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Bedfordshire Geology Group

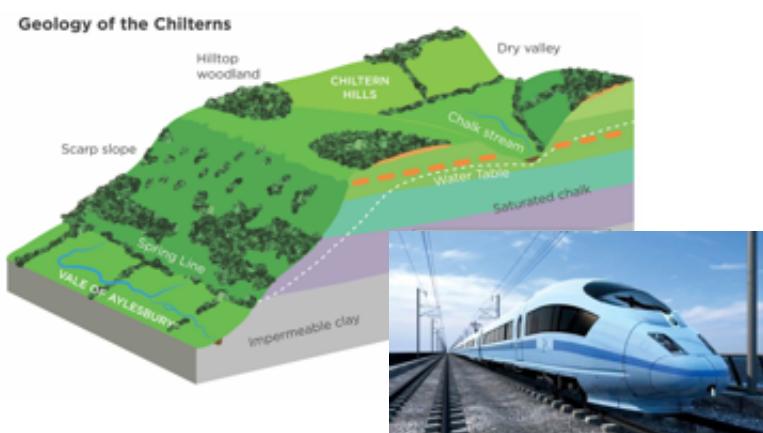
Talk on the geology of the Chilterns & the impact on HS2

Sunday March 1st

By Henrietta Flynn

Dr Haydon Bailey, an eminent micropalaeontologist and chalk expert gave an interesting talk to BGG members at the Husborne Crawley Reading Rooms on how the chalk of the Chilterns will impact on the route of HS2.

Haydon started his talk with an introduction to chalk, briefly describing its biochemical composition derived mainly from accumulations of microscopic plants and animals in particular coccoliths and foraminifera. He described its association with flint, commonly forming bands within the bedding or nodules.



The HS2 route had three proposed routes. Haydon showed us with maps where the final route chosen will pass through the Chilterns close to The Chalfonts and run south-west of Aylesbury. In this area of outstanding natural beauty much concern has been focussed on minimising disruption. The plan is to build two tunnels beneath the River Misbourne valley. This will impact adversely on water drainage through the fragile chalk and affect the flow of the River Misbourne and its tributaries which could actually disappear.

Chilterns & HS2 continued.....

It will also profoundly affect the Chilterns chalk aquifer if the water table is disturbed, which is a major source of fresh water for the south-east of England.

Haydon discussed the different chalk formations in the Chilterns, some rich in flint bands, others not, some rubbly and others more compact. He described how the excavated rock is crushed and mixed with water to form a slurry for ease of transportation and how any crushed chalk rock used to infill around the tunnels will have different drainage properties from the natural chalk.

A recent structural survey of the Misbourne valley has revealed that the chalk here is heavily faulted and fractured which again will cause problems for drainage and water retention. This had not been previously picked up by the BGS. As Haydon concluded the HS2 project will not be like tunnelling through the chalk of the Channel tunnel as the Chiltern chalk poses complex geological and environmental problemsand then there's also the political and economic implications. Thankfully we weren't there to debate these!

Thank you Haydon for a very interesting and thought provoking talk.

Earth Day 2020

- April 22, 2020 will mark 50 years of Earth Day.
- The first Earth Day was in 1970 when 20 million Americans protested about environmental ignorance and demanded a new way forward for our planet.
- This year's theme is '**Climate Action**'. Climate change represents the biggest challenge to the future of humanity and the life-support systems that make our world habitable.
- The world needs you and your actions. See how you can contribute..
- visit: www.earthday.org/earth-day-2020



Greensand Country Landscape Partnership Update

We have nearly completed the last of our Geotrails in the West around Rushmere Country Park and Great Brickhill. The latest draft is being finalised and will shortly be printed.

All three of the GCLP geotrail routes will need waymarking shortly which will be organised by the Greensand Trust.

This message was received this week from Claire Poulton, GCLP Programme Manager:

"In light of the current situation regarding the Coronavirus across the UK, the GCLP won't be actively hosting and promoting events across the Greensand Country Area in a 'festival' this year."

"The individual organisations and groups will decide what is best for their event, so please check with them. Instead we will be transferring as much of our funding as we can into a fantastic festival for 2021"

BGG had intended to organise a guided walk through the Western geotrail in association with the festival on May 27th culminating in a storytelling event at Dick Turpin's Hideaway. Please note that this will probably be postponed. We will keep you informed if we can reschedule this later in the year.

Designation of Old St. Mary's Church, Clophill as a Local Geology Site (LGS)

By Anne Williams



As a member of the BGG you will be aware that we identify and designate sites across the county and have probably visited some of them. It is done in the hope that they will be protected for future generations through their recognition by Local Authorities and Natural England so that they can inform planning policy. But of course they do not have the same protection as Sites of Special Scientific Interest (SSSI's).

