GEOconservationNEWSletter

Summer 2020 issue

Editor's Lamentations...

Welcome to the purposefully delayed first issue of the year of the newsletter; a second is planned for the late Autumn. It seems an age ago when I closed my last editorial *"..by wishing you a joyous close to this year and a good beginning to the next."* The late winter rains and the Covid-19 lockdown, during the best recorded spring weather, combined to curtail my planned early 2020 cycling, camping and geotrail fieldwork plans. However, such minor losses pale into insignificance compared to those of many families across the UK; to all who have suffered such losses I can only extend my paltry, but deeply felt, condolences. The geoconservation family has itself most unexpectedly lost two stalwarts, who also served on the GCUK Executive Committee, this year. In the spirit, and a nod to my Irish grandparents, of a good wake we should, whilst extending kindest regards to their families, celebrate their achievements alongside those of our membership - as I'm sure they'd wish - continuing into the future.

Meanwhile, my thanks to those of you who provided articles and information for this issue and a plea to everyone to provide material for the autumn issue. If you are looking for more timely news do take a look at the GCUK website at: https://geoconservationuk.org/

And the new Facebook group page at:

https://www.facebook.com/groups/geoconservationuk

Right now it's only open to provide support to member groups' management teams, but in the future...

Do distribute and recommend this newsletter to your colleagues, friends and even family members. I'll close by wishing you, and hoping for, some safe and fruitful months before I pen my next editorial. *Tom Hose*

GeoConservationUK Update & Covid-19 Information

Dear members, we, at GCUK, hope that you are all keeping well and finding things to occupy yourselves with, given that our usual, especially outdoor, activities are on hold at present. Personally, I'm finding that everything takes so much longer than I would expect and this is frustrating. There are a few of things about which I would like to make you aware:

1. Membership of GCUK – fees waived for next year

Due to the Covid-19 lockdown and the difficulty in doing conservation work, applying for funding, etc. we have made the decision not to ask for any fee for the renewal of membership for groups for 2019-2020; if you are currently a member, then your membership will automatically roll over for another year to 2021. You do not need to do anything for this. We will keep your details on the GCUK Membership List (although you may wish to update these to reflect changes in your group's management) as always and hope that there will be better times ahead.

2. GCUK AGM and Committee

For the last few years we have held our AGM either at the Festival of Geology or alongside the annual GA conference. Last year's AGM was one of the best attended for a while. This year we have had to take the decision to hold the AGM 'virtually' and will be sending out details later in the summer.

However, many of the Executive Committee members end their term of office at this year's AGM; whilst most are willing to continue, inevitably there will be vacancies and so please do think about whether or not you can commit some of your time to contribute.

One of the things we have all learned over the last few months is that it's possible to work in a much more virtual manner; so, if a previous deterrent is the necessity to attend 3-4 distant meetings per year, then rest assured, we will be continuing to extensively use electronic media for them - this approach also underwrites our commitment to a sustainable future.

3. Sad News

Given that we are a small community in geoconservation you will probably by now be aware that very sadly two long-standing GCUK Executive Committee members, Alan Cutler and Craig Slawson, have unexpectedly passed away this year; this edition of the newsletter contains an acknowledgement on their contributions, work and characters. It is impossible to over emphasise how much they did for geoconservation and their hard work and dedication over many years. We will miss them very much and extend our kindest thoughts to their families.

4. Local Geological Sites that Represent an Aspect of Climate Change

Moving forward, and something to think about over the summer months, we believe it's a good time to think about climate change, whether present-day or historical. You'll find details of a competition we are launching in this newsletter. To put it simply, if you have a LGS that can be used to explain the effects of current or palaeoclimate change then please put together your entry and send it to me by 15th September 2020. The competition results will be announced at the AGM and then, if you agree, we will also share the details widely.

With best wishes from myself and all of the GCUK Executive Committee. *Lesley Dunlop (Chair GCUK)*

Clearing the Coralline Crag

The Coralline Crag is a Pliocene-age limestone and is unique to Suffolk; dating at about 4 million years old and packed with fossils, it is our oldest deposit to have some extant species (plus many extinct forms) and so records the beginning of our modern flora and fauna. Little wonder therefore that there are thirteen SSSIs designated for their Coralline Crag geology - all in East Suffolk.

On March 10th, GeoSuffolk, with the help from Suffolk Coast and Heaths AONB Work Party, volunteers cleaned up part of the Sudbourne Park pit SSSI. Left in a poor state by visitors and subsequently overgrown *(see below)*, the Coralline Crag needed a facelift. Eight of us

succeeded, with spades, rakes and wheelbarrows, to make it safe and accessible *(see below)* for future use.

This was an excellent day of outdoor exercise for us and all a week before the lockdown – with a satisfying result, as the before and after photos show! The SSSI is on private land, but the exposure we created can be viewed from the adjacent public footpath.

As well as abundant fossil molluscs and other invertebrates, the Coralline Crag is full of microfossils. GeoSuffolk's Pliocene Forest at Rockhall Wood SSSI has been planted with genera from the fossil pollen record of the Coralline Crag. At Sudbourne Park there is an abundance of ostracods; these have been studied over the years, including on March 10th when samples were taken by a GeoSuffolk member. For more on the Coralline Crag see the '*Geology and Sites'* and the '*Pliocene Forest'* pages of our website at:

www.geosuffolk.co.uk

Caroline Markham

BCGS has a Poet in Residence!

The Society now has a Poet in Residence! This follows from the poem by Robert M. Francis published in the April *BCGS Newsletter*. He's recently received the news that his funding application for the project 'Chain Coral Chorus' has been successful (see the April *BCGS Newsletter issue 260* for more details). He will be exploring the Black Country Geosites through the medium of poetry and this funding will open up opportunities for working in liaison with the Society, for which it will open up a whole new dimension for our Society.

Robert (using his preferred title and pen name, R.M. Francis) lives in Wren's Nest Dudley and is one of the Creative Writing Lecturers at the University of Wolverhampton, where he completed his PhD. He's the author of five poetry pamphlet collections. In March 2020 his debut novel, *Bella*, was published with Wild Pressed Books, and later in the year, *Subsidence*, his collection of poems, will be released with Smokestack Books. In 2019 he was the inaugural David Bradshaw Writer in Residence at the University of Oxford.

He was recently successful in obtaining a place on the University of Wolverhampton's Early Career Research Award Scheme (ERAS), for a creative writing project that explores the geological heritage of the Black Country. In this twelve-month role (from July 2020) he'll be exploring the geosites of the region, and writing a series of geo-poems inspired by and set in them. These poems will be creative responses to the environment and will explore how the geological make-up of the land impacts, connects and clashes with the much overlooked cultures of the Black Country. This work will be enhanced by the important geological research and work of the BCGS; together they'll be furthering the messages of geo-conservation and introducing newcomers to geology and the region's rich history.

The creative work will re-figure our relationship with the local environment; both in its surfaces and depths, the building materials and the forces that create them. This project will consider these issues in an overlooked region, famed for its 'dark satanic mills' in the Industrial Revolution, considering this in conjunction with conservation, ecology, sustainability, and *(continued on page 5)*

Winter Activity by the DIGS Group

In early December, despite unpredictable weather, the DIGS group continued their conservation work We carried out work at two of our sites around the village of Todber in the north of Dorset. Here, the Corallian is exposed and has been quarried at numerous locations around Todber and nearby Marnhull. We had not carried out conservation work at our Todber sites since 2018 and we were expecting quite a job on our hands. However, it was easier than expected as we often find if there has been a good clearing session previously then there is less to do at the next session; and we can sometimes extend the area we work on.

On our Church Lane site *(see below)*, which used to be a

Dorset County Council depot, we have a very good working relationship with the present owner who runs a high-tech business from it. Part of the Todber Freestone is exposed (oolitic limestone).

We then went to the nearby Bird's Quarry site *(see below)* which used to be owned by Hansons who ran a premix

concrete depot on the site and has now been purchased by a local developer with the intention to make it into a light industrial estate. This site is the type section for the Todber Freestone so the DIGS group and presumably the British Geological Survey are keen to see that the geology should continue to be exposed and accessible. We were agreeably surprised when we got to the site to find that the rock face had been considerably extended and there are now two well exposed faces *(see below)* at

right angles; hence, the geology was much better exposed than when we had last visited the site more than a year before.

Alan Holiday (Chair, DIGS)

Warwickshire GeoConservation Group

The Group has now updated the content on its web-site; it can be found on the following pages:-

WGCG Home Page - The top of page headline shows what's new; it's the first thing seen on PC, tablet or mobile.at: https://www.wgcg.co.uk

Virtual WGCG - This has WGCG events, content & links in place of WGCG events in the lockdown at: https://www.wgcg.co.uk/virtual-wgcg

Entertainment for Lockdown (Under Virtual WGCG) Some geological(ish) links,web-sites & magazines to keep adults and/or children entertained during (& after!) lockdown at:
https://www.wgcg.co.uk/virtual-wgcg/entertainment-for-lock-down

Leaflets (under Publications) - leaflets, guides & books PDFs; most can bedownloaded, printed & used for trail walks - now, under relaxed lockdown & after. See the latest, 'Ryton Pools – Exploring the Landscape Trail'; all are at: https://www.wgcg.co.uk/leaflets

Interpretation Panels (under Conservation > under Projects); WGCG panels describe local geology in an accessible way for the public at each location & can be seen at:
https://www.wgcg.co.uk/interpretation-panels

Maybe it's also useful to have it on your mobile or tablet screen or printed page when walking there.

Solihull Urban Geology 'Trails Guide' & 'A geological discussion' (under Geology > under Geology in Warwickshire) at:
https://www.wgcg.co.uk/geology/solihull-urbangeology

Also look at 'Solihull, its geology and building materials' (PDF Version) on the Leaflets page at:

https://www.wgcg.co.uk/leaflets

Committee Members (Under Membership/Contact) photos of most committee members& a List of Committees and their Members.nThis is for members & visitors can discover easily Who's Who, Who Does What and Who to Contact at WGCG - at:

https://www.wgcg.co.uk/committee-members

Field Trip Reports (under Publications) - Field Trip Reports are listed by event date at:

https://www.wgcg.co.uk/field-trip-reports

WGCG Spring Newsletter (under Publications - as are 32 earlier issues back to 1999) in case you missed it earlier is at: https://www.wgcg.co.uk/newsletters

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A New Local Geological Site for Cambridgeshire

Cambridgeshire Geological Society

We are very pleased to announce that the Great Fen: Holme Fen and Whittlesea Mere has recently been designated a Local Geological Site; this is the geological equivalent of a Local (County) Wildlife Site. The area comprises the land in the northern part of the Great Fen that is owned by The Wildlife Trust, BCN and Natural England. This is now the third Local Geological Site (other than those in the Peterborough area) in the county; it is the only one of the three that is in the Fens.

