GEOconservationNEWSletter

Spring 2019 issue

A Word or two from the Editor . . .

Welcome to the first of three planned 2019 issues of the newsletter. I'm most grateful to the several contributors who, with my own gleanings from various newsletters and web-pages, have provided an indication of the diversity and commitment of GCUK's membership to protecting, maintaining and promoting the UK's rich geoheritage. Of course, this material is the tip of a very large mound of similar material produced by member groups; it's just a pity that they aren't widely shared. So, readers, do feel free to send me your members' newsletters, or better still an illustrated article or two for the next issue!

This year will be another challenging one for geoconservation with issues around local planning matters, funding and political support being much in mind. I can't quite recall (oh, I wish!) what the major political distraction is at the moment, but let's hope the coming elections offer some hope! However, there are already some glimmers of hope, with the East Lothian Council's new Local Development Plan and progress on the Black Country Geopark. Further, the geology internships in Somerset suggest a way to engage young geoscientists with geoconservation. Meanwhile, 'GeoWeek' in May promises to see even more of the public engaging with our geoheritage than last year thanks especially, but not exclusively, to the GCUK membership input.

Well, the weather at last promises to be warm and bright enough (although previous inclement days have not prevented the likes of DIGS, the Black County Geological Society and GeoSuffolk from already undertaking geosite maintenance work) to encourage us all to get outdoors. I've already braved snow in South Wales on a quarry visit in early April! Anyway, please feel free to distribute this **GEONEWS** to your colleagues, friends and even families - they might even enjoy the read! *Tom Hose*

DIGS at King Barrow Quarry

The DIGS group helps to maintain a geologically significant site located within the Dorset Wildlife Trust nature reserve at King Barrow Quarry, Portland. The site exposes the boundary between the Portland and Purbeck Beds with the 'fossil forest' horizon similar to that seen east of Lulworth Cove.

At the Lulworth Cove site, stromatolitic limestone structures that sometimes formed around trees that grew at the edge of a lagoon in Purbeck times can be readily seen and seemingly provide *(see left, top)* unusually large armchairs! Unfortunately, the world famous Lulworth Cove site is currently closed off to the public; this has been the case, due to the perceived risk of rock falls, for at least three years It is hoped that appropriate remedial work will be carried out at the Lulworth site during the coming spring and summer holiday periods when the firing range is open to the public.

In the meantime, the King Barrow site *(see left, middle)* offers a good, if not the best at the moment, opportunity to see the stromatolitic limestone structures. An impression of how the trees involved and their surroundings looked in life *(see left, bottom)*, derived from material for the DIGS contribution to the Keystone Project, shows the richness and diversity of the local Jurassic palaeo-environment.

Recent conservation work at King Barrow involved clearing scrub including brambles and *Cotoneaster* bushes. Because the site is important for limestone grassland vegetation, the encroaching vegetation has to be cleared sparingly so that the present-day ecology is not too badly affected whilst making the geology visible.

Alan Haliday

"Only twelve thousand years ago, 'Britain' was the colourless glacial extremity of a continuous landmass which reached east to Kamchatka and south to Table Mountain. A low, undulating plain - Doggerland - linked the higher ground of south-eastern Britain with rising land between the Rhine and the Elbe. Glaciers mantled the peaks of northern Britain and filled the Great Glen to a depth of 600 metres. Westerly winds hurled spindrift across the frozen North Atlantic, bringing mean winter temperatures that fell to minus 17° C. Pack Ice washed on beaches. South of the binding ice stretched the tundra..." *Nicholas Crane (2016)*

Somerset Geology Group - Geology Internship Opportunities

Since 2017, the Somerset Geology Group working in partnership with the Somerset Environmental Records Centre and the Somerset Wildlife Trust has been working on a review of Somerset's Local Geology (formerly RIGS) Sites. We are now seeking applications from undergraduate and post-graduate geology students to continue the project by conducting site research and surveys. This would be valuable and interesting work experience for geology students. The advertisement *(see below)* for the geology internships (and a Role Description) is available from the Group at somersetgeologygroup.gmail.com

Garry Dawson (on behalf of the Somerset Geology Group)

Opportunities for Undergraduate and Post-Graduate Geological Internships

The Somerset Geology Group (SGG), in partnership with the Somerset Environmental Records Centre (SERC), is undertaking a project to review Somerset's 230 Local Geological Sites (LGS). These were formerly designated as Regionally Important Geological Sites (RIGS). The project is supported by several organisations including The Curry Fund of the Geologists' Association, Exmoor National Park Authority, and Somerset Archaeological & Natural History Society.

To complete the desk-based site research and fieldwork for this review, SERC are seeking applications from geology undergraduates and post-graduates. The successful interns will work on a voluntary basis, but training and travelling expenses to site will be provided. The availability of an academic email account (.ac) would be useful. SERC is based at the Somerset Wildlife Trust HQ in Taunton, but interns will be required to work throughout Somerset.

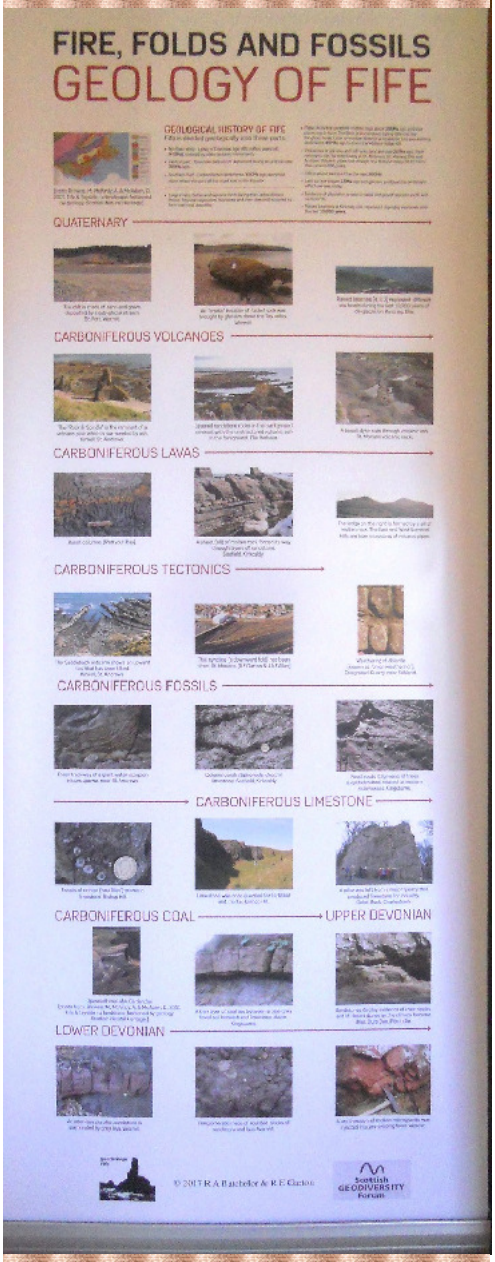
We are seeking individuals able to commit at least three months of their time to the project. Fieldwork began in 2017 and is expected to continue for a further two years. Our focus in 2019 will be on sites in the Mendips and the completion of Exmoor/West Somerset.

