



Spring 2015

Newsletter

'Secrets of the Sands' Project

A local partnership, led by Bedfordshire Rural Communities Charity (BRCC) and the Greensand Trust, has been awarded a grant of £1.66m from the Heritage Lottery Fund (HLF) through its Landscape Partnership (LP) programme for its 'Secrets of the Sands' project. *

The project aims to establish the Greensand Ridge area of Bedfordshire as a living and working landscape that is cherished by present and future generations. It will lay the foundations to help sustain the area's distinctive natural and built heritage beyond the life of the Landscape Partnership scheme. The project is due to start in July 2016 and will run until December 2020. Development funding of £133,400 has also been awarded to help BRCC and the Greensand Trust progress their plans to apply for the full grant in April 2016.

Our BGG members, Anne Williams and Tony Baker have been working with Jon Balaam, Director of Development at The Greensand Trust. The BGG is supporting the development stage of the 'Secrets of the Sands' project by creating an electronic copy of their 2001 Sandstone Structure Audit. This involves painstaking scanning of hard copies, but will result in this invaluable source information being more readily shared. It can then be used for an up to date assessment being planned for later in 2015, which will help inform where potential funding for restoration might be best directed.

Through a wide variety of activities, the 'Secrets of the Sands' project will provide opportunities for local residents and visitors to the area to engage with and celebrate the rich history, culture



Exposure of Greensand showing excellent cross stratification and bedding structures

and landscape of the Greensand Ridge. Alongside heathland, woodland and parkland restoration, conservation and promotion, there are plans for the development of themed walking, cycling and horse riding trails supported by local heritage information, interpretation and artworks, community arts and storytelling events, a photographic competition, a heritage roadshow and festival and also educational outreach.

The Greensand Ridge owes its distinctive landscape to its underlying geology, which has largely determined land use over the centuries. Considered as 'marginal land' in medieval times, much of the area was used as heathland, pasture and

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forestry, the most economically productive uses at the time. In the early 16th century, following the dissolution of the monasteries that owned much of the land, the Crown gave or sold the land and buildings as private estates to members of the aristocracy. This ultimately helped to preserve the landscape that we see today.

Jon Boswell, Chief Executive of BRCC said: "We're delighted that the Heritage Lottery Fund has recognised the heritage value of the Greensand Ridge. The '**Secrets of the Sands**' project will be vital in ensuring a sustainable future for this unique landscape, and ensuring that a wider range of people benefit from the area's heritage."

Explaining the importance of HLF's support, Drew Bennellick, HLF Head of Landscape and Natural Heritage, said:

"Engaging people as volunteers, training them as guides or helping them learn new skills has enabled local people to appreciate, value and speak up for the countryside.....Our funding has led to new strategic partnerships between private, public, charitable and community bodies. It has also ensured that the UK's most precious resource, our landscape, will be protected for future generations."

We hope that the '**Secrets of the Sands**' Project will lead to a better understanding of the Greensand geology, the creation of more geotrails in the area and more support for the BGG.



**Please let Henrietta know if you would like a copy of the full press release from BRCC, published Nov 2014.*

Revisiting the Pegsdon sinkhole *by Anne Williams*



Our Spring 2014 newsletter featured the sinkhole that had suddenly appeared on the top of Pegsdon Hill the previous winter, and our February walk to inspect it (see the excellent article by Derek Turner).

A year later, on 21st February this year we revisited it to see if the hole was deeper and wider; was it continuing to sink or not? Our feeling was that it was no deeper and possibly shallower, as the edges of the plateau drift which overlies the chalk was crumbling into the cavity and starting to fill it in. We could not see any chalk in the bottom of the hole, only the rusty red superficial material. But it remains a hazard to walkers and is still roped off.

John Catt in his book 'Hertfordshire Geology and Landscape' devotes some space to natural cavities and sinkholes in the Chalk. He says that most solution pipes are 1-5m across and may reach depths of 20-50m but the superficial sediment infill restricts vertical collapse at the surface to less than 3m, and usually less than 1m. One possibility for their formation is the acidification of percolating water by drift material lying on the Chalk and solution along joints and fractures in the chalk beneath creating cavities into which the drift collapses. It seems that most of the very many such cavities on the Chalk hills have been at least partially infilled with sediment that has slumped into them or has been washed in by surface runoff over long periods of time.