The site has qualified as an LGS under all four possible categories (Scientific, Historical, Educational and Aesthetic) which shows its importance in a cultural context as well as for its geological record of changes in landscape, sea-level, climate and ecology since the end of the last glaciation. The site will link with the Fen Edge Trail via the village of Holme and there are good views down on to the area from the Farcet to Yaxley walk. The Great Fen already has several interpretation panels about the landscape history and further information on the geology will be provided in partnership with CGS. For more details see the web-page at:

http://www.cambsgeology.org/great-fen-holme-fen-and-whittlesea-mere

We hope to arrange guided visits to the site later in the year.

Meanwhile, our Twitter site has been participating in the #stonesathome initiative, where folk put up pictures of rocks they have lurking about their house together with a description. Indeed, as we are constrained in our lives, perhaps this is the time to join twitter! Our twitter site is @CambsGeology. Further, our April Newsletter has much information, helpful during and even after the lock-down, on online geological resources; for example, there is a geological map colouring in page on the BGS web-site at:

https://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/colouringMap.html

You might also want to test your knowledge with a quiz from the Geological Society at:

https://www.geolsoc.org.uk/Plate-Tectonics/Test-Your-Knowledge/Multiple-Choice

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Some Continuity

Hull Geological Society 1888

The planned field trip to Flamborough on 24th May was cancelled because of the 'meet only one person from another household' coronavirus rule. We also cancelled the Roadshows at Flamborough on 7th June and at Driffield on 18th July for the same reason. For 'Yorkshire Geology Month 2020', with most of the events being cancelled due to the Coronovirus lock-down, I thought it was important that at least one event should take place to maintain continuity. So, I led the trip around Spring Bank Cemetery, in Hull; this was for the one person who had booked, and also a member of my household, as our permitted period of exercise. It was a shame that more people could not take part and also quite strange that after about five weeks of dry and sunny weather there was a cold northerly wind with drizzle! We wandered

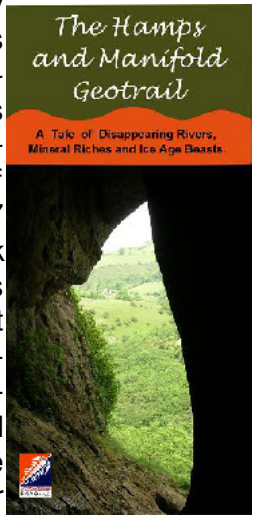
through part of Western Cemetery into the older and wilder General Cemetery. We spotted some memorials *(see left)* and geology that we had not noticed before and ensured that in the future we can say that Yorkshire Geology Month has taken place every May since 2005! Anyway, stay healthy.

Mike Horne (secretary)

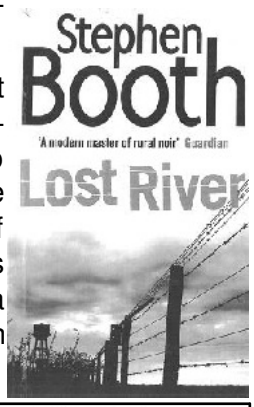
"Stone implements of palaeolithic age have long been known to occur in the terrace-deposits of the rivers of the South of England. These implements are of different forms and sizes and were apparently designed for various uses, but they can be arranged in groups that possess features in common and so constitute types or styles. They are not all equally well made; some are natural nodules or pebbles of flint only slightly trimmed for use, while others exhibit great skill in their manufacture. They have been found in terrace-deposits of the Thames and its tributaries, and also in those of the rivers of East Anglia and Southern England; efforts have been made to ascertain if certain forms or types are confined to one terrace or more, and also whether or no, any gradual evolution among the forms is recognisable." *(J.W. Evans & C.J. Stubblefield, 1929)*

A 'Lost River', a Geotrail and Geoconservation!

Geoconservation, geotrails and improving public awareness; a new and 'novel' way of getting the message across. As many of our readers will be aware, in the late 2000s, Geoconservation Staffordshire (or Staffordshire RIGS as it was known then) proudly published a series of geotrail leaflets to celebrate the importance and diversity of the county's geological sites with a view to improving public awareness about our subject. The first of these trails *(see right)* published in 2007 focused on the amazing array of rock and landscape features in the Hamps and Manifold valley area, in the heart of the limestone country of North Staffordshire. None of us involved in creating it could then have anticipated that this area would later provide the setting for Stephen Booth's murder mystery 2010 book *'Lost River'*, a modern crime thriller.



A bit of a creepy read 'tis true, but it makes frequent and informed reference both to the landscape and to landscape-forming processes in the area; likewise it mentions a number of the locations highlighted on the Hamps & Manifold Geotrail - there's even a specific reference *(see below)* to it on page 319!



Cooper parked at Wetton Mill and hurried back down the Manifold Trail on foot. Almost opposite a field barn, he came to a crumbling, dilapidated gate. If he hadn't been looking, he would never have noticed a tiny sign on the gate post, marking a Staffordshire RIGS geotrail. So there was a regionally important geological site here.

So, a big thanks to Mr Booth for all his good work in publicising our trail, in promoting our interests, and indirectly helping the good cause of geoconservation. Grateful thanks also go to Don Steward for drawing our attention to the 'Lost River' in the first place; it's a highly recommended read for all those with an interest in murder mysteries and perhaps especially recommended to those with an interest in Staffordshire's glorious bit of the Peak District (which is of course the best bit!). It's a good read!

Patrick J Cossey

new ways of experiencing place in the Anthropocene.

The working title for these poems is 'Chain Coral Chorus', and it will be the first Black Country Geopoetry project. Geopoetics are a variety of experimental writing practices that draw on geological method and language, and consider human life, culture and society in a deep time context. Canadian Poet, Don McKay referred to it as *"the place where materialism and mysticism, those ancient enemies, finally come together, have a conversation in which each hearkens to the other, then go out for a drink"*; in this way, the poet's notebook and the geologist's field journal become fused.

R.M. Francis *(see portrait, below right)* will be working with the BCGS to engage the public in these new ways of considering poetry and place; as such, alongside the poems he'll be running a series of walks, talks, readings and workshops throughout the year - lockdown permitting! His BCGS Poet's Blog, and regular updates in the bi-monthly newsletter, will keep up with his explorations, thoughts. Anyway, it's worth keeping an eye on the BCGS Programme of Events for the upcoming information on the various creative workshops, walks and talks. You can find out more about R. M. Francis at:

https://rmfrancis.weebly.com/

You can also connect with him on: Twitter@RMFrancis

"Considering the great indifference which prevails among the reading classes of society in this country for any description or systematic account of their own native land, its natural beauties, its many striking objects, and local advantages, and even some of the most interesting of its natural production, - I am perhaps imprudent and ill-advised in attempting to draw attention to a work, such as I venture now to offer the public.

Had it been written in a foreign language, or by a total stranger to England, on his return to the continent, after a brief and rapid run . . . through this country . . . curiosity, perchance or the expectation of having a hearty laugh at many anticipated blunders, would have induced people to look into the book, and place it for a season on the drawing-room table.

But neither the author nor the work in the present instances being in that predicament, my chance of being accepted with indulgence as a new candidate in the field of graphic delineation of the fairest and largest portion of England, must depend on the importance of the principle object of my volumes [on the spas of England], and the strict accuracy of the descriptions they are to contain." ***(A.B. Granville, 1841)***

The Scottish Borders – An Unexplored Territory

The rolling hills of the Scottish Borders region stretch from the Berwickshire coast westwards to the Pentland Hills south of Edinburgh, then south-west towards the M74, with the southern boundary following the English border. To the west, the region is bounded by Dumfries and Galloway and to the north, by the Lothians. Most of the region is drained in an easterly direction by the 150 km River Tweed and its tributaries.

The solid geology is dominated by Lower Palaeozoic greywackes which form the upland areas to the north and west, such as the Lammermuirs and Ettrick Forest. Eastwards, in the lower Tweed valley, Devonian and Carboniferous sandstones and mudstones are interrupted by many volcanic lavas, plugs and intrusions, such as the Eildon Hills *(see below)*, near Melrose. Upland landscapes

*[**Eldon Hill** :- The footpath leads to Little Hill, a basalt plug intruded into the silicic sills of the Eildon Hills, shown on Eildon Mid Hill to the right; the Silurian greywackes of the Borders hills can be seen in the distance.]*

are influenced by glacial erosion whereas the valleys contain thick sequences of glacial and alluvial deposits.

Though the Scottish Highlands and the Midland Valley of Scotland have been surveyed over several decades for Local Geodiversity Sites (LGS), the Scottish Borders has been a relatively neglected region until recently. There are 28 geological Sites of Special Scientific Interest in the Scottish Borders, which include significant sites such as Siccar Point on the Berwickshire coast and internationally important fossil sites along the Whiteadder Water and the River Tweed. However, the region has many other interesting rock types and landscapes, so recent surveying in this area has been encouraged by Lothian and Borders GeoConservation (LBGC), which is an active voluntary group responsible for co-ordinating the designation of Local Geodiversity Sites in the Edinburgh, Lothian and Borders areas. LBGC has produced many printed and downloadable geological trails and leaflets, available from the Edinburgh Geological Society web-site at:

https://www.edinburghgeolsoc.org/publications/geoconservation-leaflets/

Surveying in the Scottish Borders was assisted by the existence of two informal lists of sites, both derived from work by the British Geological Survey in Scotland, one on greywacke localities and the second on sandstone quarries in the east of the region. Searches of old OS maps available on the National Library of Scotland web-site turned up many 'disused quarries'; for example Grassfield Quarry *(see below)*, Noblehouse LGS. These

*[**Grassfield Quarry :-** LBGC members are surveying the Ordovician cherts (left) and pillow lavas (right) close to the faulted zone between the Southern Uplands and the Central Valley of Scotland.]*

quarries were marked on 1:50,000 OS maps as sites to be explored. Several existing guide books and BGS sheet memoirs were extremely valuable and any references to research papers were followed up. Overnight stays were necessary to visit potential sites in the more remote parts of the region, with the aim of driving along every valley in this sparsely populated area looking for exposures and quarries. About 250 sites were visited and photographed, some several times, with more than half of those fully surveyed.

Towards the end of the survey period it became clear that there were some exceptional sites, such as well-exposed examples of volcanic rocks or those which showed particularly clear sedimentary or metamorphic features. In the Ordovician and Silurian greywackes, the selection concentrated on sites which showed good examples of ophiolite rocks or turbidite sole structures. The large variety of igneous rocks, some of which are unusual in Scotland, inclined towards an over-emphasis on those which form attractive and prominent hills, although many of these landforms, such as Smailholm Tower *(see next page, top)*, are accessible to the public and therefore are of high educational value.