This opportunity will be particularly suitable if you:

- have studied geology for at least two years (or similar)
- have a residential base in or near Somerset
- are on a degree course offering year-out placements
- are interested in volunteering on the project and can envisage being able to commit a reasonable number of volunteer weeks (or days over a longer period of time)
- enjoy web- and literature-based research in geology (particularly the importance of geological sites) and are comfortable with electronic-based form completion and basic GIS use (e.g. Google maps/Google Earth/Digimap)
- are interested in developing your skills in writing site assessments based on the site research backed up by field investigation of each site
- would like to be part of a project contributing to Earth Science conservation
- would simply like to keep in touch with Earth Science conservation, as part of our SGG network

To apply, please send a 2-page CV and short covering letter to Leanne Butt (SERC Manager) at leanne.butt@somerc.com by 3rd May 2019, copying in somersetgeology@gmail.com. Please indicate whether or not you hold a current full driving licence. For further details or an informal discussion, phone Leanne Butt on 01823 652446.

The geoFife Banner



This roller banner (see article on page 5) well illustrates Fife's varied geology with mentions of its stratigraphy, structure and palaeontology; particularly noteworthy are its volcanic rocks.

The Dorset Building Stones Group

The Group comprises a few amateur and retired professional geologists who wish to investigate, publicise, celebrate and archive information about the building stones used in Dorset's historic churches and other buildings. Many of the members also belong to other groups, such as the: Dorset Geologists Association Group (DGAG), Open University Geological Society (OUGS), Dorset's Important Geological Sites group (DIGS), Dorset Environmental Records Centre(DERC) and the Dorset Buildings Group (DBG). The Group's web address is

http://dorsetbuildingstone.weebly.com/

This is an ongoing study and more buildings will be added over time. There is general information about the different rocks from the Dorset area that are used in buildings as well as specific information about particular buildings. Wherever possible, information about the source of the stone is given - this could be useful for historic building conservation activity.

The purpose of our study is to identify the stone used in historic buildings while exploring the County and enjoying ourselves immensely! The purpose of the web-site is to add to the sum of knowledge about historic buildings. Please note that whilst we make every effort to be accurate in our identification of building stone types we cannot guarantee 100% levels of certainty; even geologists are fallible!

Alan Haliday

GEOCONSERVATION CYMRU

A 'GEODIVERSITY CHARTER FOR WALES'

The 2013 UKGAP entry for Wales reported the formation of Geodiversity Wales, bringing together representatives of Cyfoeth Naturiol Cymru (Natural Resources Wales), Amgueddfa Cymru (The National Museum of Wales), the British Geological Survey and the Association of Welsh RIGS Groups (AWRG) for the creation of an implicit Wales Geodiversity Charter to 'promote an understanding of Welsh geology and landscape' and 'offer a co-ordinated, knowledgeable, consistent and integrated approach to geoconservation in Wales, and will provide robust scientific and policy advice to decision makers'.

In 2014, the formal Audit of Welsh RIGS sites by AWRG was completed with the financial and logistic support of the other three agencies. One year later, AWRG was rebranded as Geoconservation Cymru – Wales (GC-W), to improve institutional and public recognition of its mission as the principal voluntary organisation for non-statutory geoconservation and partner to the Welsh statutory agencies. Since then, GC-W has responded to several Welsh Government Consultations on future policies for Wales, with recurring requests for geodiversity and geoconservation inclusion in developing policy areas such as Sustaining a Living Wales, National Resources Wales, National Recovery Plan for Wales and Environment (Wales) Bill between 2012 and 2018.

During this time, representatives of GC-W, NRW and NMW met senior managers of the Welsh Government to push the case for such inclusion. The core Geodiversity Wales group also secured the support of representatives from the Geological Society of London, South Wales Geologists' Association, Welsh Stone Forum and higher education stakeholders.

However, we have fallen behind England, Scotland and Northern Ireland in achieving a Welsh Geodiversity Charter, probably due to energies consumed in the successful Audit of Welsh RIGS sites and responding to the raft of Government consultations. We now intend to redress this, after several partially-coordinated proposals and drafts since 2015. The process of drafting and developing the Charter was re-set at a meeting of the principal parties and both Welsh UNESCO Geoparks in Brecon last November, with the following objectives:

Stage One - First, seek endorsement in principle for the Charter from a wide range of relevant organisations, in the manner of the other national Charters and as an incipient Geodiversity Forum; this will be followed by a concise, illustrated draft provisionally titled 'Valuing the Rocks & Landscapes of Wales', making the case for recognition of Welsh geodiversity and its importance to Welsh life, outlining its significance for the principal strands of National strategies and policy for Wales for endorsement by NRW, NMW and BGS (in late spring/early summer 2019).

Stage Two - Assuming that the Stage One draft Charter receives support, this will contain a shortened, illustrated exposition of Wales' geodiversity followed by a comprehensive mapping of its importance and application onto Welsh National Policy; after successful completion, the draft Charter will be circulated to the widest range of relevant organisations (UK professional bodies, local, regional & national Welsh authorities, education, industry and commerce) seeking formal endorsement, public recognition and support (late summer 2019).

Once these endorsements have been secured, the Charter will be confirmed and published in full.

Ken Addison (Chairman, Geoconservation Cymru)

"After eight billion or so uncounted, unlamented years came planet Earth and, three and a half more billion years after that, a soup of life began to simmer in her oceans. A slow procession followed: plants grew, fish swam and lizards crawled. Tectonic plates - the great rafts of rock that encrust the planet - drifted upon the currents of its molten core, the continents we know today trapped shapeless shapeless and as yet unsculpted within"

Neil Oliver (2011)

A Busy Spring . . .

The Black Country Geological Society has a diverse spring and summer events programme, summary details of which are:

▪ Monday 15th April (lecture):- 'Europe's Lost World: The Rediscovery of Doggerland'. Speaker: Professor Vince Gaffney MBE FSA (Anniversary Chair in Landscape Archaeology, University of Bradford). Abstract: 8,500 years ago the area that now forms the southern North Sea was dry land. By 5,500 BC the entire area had disappeared beneath the sea as a consequence of rising sea levels. The 'North Sea Palaeolandscape Project' has mapped 23,000 km^2 of this 'lost world' using seismic data collected for mineral exploration. In mapping this exceptional landscape the project has begun to provide an insight into the historic impact of the last great phase of global warming experienced by modern man and to assess the significance of the massive loss of European land that occurred as a consequence of climate change.