So we will continue to keep an eye on the Pegsdon hole, not least because it is a great walk and has a very good pub at the foot of the hill!

William Smith Bicentenary

William Smith (1769—1839), known as the 'Father of English Geology' published the first edition of his Geological Map of England and Wales in 1815 and worked extensively in Bedfordshire.

Smith's map made a seminal contribution to the understanding of the ground beneath our feet and by showing the location of coal, iron ore, clays and other raw materials quite literally fuelled the industrial revolution. By using fossils Smith was able to establish a relative chronology which allowed him to identify strata of the same age and to show where they occur at the surface.

The map has been described as a work of genius and it would be remiss if the bicentenary of its publication passed unnoticed. Hence organisations and museums throughout the UK are planning exhibitions to celebrate its legacy.

Why not pay a visit to the Geological Society, Burlington House, London where a copy of the map is on display. Open 9.30am—5pm weekdays only. No appointment necessary.



If you have time, here are some of the events around the UK that you may wish to visit this Spring:

- ◆ William Smith Meeting: 200 years of Smith's map, Conference April 23-24
Geological Society, Burlington House, London
- ◆ William Smith's Life & Work, March-September
Churchill & Sarsden Heritage Centre, Oxfordshire
(In partnership with Oxford University Museum of Natural History)
- ◆ Mapping the Earth— William Smith, May 01-03, lecture & field trip
Lyme Regis Festival, Dorset
- ◆ Story of the Rocks: William Smith's Map, lecture & events, May 22-31
Yorkshire Museum, York
- ◆ William Smith: His maps, rocks, & fossils, June– October
Natural History Museum, London
- ◆ William Smith's Earliest Career to 1810 lecture, June 04
Bath Royal Literary & Scientific Institution, Bath
- ◆ William Smith Field Trip, June 13
Bath Geological Society

Holiday recommendation with a geological theme

*John Pitts recommends some gorgeous Greek scenery.....
- a visit to the Vikos Gorge*

The Vikos Gorge lies in the Pindus Mountains of northern Greece on the southern slopes of Mount Tymfi. It is about 20 km long, 120 to 490 m deep and with variable widths narrowing to just a few metres.

Vikos is listed as the deepest gorge in the world by the Guinness Book of Records. This follows a somewhat arbitrary definition of a gorge and some gorge lobbyists contest that claim.

The gorge collects waters from a number of small rivers leading into the Voidomatis River forming the gorge. The major part of Voidomatis is only seasonal, being permanent only in the lowest part of the gorge.

Vikos is also a site of major scientific interest, because it is in almost virgin condition, and is a haven for endangered species. The landscape of the 20 km long gorge, presents steep slopes and precipitous rocky cliffs dominating both sides of the gorge with the movement of water detaching various rocky materials creating extended screes.

The gorge has been carved over millions of years by the Voidomatis River and its slopes expose extensive limestone and dolomite formations. Dissolution of the rocks has produced an underground drainage system of caves and channels. Surface water is scarce, and only when an impenetrable stratum is met does water appear at the surface.



Panoramic views of the Vikos Gorge

A magnificent natural viewing platform can be seen over the deepest part of the gorge at Oxia, 3 km from the village of Monodendri. Another viewpoint over the gorge is at Beloi, on the eastern side of the gorge, accessible from the village of Vradeto.

A recommended hiking trail descends into the gorge from Monodendri. The trail leads north to the springs of the Voidomatis river, from where paths lead to the villages of Papingod and to Vikos on the south of the gorge.

So instead of heading for the crowded Greek islands this summer, how about spending a quieter time in the cooler Pindus mountains?

**Don't forget to re-new
your BGG membership?
See page 5**

Educational trips around Leighton Buzzard by Lindsay Hiles

Over the past four years I have been involved with the education of children aged eight to nine regarding the local history and geology of Leighton Buzzard. I've had the pleasure of participating in annual field trips to the local working quarries where the children learn first hand why there is sand in this area, its uses and how it is extracted, cleaned and sorted. We have also visited Stockgrove Park and looked at differences in soils where the sand feels gritty and clay is sticky.



Through a series of lessons back in the classroom we discover, with simple experiments, different rates of porosity using different soils and discuss our conclusions. We also look at differences in rocks and place them within a 'rock cycle'. The children never cease to amaze me with their excitement, keenness to learn and enthusiasm about the subject. For weeks after a child will come along to my office to show me their latest find that we then chat about its possible origins.

