

GeoConservationUK Newsletter

Volume 2, Number 2

31st May 2011



GEOCONSERVATIONUK

Ringling the changes or a death knell for . . . ?

On the same day in 1859 that this *GCUK Newsletter* is published Big Ben rang out its chimes across Westminster for the first time. So, it's timely to reflect on how some things in geology haven't really changed since then. On the same day in 1935 an earthquake hit north-western India taking some 20,000 lives and similarly in 1970 one struck off the coast of Peru causing an avalanche that buried two cities and took 50,000 lives. The March earthquake in Japan and volcanic eruptions in Iceland in April 2010 and May this year remind today's public of the importance of understanding geo-hazards and their risks. That understanding can best be achieved when geology is properly taught in schools. In 1890 the first national geology school syllabus was published by the British Association but it failed to gain acceptance; now this year we are fighting to keep geology in schools' curricula and examinations due to issues over the training of geology teachers. So, we do need to make sure that any bells we hear today are not death knells for geology in the country so crucial to its development in the nineteenth and modern understandings in the twentieth centuries; perhaps we do need to remind Members in Westminster of this! **TOM HOSE**



EDITORIAL

Welcome to the second of the planned newsletters for the year, and another big "thank you" to those few of you who sent in articles, newsletters and photographs; I hope you are pleased with their editing. I know that it's a very busy time for all of us involved in geoconservation, especially with having to find ways to address rather unfavourable funding and political climates; hence, the urge to write a few lines for any newsletter becomes something of a back-burner item!

However, the *GCUK Newsletter* has a surprisingly wide geographic and demographic coverage and the www certainly helps in this matter. Whilst trawling the www for some field-work information I was surprised at just how many cross-postings to it I turned up. So, to get your news out to a wider and possibly more influential audience than you might initially imagine, send your items to me throughout the year; perhaps as you publish your own newsletters? Please give me the onerous task of having to select as well as edit worthy pieces for inclusion; make it truly your *Newsletter* by writing more of it!

Your Editor has been involved with various geo-heritage and publishing projects over the last few months. I've even been trying to get some field research organised and I'm quite amazed how long it now takes to establish such projects. It's equally amazing just how long one can actually spend in-between these major projects on supposed five-minute editorial and quick email tasks! **TOM HOSE**

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ENGLAND — *Leicester and Rutland RIGS*

Keith Ambrose has had the first in a series of articles published in the *Leicestershire Chronicle*, a supplement of the *Leicester Mercury*, entitled 'Reading the landscape'. Although he didn't actually write them, he provided the material by taking a journalist into the field for a day to visit six localities in Leicestershire. The localities were a quarry in the Sherwood Sandstone – giving a name for the unit is difficult as it's all about to change. It is currently called the Polesworth Formation, equivalent to the Kidderminster and Chester Pebble Beds Formations (that is, the old Bunter Pebble Beds) but it is likely to become the Chester Formation assuming the Geological Society accept the British Geological Survey's proposals for the Sherwood Sandstone stratigraphy. Sorry, a rather long aside. The other locations we visited were Ibstock brick pit (Mercia Mudstone Group), Morley Quarry in Charnwood Forest (Charnian volcanoclastics), Breedon Quarry (Peak Limestone or Carboniferous Limestone of old), Swithland Wood (Swithland Slates) and Browns Hill Quarry, Holwell (Marlstone Rock Formation). They are coming out at monthly intervals. I have seen drafts for all six articles and they are very well written and nothing was lost, misunderstood or misquoted; excellent! *Keith Ambrose*

ENGLAND — *Dorset's Important Geological/Geomorphological Sites Group*



The Group continues to promote geology and geoconservation in its area, especially through its presence at various events. For example, the Group was represented at the recent Lyme Regis Fossil Festival (see left) over the weekend of 29th April to 1st May; this produced some positive results with 15 people expressing an interest in joining the Group. The Group also attended a National Trust event in mid-May at Burton Bradstock which was also quite successful.

Alan Holiday

ENGLAND — *Black Country Geological Society*



*The
Black
Country
Geological
Society*

The Black Country Geological Society (BCGS) continues to develop its geoconservation work. It has now teamed up with the Black Country Living Landscapes Community Involvement Programme (BCLL) to assist with geodiversity and biodiversity conservation for several local sites across the Black Country. The BCLL is a relatively new project that is funded by Natural England and is led by the Wildlife Trust for Birmingham and the Black Country. It aims to encourage local people and communities to participate in caring for, and improving, local green spaces across the Black Country whilst also forging new links with wildlife.