*[**Smailholm Tower** :- The basaltic plug associated with lavas is one of many prominent hills in the Tweed valley, often topped by ancient tower houses or monuments; in the foreground are dipping sandstones of Devonian / Carboniferous age into which the early Carboniferous igneous plug was intruded.]*

The Lower Devonian Great Conglomerate underlies a considerable area of the Lammermuir Hills but was not exploited for building stone or aggregate; finding exposures required considerable searching across high moorland areas, looking for deep gullies in which we might find crags of conglomerate; for example, Hell's Cleugh *(see below)*. The Upper Devonian and Carboniferous rocks of

*[**Hell's Cleugh, Stobswood LGS** :- A rare exposure in the Lammermuir Hills of the Lower Devonian Great Conglomerate.]*

the lower Tweed valley are not well-exposed in agricultural areas and many quarries have been infilled or reused, although towns such as Kelso, Coldstream and Peebles display excellent examples of sandstones used for building.

Several sites have links with eminent geologists and are therefore significant localities for the history of geological research. The unconformity at Allars Mill, Jedburgh, was recorded by James Hutton and his contemporaries, the Eildon Hills and other volcanic landforms were studied by Lady Rachel McRobert, one of the first women to be elected as a Fellow of the Geological Society of London, and Charles Lapworth identified graptolite fossils in several quarries and upland valleys in the Ordovician (the geological system he established!) and Silurian greywackes.

In autumn 2019, after three summers of surveying, 35 potential LGS were submitted to Scottish Borders Council (SBC) for inclusion in the Local Development Plan 2020, after we had written a short document to explain the guidelines used in the selection of potential LGS. As in most local authorities, staff members have little geological knowledge and very limited time, so surveyors and representatives of LBGC dealt directly with the Chief Planning Officer. We were provided with a base map on which we could delineate the boundaries of the LGS using GIS technology and help was provided by the Council's technical staff and knowledgeable friends. Site forms were completed for each potential LGS using the LBGC standard form and we hope that the designated LGS will appear, with appropriate commentary, in the Local Development Plan 2020.

Exploration of the region will continue, as it is possible that there are other sites with different features or with potential for further research, particularly in such a large and remote area. The good relationship we have with the local authority may enable management of some sites to take place if resources are available, in order to improve the accessibility of LGS which could be used for public enjoyment and learning. For the surveyors, who are familiar with the process of designating LGS, but were new to the Scottish Borders, the experience has been most enjoyable and, we hope, will be useful for future geoconservation.

Alison & Barry Tymon

Pliocene Forest Outreach

GeoSuffolk's Pliocene Forest at Rockhall Wood SSSI, planted using data from the Pliocene fossil pollen record, is ten years old this year. It is on private land and although it is viewable (with interpretation panel) from a public footpath, we wanted to make these Pliocene survivors more accessible. A few years ago, three specimens were planted in Christchurch Park in Ipswich. Much of the park is on Pliocene deposits, but the lucky trees, close to the springs north of the Wilderness Pond, have their roots in the Eocene; so they are never short of water. They are *Pinus ayacahuite*, *Metasequoia glyptostroboides* and *Fitzroya cupressoides* .

(see above)

Caroline Markham

Tales of Geoconservation Success and Geodiversity Caution in Wales

Recent developments in Wales provide a specific case of success familiar to some RIGS Groups and instructive to others, together with more general caution of potential risks and opportunities for geodiversity during both the Climate and Covid-19 emergencies.

As a result of representations from South-east Wales RIGS Group and Geoconservation Cymru – Wales (GCW), with the support of Duncan Hawley and Adrian Humpage coupled with back-up if necessary from the Quaternary Research Association's Conservation Officer, Powys County Council (PCC) have refused planning permission for sand and gravel extraction on land near to Tregunter Farm, Talgarth, Brecon. The RIGS Statement of Interest for the site, notified to PCC in 2012, commences with *"This site forms part of the network of important scientific sites within the South Wales RIGS area associated with ice sheet decoupling, ice front stillstand/ readvance in glaciated valleys and post-glacial fluvial development."*

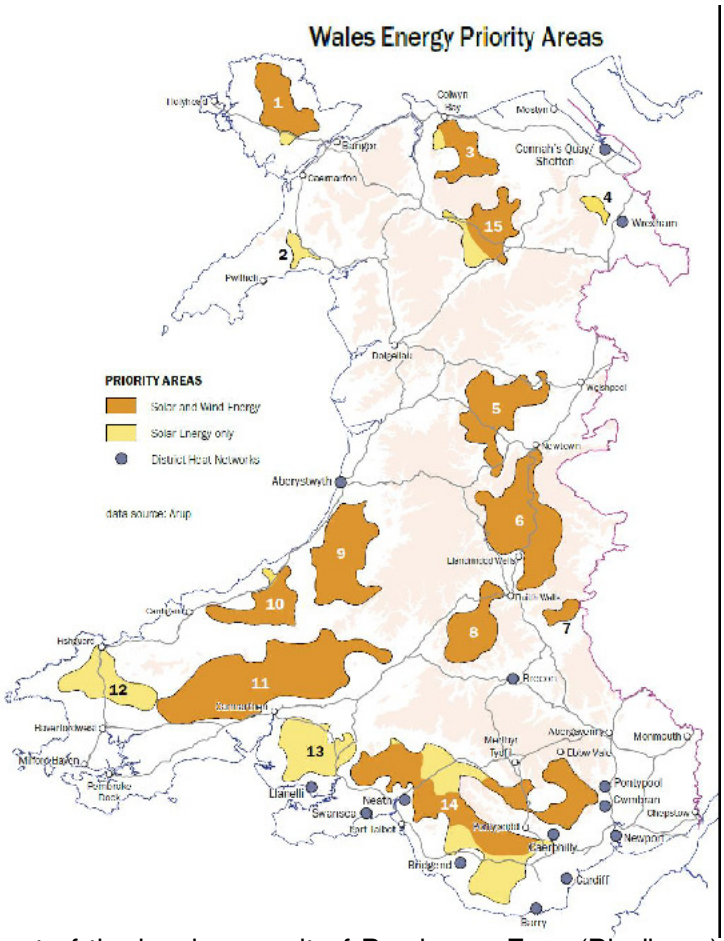
The threat to this Quaternary RIGS site only emerged by chance when a local resident reported preliminary extraction to South-east Wales RIGS group, with planning authorities actually not obliged to inform interest groups of such applications. Our collective approach was that extraction be stopped immediately and planning permission refused - that Powys CC should confirm the registration of Tregunter RIGS - ensure that proper consideration be given to its national scientific significance and Powys CC's duty under Planning Policy Wales 10 (2018) requirements (especially 6.3.15, p. 133) – and to liaise promptly and effectively to this end with South-east Wales RIGS Group. PPW10 and Tan5 protection of geological sites in Wales can be seen below (see end of article).

The outcome, subject to any appeal, represents a win for public alertness and the relentless reminder by the RIGS community to planning authorities of their statutory duties. In addition to the RIGS site protection, four of ten other grounds for refusal of the Tregunter planning application identify conservation interests, including the lack of baseline and survey evidence for biodiversity maintenance and enhancement, integrity of the River Wye Special Area of Conservation, lack of a Landscape and Visual Impact Assessment, and removal and impact of hedgerows and trees.

We also consider these to be important to more holistic site and landscape conservation, with RIGS groups partnering with other environmental interest groups, at a time when our landscapes are under increasing threat from development pressures, climate change and inadvertent impacts of the Covid-19 emergency. All three come together in our current concern for wider aspects of Welsh geodiversity and geological landscape impacts.

First, the Welsh Government's draft National Development Framework (dNDF 2020) has a confusing Renewable Energy policy, which identifies energy Priority Areas where *"There is a presumption in favour of development…"* for large-scale onshore Wind and/or Solar schemes covering c.5,000km^2 of Wales' 20,735km^2 land, whilst also considering offshore development *(see map below)*.

Second, a wind farm pre-application proposal has been notified for 24 turbines, each with a tip height of 180m, within a gross area of c.15km^2 to the south and



east of the iconic summit of Pumlumon Fawr (Plynlimon) in mid-Wales - *outside* the Priority Areas! As well as lying within 1km of the source of the River Wye, this area is closely flanked by RIGS interest (55ha of Cwm Gwerin), the Maesnant GCR site and upper Dyfi Biosphere Reserve.

Finally, the Covid-19 lockdown, creates a real risk and some evidence of many planning applications proceeding while our vigilance is reduced with less rigorous scrutiny, absence of live public enquiries, abbreviated EIAs, restricted powers of approval *etc*.

We pride ourselves on the assertion that the geosphere underpins the biosphere and therefore so does our

potential contribution to the increasing ecosystem resilience and biodiversity demanded by the 'new normal' green response to the Climate Emergency. It is important that the geoconservation and geodiversity communities sharpen their vigilance to all these risks and opportunities and extend their collaboration with other environmental interest organisations and agencies.

End-notes:-

PPW10 can be read in full at:

https://gov.wales/sites/default/files/publications/2018-12/planning-policy-wales-edition-10.pdf

However, of specific relevance to this article are:

6.3.13 Geological features are a key part of our natural environment, and protecting geodiversity underpins the wider protection and management of our natural resources, including land availability, renewable energy potential, groundwater supply and flood risk.

6.3.14 UNESCO Global Geoparks and Biospheres are areas of international geological significance, managed with a holistic concept of protection, education and sustainable development. Regionally Important Geodiversity Sites (RIGS) are non-statutory site designations that recognise locally or regionally important geological and geomorphological landscape features. RIGS are selected for their educational, scientific, historic and aesthetic qualities, to and designated through development plans.

6.3.15 Planning authorities should protect the features and qualities for which Geoparks and RIGS have been designated, and are encouraged to promote opportunities for the incorporation of geological features within the design of development, particularly where relevant evidence is provided by Green Infrastructure Assessments.

6.3.16 Some statutory Sites of Special Scientific Interest (SSSIs) are also designated for their nationally important geological or geomorphological features, and planning authorities have a duty to further the conservation and enhancement of those features.

Technical Advice Note 5

TAN5 Nature Conservation and Planning refers specifically to RIGS as being of a *"Nature Conservation Interest"* and further states that a key principle in positive planning is to *"help to ensure that development does not damage, or restrict access to, or the study of, geological sites and features……"*

Ken Addison

SCOTTISH GEOLOGY TRUST

Launch of the 'Scottish Geology Trust' A Positive Development for Geoconservation in Scotland

After 18 months of talking and planning, the Scottish Geology Trust is here at last! We hope to develop a strong, unified voice for geology in Scotland that will engage a new generation of activists, and support and promote geoconservation and Scotland's geoparks.

The new Trust has grown out of the Scottish GeodiversityForum, but it is much more than just a continuation of the Forum. The Trust has active support from across the geological community, with Board representation from the geological societies, geoparks, industry and universities. We hope this wide involvement will feed through to better engagement of geoscientists from academia and industry in geoconservation, and increased activity at a local level across Scotland. We have employed a part-time project manager, Caroline Gould, who has experience in promotion and fund-raising for small charities.