▪ Saturday, 11th May (full day field meeting):- 'Martley Geo-Village', led by John Nicklin (Teme Valley Geological Society). Meet at 10.30 at Martley Memorial Hall for light refreshments and a pop-up display. Recognised as a Geo-Village, Martley has distinctive geology within its bounds spanning the Palaeozoic and lower Mesozoic. Includes rocks belonging to the Precambrian Malverns Complex, Martley Quartzite, Silurian and Carboniferous mudstones, siltstones and sandstones, Triassic sandstones, and Quaternary sand deposits. By car and/or on foot we will explore local geological sites, finishing around 4.00. Bring a packed lunch.

▪ Tuesday, 21st May (evening field meeting):- 'Building Stones of Birmingham from Centenary Square to Brindley Place', led by Julie Schroder. (Joint meeting for BCGS and the Geological Society WM branch). Meet at 6.00 at the Hall of Memory (eastern end of Centenary Square, close to the Library of Birmingham). Following the two evening Building Stones walks last year, this walk concludes the series of 3 based on the Building Stones Trails created for BCGS by Ruth Siddall. The walk will closely follow the web-based version of Birmingham Building Stones Trail No. 2, which you can find at bcgs.info/pub/local-geology/building-stone-trails/ There is also a pdf files which can be downloaded or printed, but the web version has maps, additional photos, plus further information and definitions. Booking required as numbers limited to 20. Please contact Andy Harrison (Field Secretary) to reserve your place; Text or phone: 07973 330706 or email:fieldsecretary@bgs.info

▪ Saturday, 15th June (Field Meeting):- Lydney Cliffs, Gloucestershire, led by John Moseley (Gloucestershire Geoconservation Trust). Meet at 10.30 at Lydney Docks. Good parking at east end of Harbour Road, GR647013. Views of River Severn and south to Aust Cliffs, walk along low cliff to access Lydney Cliff section (caution required!), to examine Pridolian sequences. Lunch in Lydney, or at Parkend, 2 miles north of Lydney. Afternoon: possible underground visit to Hopewell Colliery or Clearwell iron ore caves, or a Carboniferous limestone locality. Finish around 4.00. Bring a packed lunch although there may be an opportunity to buy lunch in Lydney or at the Forest of Dean Visitor Centre.

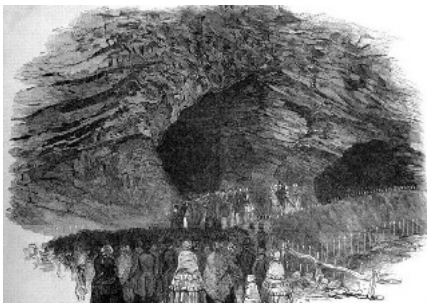
▪ Sunday, 28th July (Field Meeting):- Nottingham's Sandstone Caves, led by Tony Waltham. This is postponed from last year and the details are yet to be confirmed.

Indoor meetings are held in the Abbey Room at the Dudley Archives, Tipton Road, Dudley at 7.30pm for a 8.00pm start, unless otherwise stated.

The Black Country Geopark Bid - Progress?

The Black Country UNESCO Global Geopark application is now in the final stages of the assessment process. Over the past year, various Black Country teams have been working on several aspects of the bid to: strengthen the application; engage more people with it; and promote the project as widely as possible. Meanwhile, new information and a short geopark promotional film have been added to the website at:

blackcountrygeopark.dudley.gov.uk



Research work has also been undertaken to better understand the geology of the Wren's Nest, a site of considerable geohistorical interest, inlcuding a visit and underground public lecture *(see above, right)* by Sir Roderick Murchison in 1849. New branded interpretation has been placed at some of the key geosites.

Much work has been done with local communities and the business sector to raise their awareness of the Geopark bid. Geopark themes are beginning to appeari in new developments around the areas; for example, in the road names at a new estate at the Wren's Nest and as embodied in the geologically-themed window art at the Travelodge hotel next to the Dudley archives building.

A progress report must be delivered to UNESCO by early this May. A decision will be taken by the Global Geoparks Network later in the year. Formal notification of the application's outcome will be given in early 2019.

Tom Hose

"Travellers by the London and South-Western Railway are famiiar with the rapid view they get of Meldon Gorge and Yes Tor as they pass over Meldon Viaduct, near Okehampton Station. A visit to this portion of the West Ockment will be amptly repaid ; for the scenery is wild, the gorge through which te river tumbles is deep, the folding heights risingsome five or six hundred feet above its bed. The Vale is easily traversed by following a rough track which leads to the ruins of Homerton Mine..." Robert Bernard (1891)

geoHeritage Fife

Last year geoHeritage Fife produced a roller banner (see page 2, right), fully funded by a Scottish Geodiversity Forum grant, outlining the Geology of Fife. It will now be offered out for loan to local schools and colleges.

The group published a new leaflet on the Building Stones of St. Andrews *(see right)* which has been distributed widely in the town. It offered a slot, related to the leaflet, for last May's national GeoWeek; two members led a geowalk on the building stones of St. Andrews - 12 people attended and they all took away a copy of the leaflet.

The group also reprinted a popular geotrail leaflet (Kinghorn to Kirkcaldy) with the help of part funding by The Geologists' Association's Curry Fund.

Richard Batchelor (Chairman)

Hull Geological Society - Spring Events

The Society's, although non-members are welcome to attend, following lectures in the Cohen Building, University of Hull start at 7.30pm:

- Thursday 21st March:- Evening Lecture by Prof David Bond (Hull University) on two topics with displays - "When life nearly died - new perspectives on the Permian-Triassic mass extinction" and "Ediacaran-like textured organic surfaces: microbial mats thrived after the Permian-Triassic mass extinction"
- Thursday, 28th March:- Annual General Meeting and guest speaker Dr Lyndsey Fox of Hull University on "Illuminating Anthropogenic climate change with 150 years of ocean science"

Some spring field meetings have been organised:

- Thursday, 16th May:- 'Withernsea' led by Brenda and Jack Almond and Janet Robson (part of Yorkshire Geology Month). Meet at 11am (for 2-3 hours), parking on Waxholme Road. Bring a hard-hat and packed lunch.
- Sunday, 19th May:- 'Rocks in the Cemetery' walk led by Mike Horne (part of Yorkshire Geology Month); meet at the Western Cemetery gate-house, Chanterlands Avenue, at 11am - do bring a magnifying glass if you have one.
- Sunday, 9th June:- 'Rock and Fossil Roadshow' at Flamborough Village Hall (part of Yorkshire Geology Month 2019) from 11am to 3pm. There will be displays of rocks and fossils by members of the Hull Geological Society and a "lucky dip". We will try to identify any finds brought along and give advice on collecting and curating, but NO valuations!
- Saturday 25th August:- 'Roadshow' at Hornsea Museum, organised Stuart Jones, from 11am to 3pm. There will be displays of rocks and fossils by members of the Hull Geological Society. We will try to identify any finds brought along and give advice on collecting and curating, but NO valuations! Admission to the Roadshow is free, but there may be a charge for visiting the Museum.