The BCGS and BCLL Partnership has organised several volunteering opportunities to help improve and maintain geological features; these have been with the aim of highlighting the region's geological heritage whilst also engaging and educating local people about the wealth of geology in the Black Country. Several local sites have been identified for vegetation clearance, management actions and interpretation work.

The initial sites included: Moorcroft Wood Local Nature Reserve, near Willenhall; Springvale Park, near Wolverhampton; Barrow Hill Local Nature Reserve, near Dudley; and the Saltwells Local Nature

ENGLAND — *Black Country Geological Society (cont.)*

*The
Black
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Society*

Reserve (see top right), at Nether-ton. So far the BCLL Partnership has been involved with clearance work at Moorcroft Wood Nature Reserve (see middle right) in October 2010 and February 2011.

Moorcroft Wood was originally an iron foundry, owned by John (Iron Mad) Wilkinson, which ceased operations around 1904. The local hospital, Moxley Hospital, then bought the site and

converted it into a woodland recreational area for convalescing patients. After the hospital closed in 1995 the site came into the hands of the local Council, who designated it a local nature reserve and accordingly managed the site for wildlife. Because of its industrial history the site boasts the largest concentration of blast furnace slag in the Black Country. Clearance works so far have concentrated on the main area of blast furnace slag, but the intention is to clear more spoil and an area of glacial till and to provide some interpretation panels.

In February and March 2011 BCGS members were given the opportunity to visit Barrow Hill Local Nature Reserve and the Saltwell's Local Nature Reserve to learn about these sites and to see what maintenance work was required. These sites are in need of some serious clearance work and also a bit of interpretation. Negotiations are currently underway with the reserves' wardens and it is hoped that clearance work will get underway at both sometime during the summer. No work has yet been undertaken at Springvale Park.

Discussions have also been held with the wardens at the Wrens Nest National Nature Reserve on assistance with site clearance work and some has already taken place (see bottom right); BCGS members helped out with clearance work there in November 2010 and were involved in a hedge-laying operation in January 2011. It is hoped that later in the year there will be further opportunities for BCGS members to help out at the Wren's Nest with site maintenance work.

Andy Harrison





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NEWS ITEM — *Earth Science Education Forum*

The Earth Science Education Forum for England and Wales (ESEF) aims to promote Earth science education at all levels and to bring together all relevant organisations in pursuit of that activity. Its objectives are to encourage and enable its membership to:

- develop their own targets for earth science education (including vocational education);
- monitor progress towards those targets;
- share information on current and future initiatives in earth science education;
- support one another in the development of current and future initiatives.

It supports the memberships activities through: co-ordinating effort; publicising information about current and new initiatives; developing networking between and beyond member organisations; and co-ordinating attempts to influence decision-makers.

The Forum's activities in Wales are organised through a separate branch, ESEF Cymru. There is also a Scottish Earth Science Education Forum (SESEF). Details of ESEF's work and resources can be found on its website: www.bgs.ac.uk/esef/

SCOTLAND — *GeoDiversity Dumfries and Galloway Group*



The Group is a sub-committee of The Geological Society of Glasgow. It publishes the *Glen Newsletter*, from which the following account, but without many of the splendid illustrations have been culled to fit the available space, gives a flavour of its content.

Time-Travel: the Shinnel Glen

Some 4,600 million years ago our world was formed. Over the next 4,000 million years volcanic eruptions, land movement and mountain building continually changed the face of the globe. Massive islands with mighty oceans between, broke away from a single landmass at the South Pole and moved north.

From this time, Scotland and Northern Ireland were attached to North America and Canada and on the opposite shores of the lapetus Ocean, Southern Ireland and England were attached to Europe and Asia. 500 million years ago the lapetus Ocean began to close. 400 million years ago England and Southern Ireland collided with Scotland and Northern Ireland throwing up mountains as high as the Alps. It wasn't until about 250 million years ago that Britain began to separate from the American continent and 23 million years ago when it finally came to where we are now. Evidence in rocks today records climatic changes and geological processes as the continents moved from the South Pole to The North Pole. Ancient mountains, volcanoes, deep oceans, deserts, cold and temperate seas, tropical swamps, rivers, warm seas and oceans full of plant and animal life, have all contributed to what we know today as Dumfries and Galloway.