What next? Our first big project, the Scottish Geology Festival planned for this autumn, might not be able to go ahead in full. However, we've been working away at identifying priorities in four different areas of activity, and we are now starting to make contact with key organisations and individuals.

A separate committee, the Strategic Geodiversity Committee for Scotland, has been established to coordinate and take forward activity on the Geodiversity Charter. The Trust will contribute to this work.

We hope that everyone who has an interest in Scottish geology will support the new Trust. You can sign up to our mailing list to get regular updates about what's going on in geology in Scotland. Membership of the Trust is now available, and we also welcome donations to support our work. Do visit the Trust website at:

https://www.scottishgeologytrust.org/

You can also follow us on twitter at: @scottishgeology.

Angus Miller
(Secretary, Scottish Geology Trust)

"The material evidence in those areas where there is plenty of pottery available to study show that there await many kilns to be found along the clay belts which run longitudinally through the county [of Sussex]. It is these areas that must have the kilns - the Reading Beds and London Clay south of the chalk and the Gault Clays of the Weald - all carry heavy woodland even today. These clay belts are well supplied with springs and there is little doubt that they were exploited for the manufacture of ceramics. When and for what purpose is pertinent to the whole history of the development of medieval pottery in Sussex. What is important is that all four kiln sites produced not only hollow wares, but roof furniture and in the case of Binsted and Rye 'encaustic tiles'. These latter and the roof furniture would of course have been made in the rectangular tile kilns - but at Boreham Street, in the simple double-flue kiln, and at Knighton, Isle of Wight, in the same kiln type we find flat, ridge and hip tiles as well as a wide variety of large hollow wares. The same applies to the Orchard Street kiln production where roof furniture was varied and included such items as thick-bodied chimney pots and mortaries." ***(K.J. Barton 1979)***

Review of Somerset's Local Geological Sites (2017-2021)

The final report for the Quantocks area was published in April. It's the first of a series of such reports covering our review of Somerset's circa 230 Local Geological Sites (LGS). It's intended to provide an overview of the conservation interest covered by them in the wider Quantocks area, and their potential for educational and interpretive use. There are currently 32 LGS in the wider Quantocks (defined as those within the Quantocks Area of outstanding Natural Beauty (AONB) and also immediately beyond on similar Devonian age rocks).

Twenty-five of these are within the AONB (including 1 LGS on younger Triassic strata) and 7 lie beyond. Sixteen are within the boundaries of Somerset West & Taunton District and 16 within Sedgemoor District. Somerset Environmental Records Centre (SERC) has been able to obtain permission for visits to 21 of these LGS and all these have now received site visits. The remaining 11 (where no owner was identified or where permission to visit was refused) have been reviewed as desktop studies only. All the sites have now been considered by SERC's LGS Panel (with the exception of the last four that are currently being considered). All, except one, which may be recommended for de-designation, have (or are likely to be) been reconfirmed, with a few relatively minor adjustments to the sites' boundaries. These LGSs (which were formerly known as RIGS sites) were originally identified by a combination of: graduate workers on a Government 'Manpower Services Commission' scheme from 1988 onward and/or subsequently in the 1990s in tandem with Hugh Prudden's research for his book *'The Geology and Landscape of Taunton Deane'*.

The LGS form an important suite of sites covering the geoconservation interests of the inland Quantocks, particularly as the only nationally important Geological Conservation Review (GCR) sites in the Quantocks (all earth science SSSIs or within wider SSSIs) are on younger strata along the coast. Some of the LGS are close to the fault-bound western side of the Quantocks; others are on the eastern side, where the formations represented are at their eastern most extent within Britain. Equivalent aged strata in South Wales and the Mendips, although superficially similar in some respects, are now thought to come from a different source, with the two brought together by later tectonic movements.

These Devonian rocks are now regarded (together with rocks further west in Devon and Cornwall) as belonging to the *Rhenohercynian zone*; as such they have more in common with rocks in Germany than the rest of Britain. They are thought to have been brought into close proximity to the Mendips and South Wales by earth movements, during the Variscan Orogeny, after the closure of the *Rheic Ocean*. This updated geological understanding was described for South West England as a whole by Leveridge and Hartley in 2006:

http://nora.nerc.ac.uk/1518/1/GEWChapter10.pdf

and also at:

http://nora.nerc.ac.uk/7135/1/Shail__Leveridge_revised.pdf

A second useful reference is:
Whittaker, A & Leveridge, B, (2011) 'The North Devon Basin: a Devonian passive margin shelf succession', *Proceedings of the Geologists' Association*, 122, 718-744.

Much of this updated geological understanding is based on more detailed research further to the west. Indeed, there has been little recent research on the rocks of the Quantocks. So the LGS here form an important potential resource for future research, both on their sedimentology and their structural deformation during the Variscan mountain-building period.

There is little in the way of a detailed technical field-guide to the inland part of the Quantocks; a Bristol University field-guide with a section on the Quantocks is both out of print and out-of-date. Therefore, there's scope for a Geologists' Association or similar field-guide. It seems that there is the possibility that a book on the geology of the Brendon and Quantock Hills is in preparation by Dave Green; he's a Gloucestershire-based geologist, who leads geological field trips and runs courses.

" It is clear from archaeological research that in almost all stone-producing areas . . . during the late twelfth and thirteenth centuries buildings with timber walls were being replaced with ones built of stone. The transition did not occur at exactly the same time all over the country, happening first in the South and South-west, then, later in the thirteenth century, in the North. The reason for this change is not clearly understood , and several theories have been put forward; the most probable being the decline of suitable timber within a reasonable distance of the village. Likewise, in the South-west the changeover may have taken place due to the shortage of suitable turf for, with an increase in cultivation, the peasants, like those in wooded areas, would have had to travel further afield from the settlement to collect turf. The stone used for these early medieval buildings was always close to the village and, with the exception of chalk, was either picked from the surface of the ground, or extracted from river-beds of boulder clay." ***(R.J. Brown, 1979)***

Glasgow's Year of Dinosaurs

2019 was a memorable year for anyone interested in dinosaurs and living near Glasgow! In the spring, Dippy, the Natural History Museum's iconic Diplodocus replica skeleton visited Kelvingrove Art Gallery and Museum, the only Scottish venue on the UK tour. We think Dippy looked quite at home in the magnificent setting of Kelvingrove, a much loved and frequented attraction in the city. Later in the year, Glasgow hosted a visit from 'Trix', a well-preserved skeleton of a Tyrannosaurus rex excavated in 2013 in Montana, USA by a team from Naturalis Biodiversity Centre in the Netherlands. Although very different from one another and from different periods of time, the two dinosaurs were a highlight of the year for many and emphasised Scotland's place as a centre of dinosaur research and a rich area of interest for palaeontologists.

During the weeks Dippy the Diplodocus (Diplodocus carnegii *(see below)*, another Scottish connection) spent at

Kelvingrove, two special events took place to promote interest in natural history in the widest sense. In February, a 'societies day' brought together several organisations to engage with visitors. Strathclyde Geoconservation Group (SGG) took up the challenge of creating

accessible information *(see above)* about local sites of geological interest, as a complement to the SGG's portfolio of leaflets about such sites. SGG members proposed a list of easily reached sites that could inspire a layperson to find out more about local geology, and then created a set of A5 size 'fliers', linked to an OS map displaying the locations around the city *(see below)*. The

materials prompted conversations between the SGG members on duty and our visitors, some of whom knew the sites selected and could use the leaflets or fliers to see familiar places in a different light.

The second event organised around Dippy's presence was a day of activities for children during the Easter holiday period. The SGG was on hand to boost the interest of budding scientists with games and activities, well supported by colleagues from BGS and Scottish Geodiversity Forum. Panning for (fool's) gold was very popular, as were rock and dinosaur ID games and much more, as shown in the photos *(see above)*. There were opportunities for adults to become involved as well (those dinosaur prizes were sought after!), and the SGG again had their collection of leaflets and fliers to spark discussion with the public. Our activities were a great success.

Maggie McCallum

"The face of the British Isles during this time [the Neolithic and the Bronze Age] also changed profoundly, from a forest wilderness to a large patchwork of open ground and managed woodland. Vast areas were deforested, never again to grow trees. There were also slight changes in the climate. The earliest farmers lived in a climate which was one or two degrees warmer than it is today. Small temperature differences can have considerable affects on the ability to grow crops in the uplands. Around 3,500 years ago temperatures were equivalent to today, but they fell even lower by the end of the Bronze Age."

(M.P. Pearson, 1993)

Alan Cutler MBE

Alan Cutler MBE sadly passed away on 17th May 2020, aged just 72 years. Born and bred in Stourbridge he attended King Edward VI College and subsequently graduated in Physics from the University of Birmingham. Alan was especially pleased and honoured to be a governor and trustee of his old school. Indeed he was its longest serving governor, chaired its Audit Committee, and was also chairman of the Foundation Trustees. Every November, he led the tributes at the Service or Remembrance to those of the old school, nowadays a sixth-from college, who'd served in the two World Wars; he carefully prepared a showcase of the stories of those former pupils and members of staff, helping everyone to understand and to commemorate their lives. He developed a keen interest in fine wine and port in his his teens; much later, he occasionally tutored tastings at the Stourbridge Old Edwardian Club, of which he was a former president and sensibly responsible for the wine-list. He was through and through a Black Country man and grew up in the hey-day of its thriving engineering and heavy industries. His pride in the area, its superb geological and industrial heritage, and the desire to preserve it for future generations shone throughout his life.

Following his graduation in the 1960s, as might have been expected at the time, he initially settled into working in the local metals industry. Then, some years later, he developed a career in marketing and publicity, specialising in displays and exhibitions. However, he was best known for his interest in local geoheritage and geoconservation. Whilst attending night-school geology classes he, with a few friends, founded a local geological society in 1975; this was the Black Country Geological Society (BCGS), which he went on to chair for over 25 years. His reason in particular for forming the BCGS was that he'd become fascinated by the subject and disturbed by the rapid loss, as redevelopment of the local industrial landscape swept them away, of geological sites. He was also aware of the the poor manner in which many local geological collections were being kept, particularly in museums, that held the specimens that had been taken from those sites. He considered that the destruction of both sites and collections would be a major loss of their amenity value, availability for scientific study, education and inspiration to future generations. So, from its inception the BCGS was an amateur society with practical, not academic, aims. Initially, for example, it intervened to salvage geological collections held by local museums; it also campaigned and lobbied for the protection of local geological sites. To support and promote its aims it held public lectures and organised field excursions about local geology, in the hope of seeing that younger generations were still connected to their landscape and its geoheritage. As part of the latter, Alans' own interest in geology's historical aspects provided some of BCGS's vision as a society - partly based on those earlier Dudley geological societies in which amateurs made major contributions to Victorian geology. Alan was actually closely involved with the The History of Geology Group (HOGG) of the Geological Society of London. His work was somewhat in the tradition of the Victorian and Edwardian gentleman naturalists as a life-long passion to ensure that geoconservation was given appropriate recognition and consideration it deserves.