Organising school trips to working quarries takes some doing, especially where children are involved, therefore I would like to thank Erika of the Greensand Trust, the Sibelco Quarry Manager, James and special thanks to Malcolm and Anne (BGG) not only for coming along on the field trips, but for giving me the confidence to stand up and talk about geology to the children; a rewarding experience.

Membership Renewal

Your BGG membership was up for renewal on April 1st. Thank you to those of you that have already renewed their membership subscription. If you haven't already done so, please forward your subscription onto me as soon as possible.

Membership subscriptions for 2015/2016 will remain at **£7.50** per person for the year.

To renew your membership, please send payment to Lindsay at the following address :

**Mrs Lindsay Hiles, BGG Membership Secretary,
4 Phoenix Close
Leighton Buzzard, Beds, LU7 3YW**

(cheques payable to **BGG**)

Alternatively, you can make an on-line payment to the Group's bank account. (If you do decide to renew your membership this way, just drop me an email after payment so that I can keep a look out for it).

**Account name: Bedfordshire Geology Group
Bank & branch: HSBC, Leighton Buzzard
Branch sort code: 40.28.12
Current account no: 21507427**

Many thanks, Lindsay

This newsletter is not the only benefit of remaining a member of the BGG; all our events for members are **free of charge**, non-members pay £2.00 to attend.

Review of recent events..... by Frances Maynard

Our geology group has had a busy winter following a very enjoyable social before Christmas, featuring a quiz plus time for eating, drinking and catching up with some old friends.

January saw us gathered for a talk on the complexities of the Himalayan Uplift – Claire Warren of the Open University shared her research with us. This looked at how igneous rocks at the surface (different granites) can tell us more about where the original liquid magma came from – either recycled oceanic crust or deeper from within the lithosphere. The Himalayas feature both, reflecting a complex history of subduction and uplift. It is a very fascinating place to visit for geologists and the rocks can reveal much even though this is dependent on machines in laboratories to process samples taken from the field.



Back in **February** we walked up the Pegsdon Hills to revisit the sinkhole. We also explored the edge of the chalk escarpment which shows signs of much glacial influence in the form of steep sided dry valleys. There are also some interesting ‘strip lynchets’ to be seen on the north facing slopes. These are evidence of medieval field systems where the land was worked along the contours to preserve the soil and the water supply.

See Anne’s report on this walk on page 2 of this newsletter.

In **March**, committee member and secretary, Lindsay Hiles led a walk at Stockgrove following the Stockgrove Geotrail, one of BGG’s leaflets produced in 2014. The geotrail incorporates both Cretaceous sandstones and more recent (Quaternary) glacial rocks which influence the landforms that can be seen at this important ‘Local Geological Site’.



See Lindsay’s report on this geotrail on the next page.....

Geotrail around Stockgrove Park by Lindsay Hiles

On March 14th, an intrepid group of five of us followed Malcolm Oliver's geotrail around Stockgrove Park. The easy to follow circular route took us along or past a number of dry valleys as we walked through the woodland and the heathland of the park. Differences in the soil composition, as well as in the vegetation, helped us to deduce as to whether we were crossing over Lower Greensand or Glacial Till.

We walked onto Rammamere Heath to view a series of springs and onto nearby Rammamere Farm to view an outcrop of Sandstone. Then we headed back towards Stockgrove via the Greensand Ridge Walk passing some houses which supposedly had fine examples of glauconitic sandstones. This was difficult to ascertain as the stones had been recently cleaned and what was perhaps thought to be green sandstones was likely to have been green algae or moss!

My thanks goes to Bev, Peter, Tony and Janet for joining me on this walk. If you would like any further information about this geotrail, please visit our website at :

<http://www.bedfordshiregeologygroup.org.uk/information.html>

.....and events to look forward to

The summer is nearly upon us and we look to run some interesting walks and field trips.