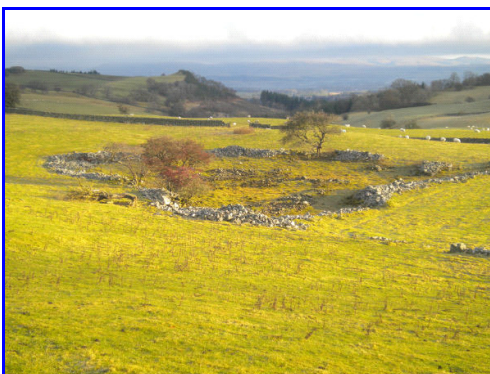


The Shinnel Valley is a wonderful part of this landscape and has been influenced by the Rock Formations and Fault Lines of the underlying rocks plus 16 Ice Ages during the past 1.8 million years. Shinnel Water rises in the north west of Tynron in the Fingland Burn, below Colt Hill where it meanders over sandstones, containing grains of volcanic rock, and siltstone of the 2 kilometers thick Portpatrick Formation.

Patches of Moffat Shale Formation exposed around Shinnelhead are full of Graptolite and Radiolaria fossils (see above left). Volcanic dykes of microdioritic rock cut through these patches but exposures are difficult to find.

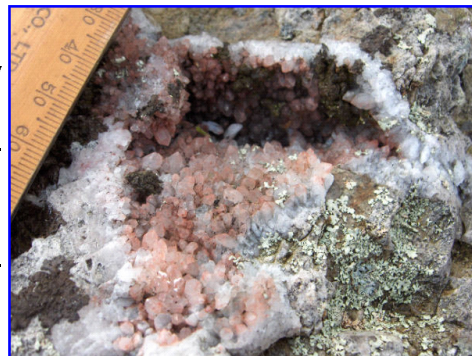
SCOTLAND — GeoDiversity Dumfries & Galloway Group (cont.)

At Sharp Craig the Shinnel passes through the Fardingmulloch Fault into the Shinnel Formation sandstone and siltstone, with boulder conglomerate exposed around Appin and Everside (see top left). Crossing the river around Auchenbrack and Kirkconnel are volcanic dykes formed of microdiorite and lamprophyre rock. Further towards Cormilligan, there are signs of the last Ice Age where melting Glaciers have dumped their loads of rock debris producing large mounds [now grass-covered] called Drumlins. At Dry-Burn Loch you can see modern day conglomerate in the making where the burn deposits of the past 1000 years are turning to stone! Mount Hooly Bridge sees the passage of the Shinnel Water under its arch and through the Glenfumart Fault into the Glenlee Formation sandstones abundant with tiny quartz grains and another mineral called pyroxene. These are inter-bedded with very thin layers of Graptolite-bearing siltstones around the Clodderoch Burn (see middle left).



Around Tynron there is much to see. The Craggs of Killiewarren, Auchengibbert, Craigturra and Tynron Doon all belong to the Glenlea Formation. However at Tynron you walk along the Orlock Bridge Fault when crossing over the Tynron Bridge, onto the 'crazy' rocks of the Gala 2 Formation within the Moniaive Shear Zone. This zone is an area of Gala 2 rock, about 10k wide, that has been stretched and deformed by the strain posed upon it during the mountain-building of previous times. The minerals and sand grains in these rocks have been elongated and the rock itself has been folded into crazy shapes eroded into the vertical bedding seen at Shinnel Mill.

Most of the solid rocks within the triangle of roads between Tynron village, Clonehead and Shinnel Mill are covered in the 'left-overs' of the last Ice Age of about 15,000 years ago; numerous drumlins and kettle-holes [dry hollows where a glacier has melted] of Court Hill (see above left); Airds Loch, a kettle-hole which still has water in it; Clonrae varve [a lake formed by melted ice] and Aird Linn gorge where the Shinnel Water passes on its way to another varve at Shinnel Bridge. Erratics [large rounded boulders carried far from their original formation and deposited when the glacier melts] are everywhere; the biggest and best are seen at Clonrae and these are of conglomerate possibly carried down from Appin. However, Ford Hill Craggs pop their head above ground boasting volcanic sheets and dykes with pink quartz crystals (see right).