Mike Horne

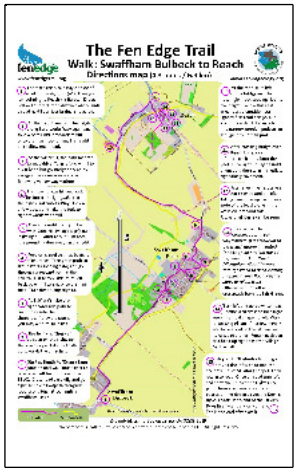
Cambridgeshire Geological Society

A New Fen Edge Trail Walk

fenedge Trail

A new walk on the Fen Edge Trail, from Swaffham Bulbeck to Reach, has now been published; the walk leaflet *(see below, right)* can be downloaded from the web-page covering this part of the Trail at:

http://www.fenedgetrail.org/cambridge-to-isleham/stow-cum-quay-to-reach-2



Work has commenced on putting together the information for the two further walks, from Reach to Burwell and from Burwell to Wicken Fen; several other walks are now underway, with some due for publication later this year.

The web-site has been updated with a map that shows progress on the various parts of the Trail and there is now a page to show some of the places to visit on the Fen Edge. A guided walk along the Trail near Burwell is being organised for GeoWeek in May; information, including the date, will be sent out soon. The Society's web-page at www.cambsgeology.org can be consulted for updates of its work.

GEO Suffolk

Butely Forest Pit CGS

GeoSuffolk and Suffolk Coast Heritage AONB volunteers tackled vegetation and talus on the Red Crag exposures at the Butley Forest pit *(see immediate left)*, which is owned and managed by the Forestry Commission, on 4th December, 2018.

The Pit's two faces there are at right-angles. The combined clearance work was concentrated at the junction between them which had become obscured. Re-exposing this area facilitates the interpretation of three-dimensional structures such as current bedding. Good headway was made in the clearance – a big thanks to all who dug, chopped and raked! The pit is a County Geodiversity Site with public access so do visit it.

Caroline Markham

Some Memories of Joe Collins (1927-2019)

Some GEONEWS readers, especially from southern England, will have known Joe Collins and something about his superb collection of British fossil crabs and barnacles; he displayed these for some 66 years at the Geologists' Association's (GA) annual 'Reunion', later the 'Festival of Geology'. Few, perhaps, would have known that this independent, quiet, humble man was an internationally recognised expert on them and a highly respected amateur palaeontologist. His publications list was long and many of his papers were co-written with internationally renowned colleagues. He was awarded the GA's Foulerton Award in 1971 'in recognition of his researches on fossil Decapoda and Cirripedia and palaeontological demonstrations to the Association'.

I only came to know Joe in his retirement, when he spent many hours working as a volunteer at the Natural History Museum (NHM). He was always keen to share his enthusiasm and expertise and, as is often the case with the elderly, seemed to have a special affinity with children. He joined the GA's Rockwatch Team at the Lyme Regis Fossil Festival a few years after it became a regular, annual event and soon became a highly valued colleague. It was only some time later that I found out that his early interest in palaeontology began on a 1939 Lyme Regis school trip; so, it seems altogether appropriate that in his retirement he joined the Rockwatch Team *(see immediate, left)* at the town's annual Fossil Festival.

Joe joined the GA in 1953. One of its longest-serving members, the 'Reunion' was a highlight for him; he never once missed exhibiting his fossil crustacean collection. Recently, NHM colleagues, Claire Mellish and Jenny Parry, helped Joe display it at the 'Festival of Geology'. In 2018 his crab collection from Denmark drew many colleagues to this to chat with him. In 2013, to mark the 60th year he had exhibited at the 'Reunion', Joe was made an Honorary Life Member of the GA to acknowledge his 'unstinting support, commitment to palaeontology and willingness to share it with the public'.

To mark Joe's 90th birthday in September 2017, colleagues at the NHM organised a surprise party for him. At this joyous occasion many happy memories were shared by colleagues, family and friends. Joe was 91 when he passed away, peacefully in his sleep, and was working at the NHM to the very end. He will be sorely missed and his like will be hard to replace.

Susan Brown (with additional contributions by Di Clements)

Warwickshire Geological Conservation Group Programme

The Group has a fairly packed programme over the spring and early summer which can be summarised:

Wednesday, 10th April:- 'Warwick Town Walk & Warwick Museum', led by Jon Radley.

Wednesday, 17th April:- 'The Geology of Norway'. by Chris Darmon.

The venue for talks is the Kenilworth Senior Citizens Club. Meetings start at 7.30pm with refreshments from 7pm. There is a £2.00 charge for non-members. For more details go to http://www.wgcg.co.uk/ .

Events organised for 'GeoWeek, 5th-12th May, are:

- Sunday, 5th May (10.30am - 4pm):- 'Walk 600 million years in 20 minutes at the Brandon Marsh GeoWall'; a geological timeline wall walk. Meet at the Brandon Marsh, Warwickshire Wildlife Trust Visitor Centre.
- Tuesday, 7th May (11.30am - 4pm):- 'Upton House Reveals its Secret Hidden in the Stones'; a geological tour of the house and gardens – at various times during the day.
- Tuesday, 7th May (7pm - 8pm):- 'Rock solid evidence that Jurassic Park came to Banbury'; a guided geological tour of Banbury town centre. Meet at the Town Hall for 7.00pm.
- Thursday, 9th May (2pm - 3pm):- Kenilworth Rocks! Meet 'The Stones'; a guided walk of 'The Building Stones of Old Kenilworth'. Meet at the Abbey Fields car-park.
- Sunday, 12th May (10.30am - 12.30pm):- 'Gold in them thar hills? Yes! Fool's Gold!' Why are the Burton Dassett Hills there? What's in them? Who dug? When? Why? Are they magnetic? What's that tower for? Meet at the car-park near the Tower.