Local Geological Sites (which used to be called Regionally Important Geological and Geomorphological Sites - RIGS) are chosen for their geological interest, scientific and educational importance and some may have great scenic value, like the Chalk downlands. By bringing them to the attention of the public so that they may visit them, we aim to share them and promote our county's geological heritage.

Current sites include working and disused quarries, ancient stone monuments and major landforms. It is the very nature of quarries that they close and are converted to other land-uses. This has happened to many of the Greensand (Woburn Sands) sites especially those around Leighton Buzzard, and of course the fossil-rich Oxford Clay pits disappeared a long time ago.

It is for this reason that we are busy rationalising our existing list of designated sites and looking for more. Stone churches are usually largely constructed from the local building stone and as quarries and other natural exposures are lost, can represent some main features of that rock's lithology and structure.

Old St. Mary's Church, Clophill was recognised at a meeting of the Bedfordshire Local Geological Sites Panel on 7th January 2020, hosted by Harrold and Odell Country Park, and recorded on the Bedfordshire Local Sites database to inform Central Bedfordshire Council. The full designation form (written by Bev Fowlston) with the detailed reasons for its recognition will soon be available on our website, but this is an abbreviated description of the site and its significance:

Old St Mary's Church, Clophill

Central to Greensand Country, this dramatic ruined church used the local Woburn Sands (once called Lower Greensand) building stone which shows many of the key features of this rust-red Lower Cretaceous sandstone.

The church has wide views over the surrounding landscape as it stands on





the crest of the Greensand Ridge and is in the middle of the Greensand Ridge Walk. Views from the old church tower, which is open to the public are particularly impressive. The reconstructed cemetery wall includes a Wall of Geology, a section across the rocks of the county with an interpretation board to explain it all. The Clophill Ecolodges sit next to the church and the whole site is managed by the Clophill Heritage Trust. Well worth a visit at TL 092 389.

As a reader of our newsletters, you will have followed the work that has gone into the development of this site, and some of you will have given valuable help, culminating in the opening of the Wall of Geology by Nick Pierpoint the President of the Geologists' Association.

The picture above shows Anne & Derek proudly showing off the Wall and information board. Thanks Anne for this LGS report.

Bedfordshire - Our changing habitats and wildlife - a new BNHS publication

BNHS (Bedfordshire Natural History Society) are publishing a book in April that photographically portrays the changes to habitats and wildlife in Beds over the last 20 years. The 160 page book is illustrated in full colour and costs £20 + £4.25 p&p.

The habitat chapter is divided into five sections: Woodland, Mire and Heath, Grassland, Freshwater and Other Habitats. Each section has an introduction discussing the habitats and highlighting some changes over the last two decades. The sites featured in each section are from across the county, generally have public access and many are nature reserves. The site photographs are often accompanied by images of some of the wildlife that may be seen in those habitats.

An important chapter on 20 years of change in Bedfordshire's countryside has been contributed by John Comont, Conservation Director of The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire. Previously County Ecologist for Bedfordshire, John has an extensive knowledge of the wildlife habitats of the county.

A third chapter of photographs highlights a selection of species whose distributions appear to have changed in recent years, including species new to the county.

The book will be launched at Marston Vale Country Park on Sunday April 26th so come along and buy your copy. Or send a cheque made payable to Bedfordshire Natural History Society C/o Mike Bird, BNHS treasurer, 69 Cotefield Drive, Leighton Buzzard, LU7 3DN.

Membership Renewal

That time of year again.... yes, your membership is due for renewal on April 1st for 2020/2021. It remains at **£10 per person per annum** or £25 for group membership (organisations with 4 or more employees). Please send payment to Tony Baker at:

Mr Tony Baker, BGG Membership Secretary

36 Chapel Close, Toddington, Beds, LU5 6AZ (Cheques payable to BGG)

Alternatively, you can pay online directly to the BGG account.