Before the debris between Lanhall and Low Lan built up during the last Ice Age, the Shinnel Water flowed passed Clonehead into the Cairn Water, instead of finishing its travels at its junction with the Scar Water at Penpont, but that's a different story! *Diana Turner*



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NEWS ITEM — *Impact of Decline of Geology Teacher Training*

Report of a Stakeholder Meeting on Geology Teacher Training – 17th May 2011

The future for geology teacher training looks very perilous. In recent years only two Postgraduate Certificate in Education courses have been available in the UK, at Keele and Bath Universities, training an average of 11 geology teachers per year between them. Last year Keele closed its course, but was persuaded to re-open it when a 'no cost' method of teaching it was found; a commitment was made to develop a 'distance learning' course in the longer term. This year Bath permanently closed its course. This year, the allocation of training places by the Training and Development Agency for schools (TDA) to Keele University for 'biology and other sciences' was 12; since this was given to keep a viable biology group, geology was again closed. After a letter was written to the TDA indicating the probable 'unintended consequence' of their cuts would be the loss of teacher training in geology, TDA offered 6 more places to Keele for geology teacher training; Keele accepted these, providing the 'no cost' method of teaching was continued and the commitment to a 'distance learning' course remained.

Given this background, the Chair of the Steering Committee of the Earth Science Education Unit, Steve Harris, convened a stakeholders' meeting to consider the geo-community's response to the issues. Attendees were drawn from a broad cross-section of geological and scientific statutory agencies, professional bodies, universities, learned societies, and education and examination bodies. At the meeting attendees were made aware that the numbers of entries to all school geology exams in England and Wales is increasing; 45% of applicants to undergraduate geology courses had geology A-level or Scottish Higher in Geology and 31% of applicants to all geo-related undergraduate courses had A-level or Scottish Higher geology. Further, there are several jobs in science/geology and in geography/geology school teaching advertised each year. Finally, membership of ESTA is currently approaching 500.

During the meeting's discussion, several key points were made and these can be summarised as:

Contributory factors threatening geology's survival in schools and its likely impact

Many geology teachers are over 50 years of age and when they retire the 'engine' of the subject will be lost. This demographic is exacerbated by too narrow a concentration or over-reliance on a few key people and posts. The lack of demand affects teaching allocation, but demand will not increase if the subject is not available because there are no geology teachers! 'Rockwatch' provides some anecdotal evidence that the lack of geology provision in schools kills off the early enthusiasm engendered in children. The past fate of 'plant biology' indicates that once a subject is lost it is very difficult if not actually impossible to reinstate it. The loss of geology, and its inherent practical, investigative and field-work elements would both narrow the curriculum and be yet another example of the erosion of the richness of the educational process in the UK as a whole.

The weakening the competitiveness of UKplc

The Geological Society of London and the Committee of the Chairs and Heads of Departments of University Geology Departments (CHUGD) have made the case to the Government that geology is of strategic significance to UKplc. Representatives from industry reported that because they experienced 'hard to fill vacancies' - a shortage of suitably qualified geologists and Earth scientists - they had successfully lobbied the Government for an exemption category from Home Office restrictions on migrant workers. Is this really an acceptable situation in the birthplace of modern scientific geology?

In considering the best response to these issues, it was decided to convene a further meeting in mid-June from which the major practical outcome will be the preparation of a compelling narrative about the significance of the issue of the decline of geology education in the UK.

Chris King

MEETINGS and CONFERENCES

The Geologists' Association Two-Day Meeting 2011

GEOCONSERVATION FOR SCIENCE AND SOCIETY: AN AGENDA FOR THE 21ST CENTURY

9 and 10 September 2011

University of Worcester,
St John's Campus, Henwick Grove,
Worcester, WR2 6AJ

www.worcester.ac.uk



Left: Wren's Nest National Nature Reserve. © Natural England.



Right: Bamt Green Quarry, Lickey Hills, before and after. © Lickey Hills Rangers.

This meeting will examine the 21st Century challenges and opportunities for geoconservation and the partnerships required to ensure that our geological heritage continues to be valued and protected as part of the natural environment. It will also celebrate 60 years of successful geoconservation since the first SSSIs were designated.