In 1985, Alan was instrumental in bringing the Geological Curators Group (affiliated to the Geological Society of London) to Dudley for its AGM. This was an exceptionally important meeting because it led to the 1987 establishment of the post of Keeper of Geology at Dudley Museum, with Colin Reid becoming its first Keeper of Geology since the late 1800s. It was a pivotal achievement which underpinned the development of the Black Country's local geology; the presence of a full-time geologist, available during the working week, drew together interested parties and provided an important central, recognised, geological regional 'hub location' for the first time. This was then able to create and support a local geological network of schools, planners, engineers, families and individuals; together they created award-winning geological galleries, and hosted nationally renowned geological events and festivals - attended by thousands of local families and enthusiasts. Alan co-authored, with Colin Reid and Peter Oliver, the 'Geological field guide to the Wrens Nest National Nature Reserve' in June 1990; which, reprinted and updated several times, is probably one of the UK's most read and used geological field-guides. In 1993. Alan was an invited speaker at the Malvern International Conference 'Geological and Landscape Conservation'. His presentation covered the geoconservation work, as one of the few local groups so involved, of the BCGS. The subsequent paper, published by the Geological Society in the conference proceedings volume in 1994, raised the international profile of the BCGS. It generated new contacts and numerous new and profile-raising initiatives in the following decades; for example, the September 2006 Wren's Nest 50th Anniversary Conference, at which Alan provided an introductory presentation (see next page, top). Ultimately, the initiatives enabled the development of the Black Country UNESCO Global Geopark bid.

With his local BCGS and geoconservation interests Alan helped to define and shape the guidance at the national level that went on to become the RIGS process for protecting geological sites and in adopting a consistent approach to local geological site conservation. He attended the first few Staffs RIGS meetings in 1995/6 and

encouraged the group to apply for HLF funding, which had recently, with Alan's help, been awarded to the Hereford & Worcester RIGS group; this enabled them to develop numerous projects. He was also one of the original board of trustees for the Hereford and Worcester Earth Heritage Trust in order to support it until it became established. Alan was there at the start of the development of the umbrella organisation, UKRIGS, in 1999, becoming its Treasurer within two years; his annual chore was to distribute (below left) and explain the accounts at many AGMs! He subsequently played a pivotal role in supporting and guiding regional geoconservation groups throughout the UK. After the withdrawal of the original Royal Society for Nature Conservation support, he was the key person behind most of the funding bids and took on much of the necessary workload, researching data, writing reports, etc. which provided the monies to keep UKRIGS, and later as GCUK, functioning. Through the many and alternating years of austerity, his company's Stourbridge workshop became the organisations' home base. John Reynolds particularly recalls working closely with Alan on the UKRIGS Education Project - Earth Science On-Site in 2004-2008. Alan's background in design helped in the production of the display banners used at conferences and other meetings. Likewise, all of the early branding for the BCGS, its promotional and exhibition materials, and its sole journal, 'The Black Country Geologist Volume 1'. Similarly, he contributed to the branding and promotion of both UKRIGS and GCUK.

Alan willingly spent a considerable amount of his time attending meetings, conferences and networking to influence local and regional, and later national geoconservation policies. He was most proud of his achievement in getting, when the four Black Country boroughs and Birmingham in the 1980s were creating their planning policy, to include geoheritage assets in their policies.. He chaired the Birmingham and Black Country Biodiversity and Geodiversity Partnership promoting nature conservation in the region and played a significant part in the development of the Birmingham and Black Country Nature Improvement Area (NIA). He volunteered with Natural England, providing management advice to staff and surveyed geological SSSI sites, working owners to ensure their sites were well managed. Most recently, he served as a member of the Management Team for the Black Country's UNESCO Global Geopark bid - its success would be a fitting epitaph to his dedicated work for geoconservation and the Black Country for more than 40 years.

Alan was a gentle, quietly-spoken man with a somewhat winsome smile. He was a natural negotiator and passionate persuader on matters of geoheritage and geoconservation concern, especially with those unconverted to his views in the wildlife conservation and planning communities. However, he did occasionally express his frustration when seemingly he'd to incessantly remind teams and particular people about the importance of geoheritage and its geoconservation to wildlife - despite its clear inclusion in nature conservation legislation. By natural disposition he was personally engaging, a bit of a raconteur at times, but modest. Despite that, he could sometimes be the showman when it was required - few present can or should forget his costumed portrayal of Sir Roderick Murchison's 1849 lecture to the British Association for the Advancement of Science in the Dudley's Dark Caverns. Never formally qualified in geology, Alan was one of the most broadly knowledgeable fellows with whom one could wish to spend much time. He was especially good company at conference informal gathering and official functions. One always felt encouraged by him and never doubted his integrity. He was a true friend to many in their troubled times, be they personal or professional. Alan was rightly recognised with an MBE, received from HRH Prince Charles, in the 2017 New Year Honours list for his significant contribution to geoconservation, particularly in the Black Country. We have all lost a good and passionate friend to ourselves and the geoconservation movement at large. Our kindest thoughts are extended to Margaret, his wife, and close family, and to his many friends and colleagues in the Black Country and farther afield.

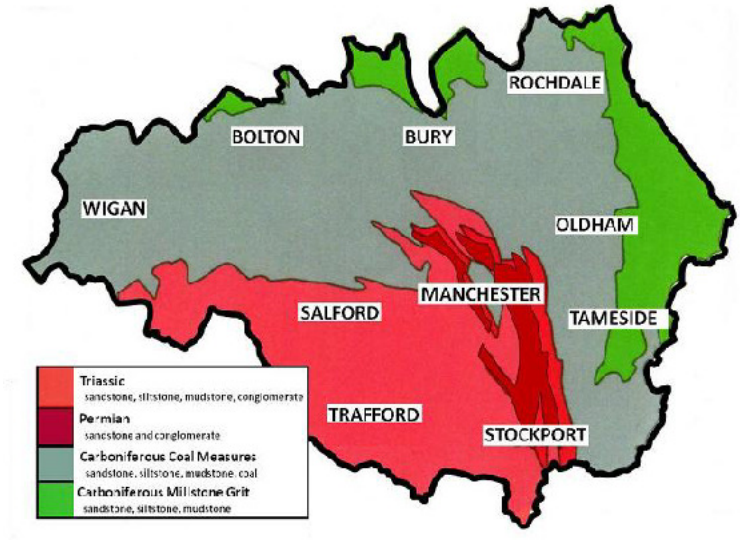
T.A.H

"The BCGS firmly advocates that geology is part of natural history, that nature conservation is not just about butterflies and flowers, and that nature conservation embraces both biological and geological conservation. This view has been strengthened by the society's membership of the Nature Conservation Consultative Group (NCCG) ... in 1985. The NCCG is an advisory body comprising officers from the Planning and Leisure Services Department ... elected councillors, and representatives of local conservation organizations ... English Nature is included and, significantly, Dudley's Science Advisory Teacher."

(A. Cutler, 1994)

Geoconservation in Greater Manchester: Recent Progress by the GMRIGS Group

In the 1970s, geologists at Manchester Museum began to record sites of geological interest after a site visit or from literature. Then, as part of the UK-wide geoconservation initiative in the 1990s, these site records were used by museum staff to select sites for designation as RIGS. Following a museum reorganisation, this task was taken over by local amateur geologists, mainly members of the Manchester Geological Association, who formed the GMRIGS Group. And finally, in 2014, GMRIGS was relocated from the Manchester Museum to the GM Ecology Unit and Record Centre where the 700 geological site records are now stored.

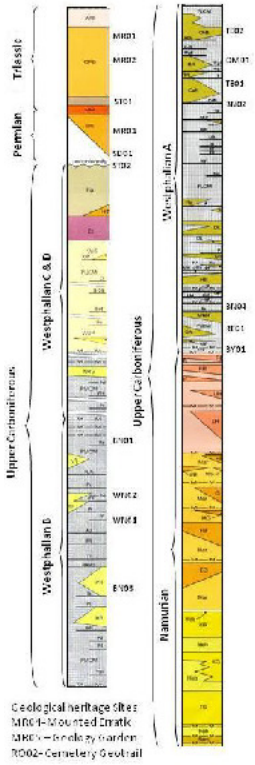


[Sketch geological map of the Greater Manchester area showing the range of strata in relation to the 10 Local Authorities within Greater Manchester MBC.]

The Ecology Unit (EU) was set up and funded jointly by the 10 GM local authorities to record and conserve sites of biological interest (SBI) within the whole GM area and to give bioconservation advice as required under planning regulations. In 2015, the GM Planning Officers Group agreed to expand the system to include geoconservation sites with the GMRIGS group supplying geological advice when required.

Since 2014, members of the GMRIGS group have been systematically resurveying a selection of the 700 recorded sites across the GM area to check their current condition and ease of access. Any site thought to have potential are then visited by the group to collectively evaluate their suitability for designation as a RIGS according to the GCUK criteria. Those sites which are no longer there or don't meet the criteria are recorded as such to avoid duplication of effort in the future.

Over the last five years we have slowly submitted 20 sites which are now approved and protected within the planning system. Also, details have been sent to Natural England for uploading to their RIGS/LGS database.



[Stratigraphic columns of rocks found in the GM area, showing position of 17 sites approved to date; the additional geological heritage sites include a variety of rocks outside this range. (Adapted from BGS Map Sheet No 85)=>]

Geodiversity in the GM area spans about 80 Ma of geological time, ranging from Carboniferous to Triassic *(see right)*. Site selection for investigation is driven by the aim to preserve sites across this stratigraphic range, with a variety of sedimentary and structural features and in all the 10 Local Authorities *(see left)*. Some sites include additional aspects worthy of conservation, such as:

– 'Heritage value' :-
MR04 - Mounted Erratic in Manchester University's grounds;
MR05 - Geology Garden outside Manchester Museum;
RO02 - Rochdale Cemetery Victorian Geotrail.

– 'Major Fault and/or Unconformity' :-
SD01 - Clifton Park – Irwell Valley Fault;
ST02 - River Goyt - Red Rock Fault;
RO01 - Healey Dell - Cowpe Fault.

Two RIGS in the city centre canalside area are now used as easily accessible bedrock teaching sites for Manchester University's geology students.

Some group members have led geology trips and given talks for other organisations to help promote geology to the wider public. As yet, we have not set up a programme of GMRIGS Group events but hope to do that in the future.