GeoSuffolk Red Crag Pits' Clearance Work

Clearing the Red Crag pits around Alderton, with the help of Suffolk Coast and Heaths AONB volunteers, over the last few years has given many of the heathland's pits a much needed facelift. All provide glimpses of our past viewed by chance from footpaths, maybe through vegetation or across sloping ground, as a familiar part of the Sandlings landscape.

Many are publicly accessible and are valuable assets for leisure and education. Some, like the one most recently cleared at Alderton on 5th February are on private land. There, a good. turnout saw two sections cleared; one section *(see above, left)*, seen from the Alderton to Ramsholt footpath, has excellent current bedding. So, a big "thank you" both to the landowner and the AONB volunteers for a job well done!

Caroline Markham

The Black Country Geological Society: Some Geoconservation Work

Society members, as reported in the April issue of the *BCGS Newsletter,* have been actively involved in the late 2018 to early 2019 geoconservation season work; this has mainly involved vegetation and exposure clearance at Wren's Nest, Saltwells Local Nature Reserve (LNR), the Lickey Hills Country Park and Barrow Hill LNR. The season should have started with a session at Portway Hill, Rowley on Saturday, 6th October but that visit was cancelled due to bad weather! However, the visits to the Wren's Nest - Saturday, 3rd November 2018 and Saturday, 16th February 2019 - went ahead.

Both sessions concentrated on two trench sections running along the Reserve's eastern edge. This was because the site's Wardens have found that the visiting public seemingly prefer the Reserve's more established and open parts rather than the eastern edge, which had become largely neglected and overgrown with trees and undergrowth. Recently, the wardens have been focusing on opening-up this area. This work has revealed hidden exposures, encouraging floral and faunal diversity, whilst providing an attractive area for visitors.

The first visit *(see immediate right)* concentrated on the inner trench where the Lower Quarried Member had been removed. Exposures forming the western trench wall revealed the Transition Beds, grading into the underlying Coalbrookdale Formation. Forming the eastern wall is the overlying Nodular Member. Having been largely overgrown, dark, and largely ignored, this location has not been picked over for fossils. Members had an opportunity to do some fossil hunting during the session and discovered some very interesting brachiopods and corals; these included a rare square rugose coral, *Goniophyllum pyramidale,* located within the Transition Beds on the western side of the trench.

For the second (February 2019) visit, members concentrated on a section of the outer trench where the Upper Quarried Limestone had been removed. Since our November visit the Reserve wardens had continued to clear the inner trench revealing good exposures and further interesting fossil finds. A short perpendicular cut connecting the inner and outer trenches reveals a good exposure through the Nodular Member, which is exposed within the western wall of the outer trench. A low lying heavily overgrown bund relating to the poorly exposed Lower Elton Member forms the trench's eastern wall. The exposed Nodular Member limestone layers revealed another interesting array of largely untouched fossils including corals, bryozoans, crinoid platelets, brachiopods and other molluscs including *Tentaculites ornatus*? and a square rugose coral, *Goniophyllum pyramidale*.

Conditions were cool and gloomy on the November visit, but fine weather accompanied the February one. Reserve wardens Ian Beech and Rob Earnshaw coordinated the works and provided much welcomed tea and biscuits!

Meanwhile, a visit to Saltwells Local Nature Reserve (Doulton's Claypit) was made on Saturday, 1st December 2018. The day started gloomy, but soon brightened up. Members aided Tom Weaver, the Reserve's warden, in clearing saplings, scrub and soil *(see above, right)* from the Coal Measures exposures in the base of the Pit. Mostly exposed was a uniformly layered, cross-bedded fluvial sandstone that also contained interbedded mudstone and shale layers with ironstone concretions. The wardens and associated friends' groups have been working hard to open up Doulton's Claypit to create new wildlife habitats, including heathland, woodland, wetlands and ponds to improve the site's biodiversity. New paths cut through the Claypit bottom have revealed a stark contrast between the new and ancient environments. Conservation works are proving very successful. Numerous birds, insect and floral species have been spotted including the hybrid Common Spotted/Southern Marsh orchids, for which the Claypit is well known.

The Lickey Hills Country Park was visited on Sunday, 20th January 2019. when BCGS members joined the Lickey Hills Geo-Champions to start 2019 with a clearance session in the Barnt Green Road Quarry. Meeting at 10.30am at the Lickey Hills Visitor Centre, Warren Lane, after collecting tools, the joint party made its way to the Quarry. Cold, calm and gloomy conditions accompanied their endeavours; these involved cleaning the exposures *(see above, right)* in the quarry first cleared in 2010 using a long reach excavator and high-pressure hoses. Since then, the Lickey Hills Geo-Champions with help from various conservation groups have battled hard to keep the exposures clear of vegetation, plus soil and scree washed down from further up the rock faces. However, this is an ongoing battle. The layers of the Lickey Quartzite show heavy folding, fracturing, faulting and inter-bedding with clay layers. Over the years, the

Lickey Hills team have attempted to interpret what is going on within these rocks, but many questions still remain unanswered.

Barrow Hill LNR (East Quarry) was visited on Saturday, 2nd March, 2019. The reported geoconservation season ended with a well-needed return to Dudley's own volcano at Barrow Hill LNR. Members met at 10.30 on Vicarage Lane outside St. Mark's Church and were subjected to cloudy conditions with clear spells throughout the day. Efforts focussed on clearing saplings and scrub from the East Quarry's left-hand arm, the north face of which contains dolerite exposures with vertical columnar joints resulting from thermal shrinking.

The southern face contains dolerite tongues that have intruded into the Etruria Marl, baking it to give a terracotta appearance. The published Barrow Hill Volcano leaflet describes a dark purple or pale reaction zone defining the actual dolerite/marl contact. The original Etruria Marl is believed to have been wet and waterlogged, thus rapidly cooling the intruding hot dolerite trype magma. Evidence for this is genesis is the relatively limited extent to which the Etruria Marl was altered. In places the dolerite churned up the Etruria Marl, giving the exposure a rubbly appearance. The exposure also contains thermal joints that formed as the dolerite cooled, and these have been infilled with churned up rubble. Rising hydrothermal fluids later deposited white calcite to form veins running through the infilling rubble.

Blooming flowers, blossom and budding flora hinting at approaching spring, brought our conservation season to a close; emerging vegetation acting as a reminder that the clearance work in places such as Barrow Hill is ongoing and needs to be managed in order to protect these sites. *Andy Harrison*

Local Authorities in Scotland recognise geodiversity in their Local Development Plans

In 2014, the Scottish Government adopted new Scottish Planning Policy that specified that Local Nature Conservation Sites designated for their geodiversity (also known as Local Geodiversity Sites) should be selected for their value for scientific study and education, their historical significance and cultural and aesthetic value, and for their potential to promote public awareness and enjoyment (SPP3, 2014, policy 198).]