Programme

The one day conference on 9 September will consist of invited lectures, poster sessions and debates exploring topics including the importance of local groups, funding opportunities, the benefits of raising public awareness and the future of the Geological Conservation Review. Registration from 9.30am, conference starts at 10am. Lunch and refreshments included. Confirmed speakers include: Professor Rory Mortimore (University of Brighton and ChalkRock Ltd), Dr Murray Gray (Queen Mary, University of London), Professor Jim Rose (Editor, Proceedings of the Geologists' Association), Phil Harding (Wessex Archaeology and Channel 4's Time Team), Tim Badman (World Heritage Programme, IUCN), Dr Colin Prosser (Natural England), Dr Jonathan Last (English Heritage) and Drew Bennellick (Heritage Lottery Fund).

The one day field trip on 10 September, will visit the Lickey Hills Champions Project, Dudley Museum and Art Gallery and the Wren's Nest National Nature Reserve to examine geoconservation in action and the role of local groups and communities. Departure from the University of Worcester at 9am, returning by 5pm. Lunch, coach travel and field guide included. The field trip is supported and led by the Black Country Geological Society, Dudley Museum and Art Gallery, Herefordshire and Worcestershire Earth Heritage Trust, the Ripples Through Time Project and the West Midlands Regional Group of the Geological Society.

Submission of Poster Abstracts

Offers of posters, including an abstract (max 300 words), should be submitted by email to Sarah Stafford at the Geologists' Association by 1 July 2011. Those accepted will be notified by 15 July 2011. Max size A0. Portrait style preferred but not essential.

Registration Costs

One-day conference registration (9 September): students £15, members* £25; non-members £30

Field trip registration (10 September): students £5, members* £10; non-members £15

Overnight accommodation at the University of Worcester is available at £32 B&B (en-suite). Reservations can be made via the registration form.

*Includes members of the Geologists' Association, Geology Trusts, GeoConservationUK and Affiliated Groups, British Society for Geomorphology and the Quaternary Research Association.

Registration is essential. For further details and registration please visit:

www.geologistsassociation.org.uk/conferences.html





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MEETINGS and CONFERENCES



GeoConservationUK acknowledges the support of **Rockhounds Welcome!** in the production of this Newsletter

HOGG Conference "Geological Collectors and Collecting" (4th- 5th April 2011)

This conference was held at the Natural History Museum (NHM). A packed set of lecture slots was complimented by concomitant guided tours and workshops that forced participants to make some painful choices - do I fit in that lecture or would the workshop be really useful? Well, the workshops that I attended (on book conservation and digital photography) were well thought out, appropriately resourced and achieved the difficult task of meeting the disparate needs of participants with widely varying expertise. There were so many excellent lectures and poster presentations (see top right) that it is truly impossible to either mention them all or to adequately provide an overview of their content in the newsletter's confines. The conference opened with a sometimes warmly personal lecture by Richard Fortey, on his home ground, on the NHM's collections and their collectors.



The first day's lectures were themed on 'Why Collect?' in the morning and 'Map and Book Collecting' in the afternoon. Julian Wilson gave an engaging account of an auctioneer's perspective on rare geological books and maps; this provided food for thought and a useful background to the highlight of the evening, a visit to the Christies auction house for a gallery talk and auction preview. Other morning lectures looked at aspects of national and regional collecting. The afternoon began with an account by Tom Sharpe of the, perhaps unknown to many, collection of William Smith and others' maps at the National Museum of Wales. Stuart Baldwin valiantly faced up to failings of presentation technology with an 'analogue' overview of natural science book collecting. Christopher Toland followed with an illustrated account of geology maps and their histories. Some attendees toured the Palaeontology Department and Earth Sciences Library where they could view a colourful William Smith map, in marked contrast to the much dishevelled copy (see mid right) later seen at Christies!



The second day was themed in the morning around 'Fossil Collecting' and in the afternoon 'Rock and Mineral Collecting'. In the morning the too often neglected significance of women was tackled by Karolyn Shindler's account of the Marchioness of Hastings. Richard Edmonds provided a thought provoking and at times controversial consideration of Dorset fossil collecting. The afternoon session included accounts of decorative stones and the arts, William Hunter's mineral collection, and a history of specimen conservation at the NHM. So, it's a "well done" to the organisers and the various presenters for providing an enjoyable and thought provoking range of material.

Tom Hose

GeoConservationUK Executive Committee

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GeoConservation Group
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