalents in England, largely due to the limited aerial extent of the outcrop and the often thick covering of glacial till. However, the adjacent Namurian Millstone Grit outcrop harbours the very best examples of interstratal karst in the UK. Due to the shallow dip of the strata, and the juxtaposition of the Grit – Limestone boundary with the upland plateau surfaces, collapse of Grit strata into the underlying limestone caverns has formed large doline fields, of which Mynydd Llangynidr is the finest example.

References:

WALTHAM, A C, SIMMS, M J. FARRANT, A R & GOLDIE, H S. 1997**.** *Karst and Caves of Britain.* Geological Conservation Review Series No. 12. Chapman and Hall.

SECTION B

PRACTICAL CONSIDERATIONS:
Please score Accessibility and Safety Red Amber or Green

Accessibility:			X
Comment: The entire site is Open Access upland easily accessed from public roads at Trefil to the west or the B4560 to the east.			
Safety:			X
Comment: Care should be taken commensurate with the exposed, upland setting. Care should also be taken in entering any sink hole, as there remains potential for further collapse.			

Conservation status: This site has been registered as a GCR site, and as such is a proposed SSSI. Designation as RIGS will provide awareness of the importance of this site until such time as SSSI status is achieved.

OWNERSHIP/PLANNING CONTROL:

Owner/tenant: Duke of Beaufort

Planning Authority: Blaenau Gwent and BBNPA

Planning status/constraints/opportunities: Part of the areas was put forward by Blaenau Gwent to be allocated for mineral extraction in the forthcoming LDP. CCW objected to this, and the outcome is awaited.

CONDITION, USE & MANAGEMENT:

Present use: Upland common with grazing rights

Site condition: Excellent

Potential threats: Quarrying – potential extension from Trefil quarry to the south-west.

Site Management: None other than continued grazing.

SITE DEVELOPMENT:

Potential use (general): The site is of great aesthetic and historic use, and might lend itself to interpretation via leaflets.

Potential use (educational): The site is of great value for educational use at all levels from school to post-graduate.

Other comments:

Photographic Record

Photograph 1: Doline with a pond indicating impeded drainage between surface and collapsed cavern

Photograph 2: One of the largest dolines, about 20m deep and 50m across, with Millstone Grit exposed in its walls

Photograph 3: A snow filled doline

Photograph 4: A flooded subsidence

Photograph 5: Two large collapse dolines indicating potential alignment of a linear cavern in the Carboniferous Limestone beneath.