As a result, over the last few years several Local Authorities have started to designate Local Geodiversity Sites or adopt Local Geodiversity Action Plans. The picture is patchy across the country, and most activity has taken place in areas where a well-established local group has been actively engaging with a Local Authority over many years, but there are many bright spots of solid progress and there are at least 12 Local Authorities (out of 32) with some geodiversity included in Local Development Plans. Details can be found at:

https://scottishgeodiversityforum.org/charter/geodiversity-for-local-authorities/

Some Local Authorities have had the advantage of a full-scale geodiversity audit carried out by the British Geological Survey, which has formed the basis for designation of a network of local sites. This tends to take many years, although East Lothian Council completed the process in three years, from virtually a standing start. In other areas, a more piecemeal approach using volunteers has had some very good results in time. For example, over a few years Paul Carter and Mike Browne have surveyed more than 50 existing Local Nature Sites in North Lanarkshire for their geological interest.

Local groups in Scotland have struggled through a decade of austerity and cutbacks, and it is often hard work to keep going, attract enough volunteer support, and engage with Local Authorities. It is heartening though, that in this period solid progress has been made in many places, and across the country there is better awareness of the value of local geodiversity and some recognition of this within the planning system. *Angus Miller*

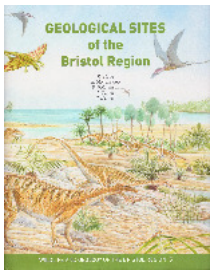
GeoWeek 2019 in Scotland - events to bring the public to geoscience across Scotland

GeoWeek only began in 2018, to try to involve more geoscientists in outreach activities across Britain and Ireland through a concentrated week of activities; its inspiration was the Spanish Geology initiative in which annually on one some 150 geoscientists take nearly 10,00 of the public on field trips. The GeoWeek initiative is being led by the Earth Science Education Forum (England & Wales) with support from BGS and a range of other partners including GCUK.

For 2019, there are already more than 30 events, planned for 4th-12th May, from St Kilda to the Jurassic Coast. It is not too late to add events; visit the geoweek.org.uk website for how to take part, including a publicity toolkit. It is very easy to submit an event, so it is worth adding those you already have planned for this year; anything that engages the public with geoscience counts, as long as it happens in the designated week!

The week has already been promoted nationally with articles in newsletters etc., and there will be regular social media posts in the run up. However if you are organising an event you will need to also do local publicity to make sure that people hear about it. This will become an annual event, always around the same time in May - so do get planning for 2020! *Angus Miller*

GeoWeek 2019
Active Geoscience 4-12 May

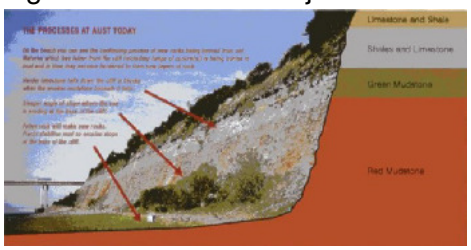


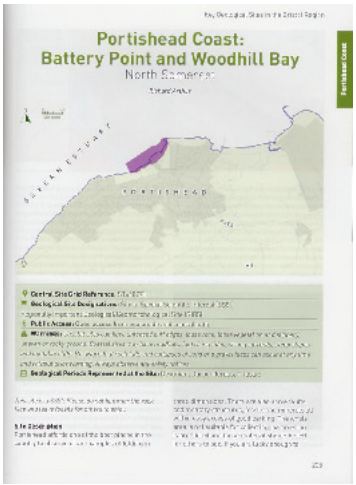
Book Review - *Geological Sites of the Bristol Region* (Stagg *et.al.* 2018)

This is the fifth, but hopefully not the last, volume in the Wildlife and Geology of the Bristol Region series that launched in 2000 with *The Flora of the Bristol Region*; like the four previous volumes it's published by the Bristol Regional Environmental Records Centre (BRERC). It claims to provide a useful and informative introduction to the variety of the region's geology. With that in mind, I poured over its 296 (189mm X 246mm) pages and three sections with much interest. Initial impressions were good and detailed examination found little to fault the volume as a whole and some surprising and welcome inclusions, such as the origin of the hymn 'Rock of Ages' *(see right, top)*.

The introductory section, 'The Rocks and their Influence upon the Landscapes, the Wildlife and People who Live in the Bristol Region', of some 60 pages, has an eclectic content. Unsurprisingly, the first introduces the region's bedrock geology. It is immediately followed by a single page *(see right, second from top)* offering, with the unusual title of 'Interested in 'Fossicking', unusual in that it does not follow the generally accepted Australian term dating from that country's nineteenth century goldrush; instead, it is about collecting fossils. The following section deals well with introducing basic geological terms and concepts. The Quaternary section introduces, but doesn't really explain its Marine Oxygen Isotope Stages and likewise the nature of its deposits; otherwise it is a necessarily short but good account. The next sections cover the evolution of the region's scenery, soils, and ecology. Then, aspects of the history of geological collections *(see right, third from top)* and research, the Somerset coalfield, and building stones are covered. It's also good to see sections on local geoconservation and RIGS.

This last section nicely introduces the volume's middle section 'Key Geological Sites in the Bristol Region', of some 185 pages. It describes around 40 geosites and geomorphosites Each site description is usually introduced with a location map and/or aerial photograph and summary location and access information *(see right, bottom)* followed by a 1:50,000 BGS bedrock map and a site description and account of its historical significance and/or major features and what can be seen or found there. The dust-cover is needed because it has, on the back flap, the key to BGS bedrock geology maps. The described sites are an interesting and informative mix; the mention of geo-historical sites is a real and generally interesting strength. Aust Cliff is the first described; the figure *(see, immediate left)* describing the processes that can be observed there and linking them to rock types is a nice innovation - perhaps adding the stratigraphy (shown in the succeeding figure) would have made it even better? The biggest omission in the section as a whole is a summary map showing the distribution of the mentioned geosites, perhaps along with the others in BRERC's database, to show their overall distribution - it would so much aid creating a series of itineraries to visit them. It does make the point that the sites have been selected for their geological interest, rather than their public accessibility, and inevitably reflect the various authors' interests.





The final section, of some 30 pages, 'Finding Out More' has information on the numerous local groups and organisations for people with a common interest in geology. It very usefully includes a guide to the region's renamed (thanks BGS!) rock units and a glossary. A real strength of the volume is the comprehensive bibliography, with perhaps the only real omissions here being the lack of mention of the reports of the several Geologists' Association's excursions to the region.