Many of the approved sites are in nature reserves, country parks and other public places where we are working with other conservation groups to add geological input to their signage and literature, eg Kingfisher Trail with Lancashire Wildlife Trust and Fallowfield Loop cycle track jointly with Sustrans and Friends of Fallowfield Loop. More about these and other sites in a future report.

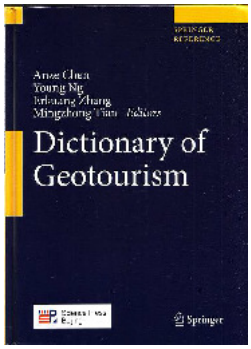
We are grateful to Manchester Geological Association for help and encouragement over many years and for currently hosting the GMRIGS web site, the development of which is a priority for the near future.

Chris Arkwright (GMRIGS Secretary)

'Dictionary of Geotourism'

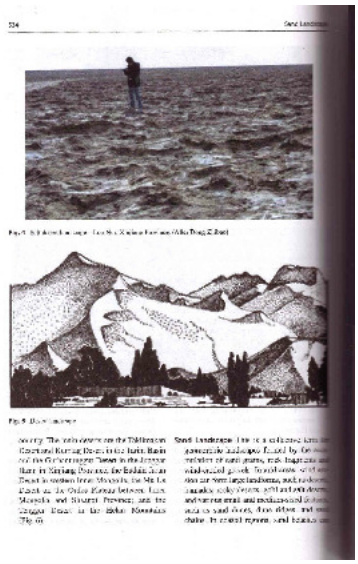
[Chen, A., Young, N., Erkuang, Z., Mingzhong, T. (eds.)]

A Review



It is always useful to have a definitive work to underpin one's understandings, especially when preparing a manuscript, of key terms that isn't a transient internet source; a common issue found when reviewing magazine articles and journal papers in which the authors mistakenly assume everyone uses the identical term for the same phenomenon. This volume should help address that problem and fill that gap. It's good to see short biographies and portraits of the volume's editors. It might bring home to some authors that geotourism isn't a purely European or Australasian development; like all good movements it arose somewhat and was recognised contemporaneously in disparate regions. It's sad that there has often been too little cross-fertilisation between these parties. It's therefore nice to see that the choice of writers for the two Forwards suggest this is now happening; the second, by Ross Dowling, is a brilliant little mini essay on, how and why geotourism came about, and its long historical associations - perhaps, a useful (but I hope not plagiarised) introduction that should be read by many, even if they don't dip into the volume as a whole. Equally, the Preface, although completely China focused, could be gainfully read by those with more time and an interest in geotourism other reported in Europe.

However, it really is a volume from which one learns much by just thumbing through and opening at the odd page or two, but invariably more once that's done! It's perhaps a more interesting way of using the volume than purposefully perusing the 35 pages of the 'List of Topics'. The 750-page volume is an alphabetical eclectic mix of material of varying relevance to geotourism. It rather reminded me in some ways of my copy of *'Principles of Physical Geography'* (2nd edn, 1963) by Arthur Holmes, although that has only one (and not noted) reference to, and image, of my favourite geotourism locality in England - Charnwood Forest (it's on page 151); surprisingly, it doesn't get a mention in Chen et. al.! There is much about general geology, physical geography/geomorphology and topography. Surprisingly, fossil taxa get a mention, but the descriptions of these usually lack any illustrations. There are some surprising omissions of key terms employed in geotourism publications; for example 'geosites' and 'geotourist'. 'Geotourism' itself is not defined within the volume's summary entries. The geographic range (such as the Australia,India, Turkey, the USA, but chiefly Chi€na) is quite wide, particularly in the examples; but, some of the selections seem curious - with generally well-known ones ignored. At least the Giant's Causeway made the selection, but for a geotourism volume it was surprising to see no mention of the mythological account of its formation. There is a quite extensive coverage of geoparks and the terms, bodies, and management structures associated with them.



Whilst it includes citations of some key, but mainly Chinese, contributors to geotourism's development none of the really significant academics and practitioners from the UK and Europe are similarly treated; likewise with geotourism specific publications and journals. Similarly, key historical geotourism localities and really none of the personalities, such as Hutton and Werner, from the UK and Europe are generally neglected; for example, it was interesting to see the Eiffel (but no mention of its geopark!) as an entry but key German geotourism sites, such as Holzmaden and the Scheibenberg, were not. Of course, the choice of which localities to include and yet keep a volume to a manageable size is not an easy task. What is perhaps surprising is that some, and I hate to use the term, ancient Chinese authors and painters who recorded landscapes, as potential early geotourists, haven't made the selection for the volume; for example, the notable landscape painters Wang Wei Mo-Ch'i (699-759) and Li Ch'Eng - but perhaps that's an aspect of geotourism only considered by European and Australasian geotourism writers.

Generally, the volume's production quality is high. However, the choice of some illustrations for its 635 figures and their reproduction shows considerable variation in suitability and quality. The're a mixture of colour and monochome photo-illustrations and line-drawings, often on the same page *(see top right)*. Why a line-drawing of a schist *(see bottom right)* and of serpentine was employed rather than a colour photo image seems inexplicably

odd. Some illustrations would suggest the need for tighter copy editing and proofing; for example, the image of the dinosaur *Sinosauropteryx* (on page 570) is rather pixelated and the line-drawings of 'aggregates' (on page 407) lack sharpness. Again, Figure 8 'Ripple Marks' on page 681 is printed upside down.

It would have been helpful if many of the illustrations had some indication of scale; for example, the illustrations of minerals and rock types. However, and perhaps it's my part-geography background that calls it to mind, the absence of maps and decent location information for many of the site entries makes finding where they are in the world, without recourse say to 'Google Maps', a challenge; whilst latitude and longitude might be thought unfashionable, they are still useful. The Beitou Hot Spring landscape might be *"... a famous spring landscape in Taiwan, which is located in the Jinshan Fault in the Datun Volcanic Group in the Beitou District, Taipei."* but I can't agree with it being that famous and I'd like to know the rocks' age(s)!

Currently, the heftiest volume on my bookshelves, for something to do with past geotourism research in southern Spain, is a hardback copy of the Collin's Spanish Dictionary. I must say, it's hardly ever retrieved from its lofty place these days, especially with today's availability of on-line translation programmes. I suspect the reviewed volume, despite its few shortcomings, will find considerably more use and be placed much readier to hand; and, it will be adjacent to my similarly sized and well-thumbed hardback copy of the *'RSC Complete Works of William Shakespeare'*! The 2020 (Springer/Science Press) review volume is based on sources not as old as those for the RSC volume, but from the late-1980s and early 2010s, and seemingly only published in Chinese. If it is, as really I hope, ever goes into another revised and truly international volume I hope editors will seek European collaborators and search for some new and outstanding illustrations. Meanwhile, the volume's available in print and electronic formats. Anyway, I think it should be on the library shelves (or, I suppose these days, the digital resources centre) of all colleges and universities at which the earth sciences, geography, environmental studies, heritage management, and tourism are taught; it might also usefully find its way into the offices of wildlife trusts!

Tom Hose

Awheeling the Geologists' Association's Past Excursions

It's common knowledge that the GA has been offering field excursions (or field-trips since the late 1920s) since a year of its 1858 inception. Its less common knowledge that whilst most of these were pedestrian in nature a few were especially created, or were made available, for cyclists [*see* Hose, T.A. (2018) *PGA*, **129**, pp.748-769]; although, carriages and early motorised vehicles were occasionally employed. Some 19 cyclists' excursions were offered and/or actually run *(see table below)* between 1899 and 1910:

The Cycling Excursions of the Geologists' Association

Year	Location(s)	Railway Station(s)	(Old) County
1. 1899	Winchfield to Wokingham	Winchfield, Wokingham	Berkshire
2. 1899	Bushey & Harrow Weald	Bushey	Middlesex
3. 1899	Chilterns Hills	West Wycombe	Buckinghamshire
4. 1900	Wimbledon & Kingston	Wimbledon	Surrey
5. 1900	Caterham, Godstone, & Tilburstow	Purley, Caterham	Surrey
6. 1900	Silchester	Reading	Berkshire
7. 1900	Purley & Whytleafe	Purley Oaks	Surrey
8. 1900	Winchfield & Hook	Hook, Winchfield	Hampshire
9. 1901	Cheam, Ewell & Epsom	Cheam	Surrey
10. 1903	Dunstable Downs	Tring	Hertfordshire
11. 1903	Aldershot district	Farnborough	Hampshire
12. 1904	Farnham	Farnham	Surrey
13. 1903	Flitwick & Silsoe	Flitwick	Bedfordshire
14. 1905	Bedford	Bedford	Bedfordshire
15. 1905	Redhill, Woodhatch & Reigate	Redhill, Reigate	Surrey
16. 1906	Boxford & Winterbourne	Boxford	Berkshire
17. 1908	Oxford, Stonesfield & Fawler	Oxford, Charlbury	Oxfordshire
18. 1909	Foots cray & Orpington	Orpington, Sidcup	Kent
19. 1910	Merstham & Betchworth	Merstham	Surrey

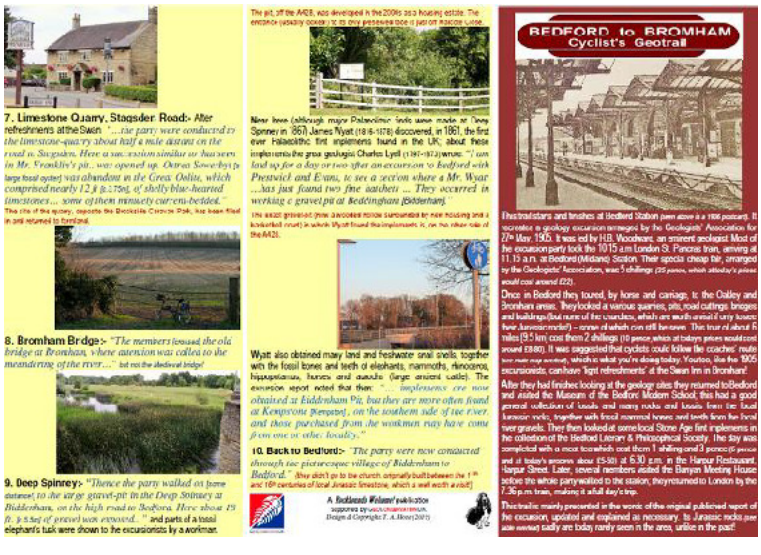
Four of these *(highlighted in grey in the above table)* have either been completed or are in preparation as modern cyclist's geotrails. It would be great if the remaining 15 were to be checked for their suitability as modern cyclists' geotrails; so, if anyone else would like to look at one or more of these...