Account name: Bedfordshire Geology Group, no **21507427**

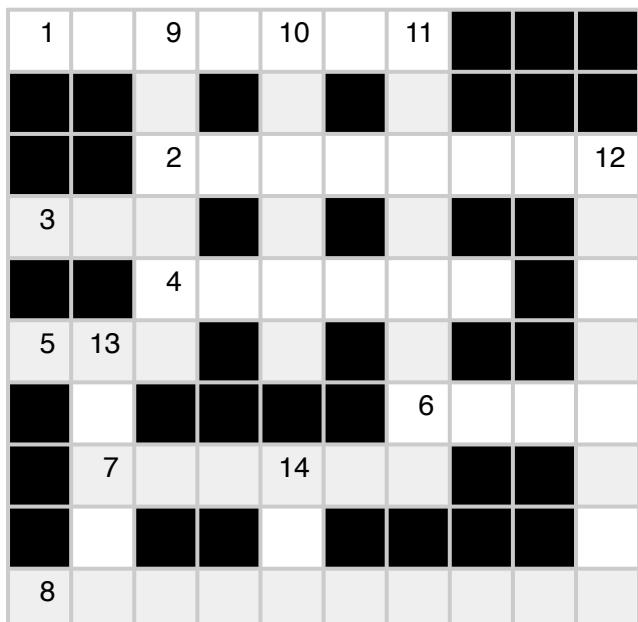
HSBC, Leighton Buzzard Branch, no **40.28.12**

Please email Tony after payment at **tonybaker36.bggmembership@yahoo.co.uk** to let him know you have paid.

Please also let him know of any changes in address, telephone no, email etc

Your membership entitles you to 4 newsletters a year, free entry to all BGG events, walks & talks and frequent communications.

Quick Geology crossword



Across:

- 1 The period at end of Palaeozoic Era
- 2 A mineral & sedimentary rock
- 3 Unit of pressure
- 4 Concept not yet verified
- 5 Extracted valuable mineral from rock
- 6 River in SW England
- 7 A stage in the Carboniferous
- 8 Previously developed land

Down:

- 9 Coarse sedimentary rock
- 10 Area surrounded by younger strata
- 11 A subdivision in Carboniferous
- 12 Sea urchin
- 13 Natural stream of water
- 14 Division of geologic time

Answers in next newsletter

So what's this Geocaching and EarthCaches all about?

Deb Badgery explains:

Twenty years ago the USA President Bill Clinton gave permission to end 'selective availability' of 24 satellites, instantly giving Global Positioning System (GPS) technology to everyone with a GPS enabled device. The following day a GPS enthusiast hid a black bucket in the woods in Oregon, sharing the location coordinates with an online community. Within three days two other people had found it and shared their experiences with the group. Others started hiding and finding the containers, and so geocaching was born.

Today there are over 3 million geocaches in over 190 countries worldwide. The game has evolved from that first bucket in the woods, to a huge range of different types of geocaches. Among these are multi-caches where one location leads to another, mystery caches where puzzles require solving, letterbox caches and virtual caches which have no container but questions to answer.

An EarthCache is a form of virtual cache, supported by the Geological Society of America, which provides an earth science lesson and the finder is required to prove they have visited the location by answering questions. This type of geocache will take the 'finder' to a unique geological feature where they observe, compare and discuss facts, to demonstrate what has been learnt. All this information is then messaged to the cache owner, to confirm the answers prior to recording it on the Geocaching website.

So where can these EarthCaches be found? At numerous locations worldwide from the Old Faithful Geyser at Yellowstone National Park, Dunn's River Falls in Jamaica, Sigiriya Rock in Sri Lanka, to the fossils on the floor of Central Milton Keynes Shopping Centre and The Wall of Geology at St Mary's Old Church, Clophill.

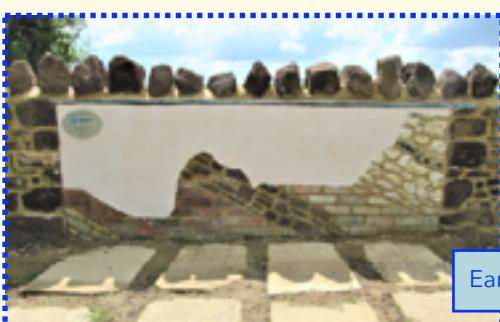
Fancy giving it a go? The first place to start is the website www.geocaching.com where an account can be set up for free, or you can pay to upgrade. A geocaching app on a smartphone or GPS will be required to download and view nearby caches. The free basic account only gives access to

Milton Keynes flooring - a place of geological interest



geocaches with a low difficulty so suitable for beginners but it is possible to print out EarthCache details from the website to take with you to more challenging locations. Working alongside the BGG and the Greensand Trust more EarthCaches are due to be published throughout Greensand Country this year.