The volume's production values are high; full-colour illustrations, printed on good-quality semi-gloss art-paper, are employed throughout Finally, it's a hardback volume published in mid-2018 and priced at £19.50 - I consider it excellent value! *Tom Hose*

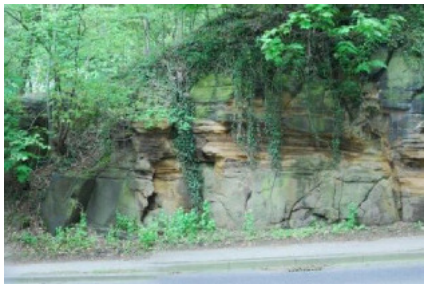
Sheffield Area Geology Trust: a Busy Year!

The Trust's 2017-2018 activities continued much as before, its small band of dedicated trustees and members undertaking a wide variety of voluntary activities. The long cold winter and excessive heat and vegetation cover in the summer months made investigating geosites harder than usual. But, many known geosites were visited and new ones discovered. Responses have been made regarding planning applications, either at the request of the Councils (3 by Barnsley, 20 by Rotherham, 2 by Sheffield) or due to the Trust's vigilance.

The use of LIDAR imagery alongside historical maps has increasingly facilitated the Sheffield Area Geology Trust's (SAGT) initial site appraisals and has resulted in some new ones being spotted, thanks to the technique's ability to 'see' through tree cover. The recent release into the public domain, under Open Government Licence, of the 1:50,000 digital geological map of Great Britain by the BGS has also helped SAGT with site investigations and preparation of reports. A total of 6 sites were visited in Barnsley, 10 in Doncaster, 17 in Rotherham, and 8 in Sheffield (not including a few repeat visits to some sites). Barnsley continues to support annual Condition Monitoring of 5 sites per year: All four Local Authorities continue to benefit from the substantial voluntary efforts of SAGT.

In Barnsley, the Staincross railway cutting, with its exposures of glacial material, has been designated by Barnsley MBC as a new RIGS, and the Trust looks forward to further information becoming available as investigations and excavations are carried out in connection with the construction of a nearby housing development. Local enthusiasts are endeavouring to keep the undergrowth under control at Greenmoor Delph Quarry; they have asked SAGT to comment on the geological content for a new outdoor panel.

In Rotherham, the Trust was asked to assess the impact on geoconservation issues of proposed changes to the Local Plan; subsequently, it provided Public Consultation responses to these for about 20 sites. A chance comment at a meeting of the Rotherham Geological Sites Panel from the Council's Principal Officer for Culture led to the discovery and recording of several sites in the Wickersley Rock and the Ravenfield Rock; for example,



near Thrybergh *(see immediate left)*. Likewise, informal discussions with a major contractor drew attention to the only site in the Ackworth Rock on SAGT's patch, where the unit is exposed in a disused railway cutting. The firm has bought several former railway cuttings for the disposal of inert waste prior to house building; this presents a significant opportunity for geological investigations.

In Sheffield, good co-operation with the Planning Department has led to the acceptance of six new RIGS. The digital boundaries of all RIGS in the Sheffield City Region have been reviewed, a few being adjusted or corrected where necessary; this was completed in time for their inclusion as a GIS layer in the consultation draft of the Sheffield Plan. SAGT made representations to the Council regarding the development of the Omega Restaurant site at Brincliffe, requesting that the historic quarry face should remain visible and not smothered in steel mesh. However, SAGT's biggest project concerns the recording of the geology of RIGS G300 – one of three railway cuttings (known as the Nunnery Triangle) in Darnall. Sheffield City Council inserted a Planning Condition and SAGT was commissioned to prepare a Written Scheme of Investigation with the contractor required to allow access as the sides of the long-disused cutting were being cleared of vegetation and 130+ years of slipped debris and soil. The firm involved, MHH Contracting Ltd, were most helpful; the skilful digger driver cleared one side of a 300m long cutting *(see below, left)*, often to SAGT requirements, and the face was

cleaned up with brushes and shovels by SAGT members and friends. An excellent exposure in a complex system of fluviatile sand bodies. was then photographed as a series of panoramas providing very high resolution prints, onto which the geology can be mapped. The small SAGT volunteer labour force has been fully stretched to complete the recording task within the agreed time-scale.

Trust members are involved in public and school events across and beyond the Sheffield area; these include guided walks and investigations into the geology of gravestones and building stones in churchyards. Three Derby University undergraduates, with advice from SAGT, successfully completed their dissertations on the Greenmoor Rock and on the Porter Valley. A SAGT member has spent over 150 hours cataloguing the reserve fossil collections of Museums Sheffield. An information board for the "Fossil Forest" at Wadsley Park was prepared and manufactured in 2009 but never installed. Following SAGT lobbying the board and its accompanying tree stump cast were located in two separate Council depots, recovered, and finally installed on-site in mid-October 2018.

Tom Hose (with many thanks to Peter Kennett, Chairman, SAGT)

On-Line Lancastrian (A)Musings!

Rather like when I have the TV switched on in the background for company as I write or undertake desktop studies, I am sometimes diverted by what unexpectedly turns up in internet searches; this is especially the case when an item related to a place I've perhaps recently visited or from my formative geological years. So, I was pleasantly surprised to look at what was on offer, such as geoconservation site information and geotrail publications, on the GeoLancashire website [https://geolancashire.org.uk/]; I suppose because I'm a Lancashire lad, still much lamenting the way great chunks of the county were grabbed by Cumbria, Merseyside and Greater Manchester in the 1974 local government reorganisation, and I cut my early geological teeth on some of their now designated Local Geological Sites. Interestingly, my home county took its name from the city of Lancaster, the name of which means 'Roman fort on the River Lune', an archaeological site I've visited and likewise the site of the Roman town of Ribchester; one of the trails that can be downloaded from the website *(see left, top)* is for that site.

Another of those guides is for Clitheroe *(see left, middle)*. In the past I reviewed a draft of a geotrail guide for a Clitheroe geotrail and was well pleased with the final published version (Bowden, A. *et. al.* 1997. *Salthill Quarry Geology Trail: Geologists' Association Guide No. 58*) which now is sadly out of print. Salthill Quarry is designated a SSSI and interpreted *(see left, bottom)* because of its Carboniferous limestone, especially reef knolls or mud-mounds, geology. Admittedly, it's also of botanical interest due to its admixture of vegetation from the earliest stages of limestone soil development to limestone grassland and then finally mature woodland.