At the time of the excursions, bicycle sales were booming amongst the middle- and upper- classes; both Queen Victoria and Edward VII were supposedly keen cyclists. Both bicycles and the kit associated with them were then seen to be very fashionable *(see right)* and they were the considered the height of technology. It wasn't until after the Great War that the GA abandoned its reliance on the then extensive railway network to get its mainly London-based excursionists into the countryside to explore geological localities; indeed, the places and when they were visited can be partly related to the opening of specific railway routes. Of course,

the railways were then, as now, the ideal means to get cyclists and their bicycles out of London; this was usually some 30-40 miles (48-64 km) into the countryside via stations in the market towns of the time.

So, for around the past six years I've been combining my interests of railways, cycling and (of course!) geology and geoconservation for a geotourism study to trace the routes and localities of those GA cyclist and some contemporary pedestrian excursions. I've concentrated on excursions around the years from the late-Victorian period to just after the end of the Great War (1914-1918); the latter was never referred to as World War 1 until... This was a period of great change in transport, the home, entertainment and leisure. It was when the working week was commonly Monday to Saturday afternoon, even for clerks. This is probably why many of the GA's excursions were just half-day ones and left London in the early afternoon.

The geoconservation aspect of the study has focused on assessing the status of the visited geosites and other places at the time of the original excursion and today; I've also been using the available historical mapping, to measure when and the rate at which some of the geosites were lost - a useful geoconservation benchmark. The geotourism aspect has focused on the production of cyclists' geotrails, each of which also has a socio-economic and historical briefing sheet. This is to help trail users understand the background to the trail route and something of the mind-set of its original users. Each full colour geotrail leaflet is of double-sided tri-folded *(see below)* format - available as an on-line PDF file for printing



by the user - and, as such can easily be read on a tablet PC or smart-phone screen. The eventual aim is that these will be supported by on-site QR codes and interactive content.

I've trawled through many volumes of the *PGA* (both on-line and hard copy) and the printed *GA Circulars* held by the Geological Society of London's Library and in the GA's office - to which staff I owe much for their ready assistance. Additionally, numerous BGS reports and sheet memoirs, field-guides and topographical accounts have been examined for particular routes; likewise, numerous historical and archaeological volumes have been consulted. Sourcing biographies and obituaries to add some human interest element has been most challenging.

The odd, and sometimes seemingly misplaced, comment that a particular geologist was a cyclist has been somewhat hard and time-consuming to prove. Finally, an almost welcome, but not really a major, diversion has been the need to examine many railway history books and some very useful on-line sources on old railway stations and rolling stock - even the 'Hornby Railways' catalogues have proven to be useful, and it's been difficult to resist the temptation to add the odd mineral wagon to my model railway collection! Of course, site visits have been a must; until recently I've mainly been using trains and buses to get myself and a folding bike *(see above right)* to various start points - just wish I was somewhat younger and much fitter!

The study has created a list of potential town and county areas in which geotrails, based upon historic GA excursions, for cyclists might be developed in the near future. Ideally, they'd be accessible by public transport; and best by railway, for the carriage of bicycles. So, far I've worked through three of the Bedfordshire possibilities, although others remain; likewise for Buckinghamshire (with just one completed and one about to be started), Hertfordshire (with two almost finished and another one being examined) and Oxfordshire (with none started!). Whilst these are all north of London, there are a number of possible trails that could be developed elsewhere around the capital, mainly in Berkshire and Surrey, but with some in Essex, Kent and Wiltshire possible.

Anyway, the study would really benefit with help from collaborators, both individuals and groups. I'm pleased to say that colleagues in Berkshire and Kent have already expressed an interest in these cyclists' geotrails; we've exchanged much information and I just need to be able to make some site visits! If you'd like to get involved please feel free to send me an email at:

t.hose123@btinternet.com.

I'm really looking forward to hearing from you! *Tom Hose*

Craig Slawson

(17th January 1959 - 11th February 2020)

After a short illness Craig sadly passed away, with his family by his side, at the Royal Stoke University Hospital on February 11th, at the far too young age of 61. He was born and bred in Stoke-on-Trent and attended Thistley Hough High School in Penkhull and Stoke Sixth Form College. A Staffordshire lad at heart, he spent all but a decade there of his working life. He seems to have rather followed in his father's footsteps; he was amused when John Reynolds (of GeoConservation Staffs and an early RIGS Committee colleague) unearthed a 1944 North Staffs Field Club record 1944 by a R.G. Slawson, Chair of its Meteorological Centre, and living in the same property as himself; it was, of course his father, Ronald. However, his reputation and influence in matters of natural history history recording is not parochially confined to either one county or a single project. There can be few in GeoConservationUK (GCUK) who have not either heard of him, or come across his significant work for us. Every member of its Executive Committee, past and present, has appreciated his input into our deliberations. Even though he wasn't a geologist he seemed to understand our needs. Some of us were particularly grateful for his attention to our personal needs; the taxi service, from Stoke station to Keele University for our meetings, he provided and the tea and company at his home afterwards as we waited in the warmth (if you've ever stood in late autumn or winter on Stoke station waiting for a train...) of the house and his company are especially called to mind.

Starting out, as do many young naturalists, as a bird-watcher, Craig was a life-long field-naturalist. He became particularly interested in invertebrates at Manchester University, at which he read zoology, and specialised in spiders whilst working in the then City Museum, Stoke-on-Trent. There he was employed in the early 1980s in the Natural History Section of what's now the Potteries Museum & Art Gallery; prior to he'd worked as an Assistant Natural History filmmaker with the BBC. He was part of a project team of biologists and geologists surveying and documenting the city's biodiversity and geology. It was possibly the first square-by-square intensive ecological survey of an urban area and resulted in a series of booklets published by the Museum, for which Craig wrote the terrestrial invertebrates volume. At that time recording natural history sightings involved rows of filing cabinets and index cards for the Staffordshire Biological & Geological Record Centre. However, one of the project's aims was to establish a computerised record centre, which would evolve into present-day the Staffordshire Ecological Record. The rudimentary computers of the time required programming, a skill he acquired and developed with Keith Bloor. Meanwhile, in 1982 he espied another Museum employee, Kerris, and they married in 1986.

Craig's work, as the research biologist, was focused on researching the appropriate literature and the Museum's collections, together with identifying the fauna, chiefly invertebrate, collected by the surveyors. He also developed the Museum's collections to create a representative collection of those spiders and other invertebrates found within the City and the County; subsequently, he was the Area Organiser for the National Spider Recording Scheme. In 1991 he produced the 'Checklist of Staffordshire Spiders' which eventually led on to the 'Atlas' he produced in 2005 under the auspices of the Staffordshire Ecological Record (SER).

When the project was completed Craig needed to find other work; one of the jobs he particularly enjoyed, because it allowed him to to play with the newest and most expensive equipment, was as an Assistant Manager in a photographic shop. He was fortunate to be offered the post of Assistant Curator of Zoology at the Museum, before moving on to the Staffordshire Wildlife Trust (SWT) to computerise their Wildlife Sites system and undertake survey work. By then the Museum had developed a partnership to base the developing record centre now with the Wildlife Trust; Craig became the face of the newly named SER. There, he established an extensive network of recorders and, supported by colleagues, run workshops to explain the quirks of a computerised records system (then needing computer that filled a room) to such voluntary bodies as the Staffordshire Fungus Group.

When the project faced closure in the early 1990s, Craig was justly fortunate to be offered the chance to establish the Black Country and Birmingham Wildlife Trust's records centre (Ecorecord) - the UK's first such urban centre; consequently commuting to Birmingham from Stoke for the next decade. He was responsible, from its inception in 1991, for creating its significantly valuable wildlife information resource, establishing the secure foundations upon which it still stands. Whilst there, he was a member of the West Midlands Local Environmental Record Centres Forum and a founding member of the Association of Local Environmental Record Centres (ALERC), of which he was Director for six years, helping to create today's strong UK-wide network of LERCs; he was also an active member of the National Federation for Biological Recording.

In 2000, Craig returned to the SWT to create a new computerised mapping system based around desktop personal computers. He became their Records Centre Manager. Its success owed much to his willingness and ability to support, unlike in many other counties at the time, a variety of recorders across different taxonomic groups and their often individual-

istic schemes. Indeed, he would visit recorder's homes to sort out their problems with sometimes quite bespoke schemes. Craig extracted the data into the 'Access' database for its Flora project and created a simple system to digitise the information held on old records cards; this led to an on-line database of old flora records, alongside a fairly comprehensive suite of on-line databases for almost any recorded taxonomic group. With almost three-million records Staffordshire's County Ecological database is now amongst the UK's most up-to-date and comprehensive.

Thinking of bespoke recording schemes and old paper and file-card records, Craig developed a computerised sites database for UK geological sites. This was 'GeoConservation', a relational database built in Microsoft access. It was developed from work initiated in early 1990 by the then Hereford and Worcester RIGS Group (HWRIGS) when a Microsoft Access-based database was made available to other RIGS groups. Concomitantly, SER had taken over the Staffs geological Records Centre and needed to export its data out of the Potteries Museum's MODES database, for which an Access-based approach seemed ideal. Thankfully, with the advice of UKRIGS, the two organisations were brought together and the best of both merged into what would become 'GeoConservation'; available from late 2003 on a single CD, its development work was concentrated at SER. It was widely adopted by UKRIGS member groups and their records centres.

To support 'Geo Conservation', Craig visited many RIGS groups (helping them to set up their own 'GeoConservation' database), attended RIGS conferences, and supported workshops. For example, at the 2003 Edinburgh-based Sixth UKRIGS Annual Conference he run a workshop and subsequently published (on pp.19-21) 'Geological Recording in the UK' in the conference proceedings volume. He usually attended the field trips with the minimum of specialist kit, apart from some superb camera equipment *(see right)*. It was refreshing to have him along, with his enthusiastically shared knowledge of natural history, especially for those few geologists also happy to consider themselves field-naturalists! He was an invaluable, and probably the longest continually serving, co-opted member of GCUK's Executive Committee. Naturally, he was the data officer for Geoconservation Staffordshire and also a long-serving committee member.

'GeoConservation' continued in use well into the mid-2010s until changes in the underpinnings of Access eventually rendered it a legacy database. Craig was engaged, at the behest of support of GCUK, in developing with several possible partner organisations a replacement for 'GeoConservation'. He was by then also running his own web-hosting company which he used to support a number of local and national organisations. Meanwhile, not content with his official and usually salaried recording work, Craig created a database of some 45,000 boat sightings; now published as a website. This was linked to his love of inland boating and of the Norfolk Broads; after its purchase in 2008, he and Kerris moored their boat Suzi (named after their first cat) on the Broads, at Horning. For over 20 years Craig also photographed the annual 'Three Rivers Race' on the Broads; in 2012 he was a very willing participant aboard an 80-year old river cruiser. He was also quite passionate about motor-racing and frequently, with Kerris, photographed the Lombard RAC rallies. It's regrettable that many of his colleagues heavily involved in geoconservation weren't fully aware of his varied interests, some of which we actually shared in various measure, but we all greatly appreciated his contributions to our work and his personal qualities.