EarthCache at the Wall of geology , Clophill



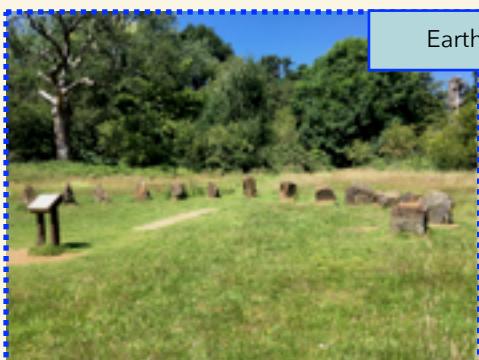
A recent EarthCache at the RSPB's The Lodge Nature Reserve details the features at the sandstone quarry face and at Rammamere there is now one looking at a dry valley and another discovering a trace fossil at the Stockgrove sundial. Another proposed EarthCache will study the Greensand building stones used at St James' Church at Husborne Crawley.

Geocaching is a hobby which not only encourages people to get out and explore new places but is educational. It's great for both physical and mental activity too. Happy Geocaching!

By Deb Badgery - a self-confessed geocaching addict!



EarthCaches at Rammamere and Stockgrove sundial



Thanks Deb for enlightening us on EarthCaches. So now we know where some of them are in Bedfordshire, we have no excuse not to get geocaching.

Website Redevelopment

By Bev Fowlston

Following an initial meeting in January, the committee agreed we would allocate some of the group's funds to update our website. It was last updated in 2010 and is very much behind the times. Modern websites are easily viewed on smartphones and have dynamic features such as scrolling banners and easily updated events and news feeds. All these are lacking in our current website due to the older coding being used.

We met with a graphic designer who has given us some great feedback and a way to move forward. To this end, we are currently working on the content of the new website, including making the site less "wordy" and more image-rich. If you have any images that you think will work well then please forward via email to Bev Fowlston at the highest resolution you can, along with a few words giving permission for use by Bedfordshire Geology Group.

We will be retaining the web address but with a more interactive interface that we hope will be good for members and hopefully attract new ones.

www.bedfordshiregeologygroup.org.uk



BGG Upcoming Events:

Unfortunately due to the Coronavirus we are unable to confirm any of our future events at the moment. Below you will see the status of the events organised so far for 2020

April: Reading Geology Group field trip POSTPONED DUE TO CORONAVIRUS

(Sunday 19th April). Following their very enjoyable visit to us at Potton last year, this is a joint field trip hosted by the Reading Geology Group and led by Professor Peter Worsley: 'Aspects of the Geology of the Reading Area' to cover Chalk, Lower Tertiary and Quaternary landscape development. Hopefully this will take place in the near future when safe to do so.

May: GCLP Western Geotrail walk POSTPONED. SEE REPORT ON PAGE 2

(Wednesday 27th May). Walk our new Western Geotrail at Rushmere Country Park. This was to be part of the final scheduled GCLP 2020 Festival. We hope to re-scheduled this walk in some form or another shortly and another event will be organised for the festival in 2021.

Other events proposed for the summer:

Barton Springs and Hills walk

Sunday 14th June. A summer walk at the dramatic **Barton Springs and Chalk Hills**. Meeting place and details to be announced later if this goes ahead.

A visit to Coombes Quarry

A visit to this limestone quarry over the county border in Buckinghamshire, led by Jill Eyers who was instrumental in the formation of BGG. This may be a joint geology group initiative. Keep an eye on our website for details.

EarthCache event

We will be visiting Greensand Country EarthCache sites. Details will be announced later in the year.

Ramble at Harrold-Odell Country Park

Saturday 12th September. A joint event with the BNHS taking in some of the stone buildings and structures in the area and the landscape of the Ouse valley. Optional pub lunch afterwards.

Please let us know if you have other places or events you'd like to include in this schedule. You will receive a flyer on each of these events nearer the time with exact details so keep watching your emails and check our website:

www.bedfordshiregeologygroup.org.uk



BGG Committee: Join us!

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Meetings Secretary	Glynda Easterbrook	glyndaeasterbrook@gmail.com
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Events Coordinator	VACANT	Could this be you?
Membership Secretary	Tony Baker	tonybaker36.bggmembership@yahoo.co.uk
Newsletter Editor	Henrietta Flynn	henriettaflynn@btinternet.com
Publicity	VACANT	Could this be you?

We are always looking for new blood to join the committee and bring fresh ideas. Please contact any of us if you'd like to join our friendly team.

On behalf of the committee, please take care during this unprecedented health crisis of the Coronavirus.

Hoping you and your families keep safe.

Newsletter compiled and edited by
Henrietta Flynn.

If you wish to include an article, photo or share your geological interest in the next issue, please contact me by email at
henriettaflynn@btinternet.com

Hope you enjoy the read!

Please look at our website for news of walks, talks and events. It's easy to download flyers & geotrails.

[**www.bedfordshiregeologygroup.org.uk**](http://www.bedfordshiregeologygroup.org.uk)

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