That item brought me to *Deposits Magazine* web-page about the quarry [https://depositsmag.com/2017/04/11/salthill-quarry-clitheroe-a-resource-being-revitalised/] which noted that "...in 2010, the geological features were being overgrown by grasses and other plants...the geological SSSI was being transformed, passively, into a botanical nature reserve." Fortunately it also reported that geoconservation work at the site, involving a mechanical excavator, in 2014 addressed the issue. Meanwhile, a newer trail for the site, developed by the Craven & Pendle Geological Society, employs Quick Response (QR) codes on trailside posts; a tablet-PC/ipad or a smartphone must then be used to scan the QR codes to access sets of information via a 3G/4G data connection. Elsewhere, I've come across a hybrid geocaching approach to providing a geotrail. These technology-based approaches do require an adequate mobile phone signal, something I've found hard to secure in some areas of classic geology in the Peak District and sometimes even my own back garden in Bedfordshire.

Musing over how long it is since I visited Ribchester and Salthill Quarry I found that I'd recorded the visits on 35mm slide film with my trusty Olympus OM-10; I even processed the colour transparency film myself - I'm sure some of you will recall the analogue technology! A year later I bought my first digital camera, a Casio QV11a, with a resolution of 320x240 pixels; a low resolution that wouldn't even be used for web video today.

However, I'm not sure, judging by the hard-copy leaflets and booklets, not to mention interpretative panels, that keep getting grant funding (such as from the Curry Fund of the Geologists' Association), whether the GCUK membership and kindred organisations involved in conserving and promoting the UK's geoheritage have really fully embraced digital publishing - which is more than employing a software package to electronically 'paste up' and print a publication - and its benefits. Perhaps, hard-copy publications are seen as a source of income generation or just the best way to inform casual visitors to geosites. However, young audiences do prefer all electronic media and they do use less resources - must be good for the planet!

For at least the last five years any trail I've prepared has been a PDF file primarily formatted for smart-phone or tablet-PC use, although they can still be printed as A4/A3 hard copy. Digital publication avoids the considerable cost of printing and storing trail literature and allows swift updating and wide distribution. So, I much appreciate, setting aside the few '404' errors, that I could download off the GeoLancashire web-site several trails for the Ribble Valley. I particularly liked that they also often had a supplementary file of background information, something I only started with my Flitwick cyclists' 2017 geotrail (see *PGA*, 2018, **126** (6), 748-769).

In the last newsletter I threw out a challenge to GCUK's membership to publish on their work in academic journals; so, this newsletter's challenge is to see if you will fully embrace digital publishing for your next, or revised existing, geotrail offerings! I look forward to being sent a link to review such a geotrail. Of course, there is still a role for printed media, and the BERC publication herein reviewed is an excellent case in point. *Tom Hose*

Earth Science Education Forum (England & Wales)

The Forum's first 2019 meeting, at which GCUK was represented as usual by Tom Hose, was held at Birmingham University's Lapworth Museum of Geology, on Tuesday, 26th March, 2019. A talk on primary-age children's educational sessions, by Anna Chrystal (Learning and Public Engagement Manager), and a gallery tour, by Aerona Moore (Learning and Engagement Officer), were well received by the attending Forum members. They partly helped to introduce the main focus of the meeting's discussions, ESEF's future and membership.

This was informed by analysis of the on-line ESEF membership survey circulated to the 47 contacts in the ESEF member database at the beginning of last December. This suggested that the ESEF should continue, meet twice per year, and future meetings would offer a conference-call option to encourage greater participation. Importantly, the Forum should retain its existing aims, but broaden its remit. The survey's results can be found at

https://www.surveymonkey.com/stories/SM-PXN7CB2L/

The meeting also included much discussion on the aims and breadth of the Forum. In particular, a consideration of whether its meetings and discussions are truly inclusive of a broad range of earth sciences or tend to focus just on geology. Currently, it has a quite narrow membership base in terms of the range of earth scientists it engages with and its demography - attending members are predominantly 50+ years of age, a not uncommon situation with similar organisations! Increasing the breadth and age-range of the ESEF membership was deemed desirable; to help achieve this, especially through engaging with a broader range of earth science organizations, and also to engage younger earth science educators, it was agreed that the ESEF should pilot 'piggy backing' its 'meetings' onto relevant conferences. The first of these 'meetings' is scheduled for lunchtime on Friday, 27th September at the ESTA Conference at the Lapworth Museum of Geology, Birmingham University. The second 'meeting' was suggested to be at the 2020 Geographical Association (GA) conference with a proposal to facilitate an ESEF 'network event' as a conference session; of course, this would be subject to approval by the GA's conference committee.

A much discussed outcome of the meeting was the establishment of a 'LinkedIn' group to improve networking between the earth science education community; the new 'Earth Science Education Forum 'www.esef.org.uk' can now be found at:

https://www.linkedin.com/groups/8764936/

The 'LinkedIn' group is intended to bring together a wide network of earth science educators; hopefully, this will lead to the recruitment of new ESEF members and it will also act as discussion forum; that is, members should post questions, requests and responses about:

- networking and community building;
- develop opportunities for collaboration;
- share resources;
- enable people to promote earth science education;
- support members that may feel isolated from relevant support in their work-place;

It should also inform the ESEF of what its future revised purpose could be. So, it seems the Forum's future is assured with exciting developments in the pipeline!

Tom Hose (with thanks to John Stevenson, ESEF Secretary)

East Lothian Council Recognises Geodiversity

East Lothian Council's Local Development Plan, adopted in September 2018, includes geodiversity elements. Significantly, biodiversity and geodiversity are considered jointly. It can be down-loaded from

www.eastlothian.gov.uk/info/210547/planning_and_building_standards/12242/local_development_plan)

It recognises the value of Geological Conservation Review (GCR) sites that have not yet been designated as Sites of Special Scientific Interest (SSSI) - as they should be - for "The GCR additionally identified sites of geological importance and these sites will be treated in the same way as SSSIs."; the plan adopts wholesale all Local Geodiversity Sites in the East Lothian Geodiversity Audit completed by BGS in 2015 – very quick work, immediately recognising 30 sites of geological interest.

Indeed, "Biodiversity and geodiversity interests are not restricted to designated sites and the Council will seek to protect and enhance all biodiversity, including habits and species, and geodiversity features, whether designated or not, proportionate to their natural heritage value." There is a section and policy on 'Geodiversity Recording and Alternative Exposures'.

The planning department have set up a mechanism to contact Lothian and Borders GeoConservation and the British Geological Survey for quick 'heads-up' responses to any planning proposals that might impact on these new Local Geodiversity Sites; this is a really welcome initiative.

Angus Miller

Copy for the next issue of GEONEWS, due out in early August 2019, must be with the Editor by 14th July 2019 at the very latest.

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