Craig had an eye for detail and accuracy, invaluable for both his database work and as a very competent taxonomist and field-naturalist, not to mention as a photographer. He was generous with his time and expertise, always happy to provide advice and the odd identification even when time was usually pressing on other matters, and this stretched to general IT and photography matters. Craig was a gentle and kind man, with never a really bad word to say about anything or anyone - even when it was probably well deserved! His most damning comment would be along the lines that something or someone was an acquired taste. The one consistent comment that anyone could make about Craig is that they were fortunate to be his colleague and the better for knowing him. Our kindest thoughts are with Craig's wife, Kerris, his family, friends and colleagues as they and we all come to terms with his unexpected and untimely passing. ***T.A.H.***

"At first glance north Staffordshire appears out of place in the West Midlands. Ceramics [however it's pronounced!], mining and textiles are excessively represented in that part of the region ... The Potteries conurbation's commuter belt creeps perversely over the Standard Region's edge into Cheshire, and north Staffordshire lies almost mid-way between Manchester and Birmingham, yet it is not really interested in either. Furthermore, the outside world knows little about north Staffordshire except from journalistic comments on its pottery, and on its achievements in, and scope for, derelict land reclamation. ***(P.A. Wood, 1976)***

Lockdown Excursions (or Ramblings) in West Oxfordshire

One of the positive aspects of lockdown has been the enforcement to explore the countryside locally by walking and cycling, rather than venturing further afield. I'm lucky in that being in West Oxfordshire there are several geological sites within an easy distance and I've enjoyed the time visiting three of these. Once walks and visits are allowed, Oxfordshire Geology Trust will resume their normal programme of events.

Gill Mill gravel pits

These pits, opened up in 1989, lie just to the south of Witney in the lower part of the Windrush Valley. They are mostly operated by Smiths Bletchington, who have an excellent engagement programme with local groups for both geodiversity and biodiversity; the many permissive paths allows for interesting views *(see below left)* of the deposits. The sand and gravel was laid down as a terrace of the River Thames (1st Terrace, Northmoor); it's a mixture of limestone gravels and sand, underlain by Jurassic blue Oxford Clay. The thickness can vary across the valley floor but can exceed 5 metres with a yield of some 35,000 tonnes per acre of land. Excavations have shown there was major Roman settlement along a road crossing the Windrush valley near Gill Mill House - a paved road run down the valley. Recent work by Oxford Archaeology has underlined the importance of the Gill Mill roadside settlement. Although occasional middle and late Iron Age features have been discovered, it seems to have been a new foundation, probably in the early 2nd century, continuing in use to the end of the Roman period.

Devil's Quoits Standing Stones

This site lies close to Stanton Harcourt and has over the last few years been restored and interpretation boards have been placed in the area. It's close to the interesting Dix Pit area, where much evidence about river channel development and climate from about 200,000 years ago has been documented. Excavations have resulted in over 1000 mammoth remains – tusks, teeth, bones which is largest collection of small mammoth finds in Europe. Today Dix Pit is used as the local recycling centre. The Devil's Quoits, 4000 to 5000 years old would have been one of the most important standing stone circle sites in Britain. By the end of the 19th century only three of the stones were standing, surrounded by ploughed fields. An 1880's photograph shows one of these about 2.5 m high. The site was briefly archaeologically excavated in the 1940s, just before the three stones were pulled down to make way for a war-time aerodrome - the runway cut straight through the monument! After the war, a large part of the adjacent site was excavated for gravel. Further archaeological excavations were carried out in 1972-3 and again in 1988; these showed that once there were more than 30 stones in a 75m diameter circle with a two-metre ditch and outer henge bank surrounding them. The stones are formed from a local ironstone conglomerate. The massive henge earthwork was rebuilt in March 2002. Some of the original stones were piled up in November 2003; in October 2005 some were moved into position *(see below left)* and new stones were erected to replace lost ones. The remaining 21 stones, sourced from a nearby quarry at Gill Mill, Ducklington, are of exactly the same rock type as the originals and were erected in the most likely locations of those missing.

Filkins

The village of Filkins has excellent examples of locally worked Forest Marble - the term first used by William Smith for a grey, coarse-grained, cross-bedded ooidal limestone, crowded with blue-black fragments of oyster shells, from the Upper Bathonian at the top of the Great Oolite 'Series', Middle Jurassic. It could be polished for decorative use and was used for internal ornamentation and external use. The portico columns of Canterbury Quad, St. John's College, Oxford were cut from it in 1636. The stone was quarried from the Wychwood Forest area around Filkins and from the East End quarry at North Leigh. The best stone came from the Longround and Horsebottom quarries to the northeast of Filkins, where all of the older cottages were built of Forest Marble. A more flaggy facies was used for roofing, steps, stone paving and as upright slabs for fencing *(see left)*. In the 1920s and 1930s Sir Stafford Cripps provided locally quarried Forest Marble for building council homes and a new Village Centre in Filkins and for the Morris Memorial Cottages in Kelmscott.

LesleyDunlop

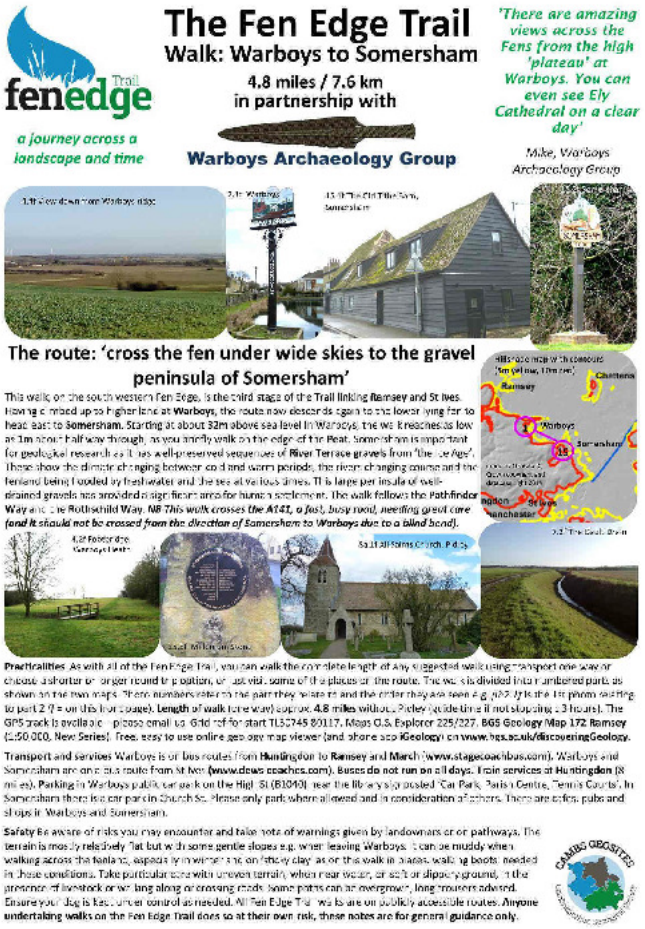
(Oxfordshire Geology Trust & Berkshire Geoconservation Group)

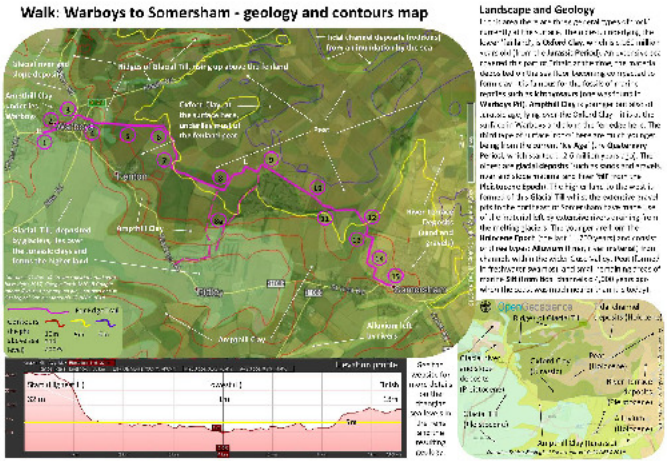
A Fen Edge Trail Walk and Tweets!

CGS is pleased to announce that its next Fen Edge Trail walk, from Warboys to Somersham, is published and can be down-loaded from its web-site at:

http://www.fenedgetrail.org/ramsey-to-st-ives/warboys-to-earith

An idea of its approach can be gleaned from two extracts *(see below and next column)*.





web-page (without signing in) at:

https://twitter.com/FenEdgeTrail

Thanks are due to Mike from the the Warboys Archaeology Group for his hard work in developing the walk and to those others who have also contributed.

Some of the route of the walk is over low lying fenland. In the winter and late autumn months, especially with their associated wet weather - as at the turn of this year - it can be pretty muddy. Indeed, a drier spring or summer day might be better to walk it - as with many fenland routes!

The next Fen Edge Trail walk, from the Sedgwick Museum in Cambridge to Fen Ditton, was due to be published before Easter. More are coming later this year; indeed, a total of 17 walks are in varying stages of development at the moment!

CGS has now started its own Tweets! For those who use Twitter, please follow them at @fenedgetrail. For those who don't, you can check their posts on the Twitter

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Local Sites & Climate Change Challenge

Do you have a local site that could be used to demonstrate climate change? It could be related to present or palaeo-climate change. If you have, then enter it into our challenge, and submit to lesley.dunlop@northumbria.ac.uk:

1) a good site photograph;
2) a short explanation of the climate change demonstrated;
3) a summary account about how you could use it to explain to others, such as non-experts, about climate change;
4) any access restrictions;
5) your group's name and (if any) logo.

We'll publish the results to coincide with the GCUK AGM and feature them in the next issue of **GEONEWS**.

An Editor's Plea!

Many thanks to everyone who provided articles and information for this issue. I've a plea for the next issue for everyone to provide material in a format that's ready for insertion into the newsletter template; text formats other than 'Word' and 'RTF' (without formatting other than paragraphs), scouring through PDF and text (with embedded image) files to extract text and illustrations, and re-sizing massive image files all add to the difficulties and time of electronically pasting up the newsletter.

So, think 150-250 words and a couple of illustrations (ideally 3x2 format, at 300dpi and no larger than 1mb file size as JPEGs) - longer articles are welcomed! Ideally, try to get material into me by the deadline; although, I always leave some space for late insertions!

Copy for the next GEONEWS issue, for November 2020, must be with the Editor by 23rd October, 2020 at the very latest!

This newsletter is published by **GeoConservationUK** and is sponsored by *Rockhounds Welcome!*

Editor: Dr. Thomas A. Hose to whom correspondence should be addressed at:
t.hose123@btinternet.com