In **April** join Jan Munro (BGG Chalk area representative) to walk the **Dunstable Downs** and explore the archaeology plus the geology. This will be an opportunity to look at how geology has affected human activity as well as overall ecology of the area. This walk will be on **Saturday April 18th starting at 10.30 pm.**



In **May** we will pay a return visit to **Totternhoe Stone Pits** – another restored quarry on the Cretaceous chalk. This is always a popular location to visit because the spoil heaps reveal many small fossils such as sharks teeth or small brachiopods. The visit is planned for **Saturday 16th May at 10.30 am.**

Arranged for **June** will be a walk in **Aspley Heath** to hear about fullers' earth deposits. These 'mysterious' deposits are volcanic in origin and provided some valuable sources of industry and revenue in the county. It has been mined in Bedfordshire since roman times and has had many uses from laundry to simulating large explosions for special effects. Bev Fowlston, author of BGG leaflet on fullers' earth deposits, will lead this walk starting at **10.30 am on Sunday June 21st.**

In between the field trips we also plan a working party to clean up the face at **Potton Scout hut**. This face is an important example of the Woburn Sands formation and is regularly visited by students from various universities as well as school groups. It is important to keep the features visible. Details of date and time will follow – **probably late April.**

As you can see there is plenty of variety here and the geology covered is varied. We like to incorporate exploration with discussion of the underlying 'stories' as to what may have occurred in the past. We also incorporate social activities, usually around local hostelryes! I hope you will find our spring/summer programme interesting and I look forward to seeing as many of you as possible.

Frances Maynard, Events Coordinator

Members Page

- ◆ *Do you have something to show the group?*
- ◆ *A specimen you want to identify?*
- ◆ *Have an interesting photo? Please share it with us.*



*This fossil specimen was passed to one of our members for identification. Found in the Peak District, in Lower Carboniferous limestone - possibly the coral *Lonsdaleia* or is it now called *Actinocyathus*?? What do you think?*

On the theme of corals. The Natural History Museum in Kensington has just opened an exhibition on 'Coral Reefs—Secret Cities of the Sea' (March 27—September 13). Adults £10, Children & concessions £4.50. Worth a look I think?

For those of you who like a challenge....
How many of these geological names and places associated with Bedfordshire can you find in this word search?

- GAULT CLAY
- CHALK
- GRYPHAEA
- OUSE VALLEY
- ALLUVIUM
- IVEL
- WOBURN
- JURASSIC
- SHENLEY
- SANDS
- RIGS
- CLAY
- GREENSAND
- ICE
- FLIT

G	A	E	A	H	P	Y	R	G	O
R	L	N	R	U	B	O	W	U	Y
E	F	M	I	J	A	H	S	S	A
E	L	U	G	U	Z	E	D	Y	L
N	I	I	S	R	V	N	J	E	C
S	T	V	K	A	A	B	L	L	T
A	W	U	L	S	K	E	Y	N	L
N	C	L	A	S	V	A	I	E	U
D	E	L	H	I	L	C	S	H	A
Y	G	A	C	C	E	D	B	S	G

Sad News:

It is with sadness that we inform you that one of our long standing members, **Mike Rainbow** passed away this January.

Our thoughts are with his family at this difficult time.

Who's who on the BGG Committee 2014 - 2015

Chairperson	Peter Lally	plally65@gmail.com
Secretary	Glynda Easterbrook	g.easterbrook@open.ac.uk
Treasurer/Membership Sec	Lindsay Hiles	bgg.membership@btinternet.com
LGS Manager	Anne Williams	annew36@hotmail.com
Events Coordinator	Frances Maynard	fmaynard@btinternet.com
Chalk area rep/BNHS rep	Janet Munro	jan.munro1@ntlworld.com
Newsletter Editor	Henrietta Flynn	henriettaflynn@btinternet.com
Fundraising	VACANT	
Information Officer	Anne Williams	annew36@hotmail.com
Committee Member	Martin Day	francis.day@btinternet.com
Committee Member	Tony Baker	janetbaker20012001@yahoo.co.uk

We are all volunteers and bring together an assortment of skills, interests, experience and geological knowledge (or not, as the case may be!). If you feel we could benefit from your skills and ideas too, we would love to hear from you.

*As you can see above we have a vacancy for a fundraiser.
Interested? Then, please contact Peter.*

As always please look at our website for the latest news, details of events, lectures etc. It is also a great source of educational information and so easy to download our wide range of brochures, flyers and geotrails.

www.bedfordshiregeologygroup.org.uk

Newsletter compiled and edited by Henrietta Flynn
If you have any comments or wish to include an article in the
next issue, then please contact me by email at
henriettaflynn@btinternet.com

Hope you enjoy the read!